

January/February 2025

PACIFIC MARITIME®

Pacific Marine Business News

Magazine

**Container Handling
Equipment
Blue Economy
NorCal Ports
Offshore Wind
Update**

**Federal Port
Grants**

**Terminal 6
Operations
Contract**

**Silverback's
Truckable Tug**

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Vessel Plans**

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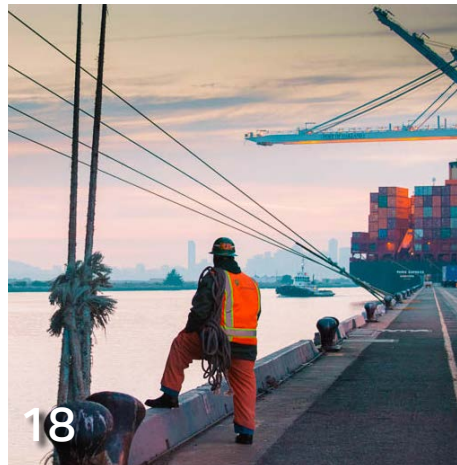
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A New Era

By Mark Edward Nero, Managing Editor

Hello and welcome to a new era for *Pacific Maritime Magazine*. If you missed the announcement that ran in this space last issue, here's the news: beginning with this issue, *Pacific Maritime* will be available exclusively as a digital publication.

To be clear, the publication is still being produced in a magazine format and is offered electronically, but not in physical form.

The digital edition, available both on- and offline, has added features that aren't available in print, including the ability to zoom in and out on text and images and to click on ads to go directly to the advertiser's website.

The electronic magazine capability also allows readers to view the magazine on a phone, tablet or computer. Plus, it automatically scales to the proper screen size for an optimal reading experience.

In short, there's a lot to love about the new format.

If you're a longtime reader you may be asking yourself why, after all this time, is this change being implemented?

We're shifting to the E-Magazine format because an overwhelming number of our readers—*more than 80%*—have indicated that they prefer to receive the magazine electronically. And since that's the case, the figures for printing and mailing the magazine for the other 20% of our readership just don't make sense.

In other words, our readers have spoken and we are listening.

According to the feedback we've received, some of our subscribers are on vessels and getting an electronic version allows them to get their news faster.

And as many of our younger and Internet-savvy readers know, being a digital magazine means that *Pacific Maritime* can be taken with you anywhere that a cellular phone or tablet can, so you basically can carry multiple issues of the magazine in your pocket.

On top of that, it's the "greener" way to get information out, as we're not killing trees. Plus, we reduce our carbon footprint by not using emissions-generating vehicles to deliver a print magazine.

But if you're wondering about the quality of the magazine's content, no need: it will remain the same. We'll still have all the news about the maritime goods shipping industry that you want, need and care about. It's just that now all the information will be available in a newer, more modern format.

It's a format that may take a while for longtime subscribers to get used to, but the change is one that we know you'll find useful and more efficient.

Thanks for reading. ■

Managing Editor Mark Nero can be reached by phone at (619) 313-4351 or via email at mark@maritimepublishing.com.



MARK NERO is a veteran maritime journalist who has written for numerous publications over the years, including *Fishermen's News* and *Pacific Maritime Magazine*. He was named managing editor of *Pacific Maritime Magazine* in March 2021.



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ON THE COVER
A dockworker at the Port of Oakland's TraPac marine terminal.
Photo: Oakland seaport.

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\$104M Awarded to Six Alaska Port/Maritime Infrastructure Projects

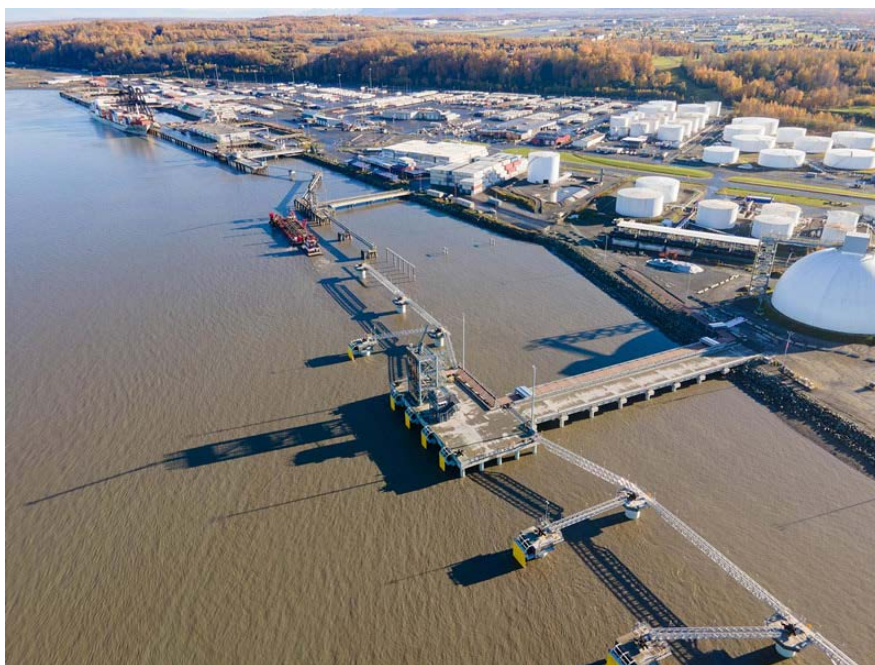
Federal grants totaling over \$104 million were announced on Nov. 12 for port and maritime infrastructure in six coastal communities in Alaska, including Juneau, Dillingham, Hoonah, Kodiak, Anchorage and Saint Paul.

The grants, announced by the Alaska congressional delegation, were funded through annual appropriations and the 2021 Infrastructure Investment and Jobs Act (IIJA).

Funds include \$2.25 billion in funds available over five years to the Port Infrastructure Development Program, for a total of \$450 million from the IIJA, plus \$50 million from the FY24 Appropriations Act, for a total of \$500 million in available funds.

The U.S. Department of Transportation identified the grant amounts and recipients as:

- \$50 million to the Cargo Terminal 1 Replacement Project in Anchorage for construction of a new general purpose cargo terminal at the Port of Alaska. The project includes demolition of the existing terminal; construction of the trestle and wharf structure; installation of terminal facilities, terminal finishes and landside utilities, plus tug support during construction and an allowance for project cost escalation.
- \$11.1 million to the Aurora Harbor Drive Down Float Project in Juneau for a drive down float and vehicle bridge, plus two new five-ton electric cranes, to serve the commercial fishing fleet and improve freight transportation.
- \$11.2 million to the Port of Dillingham Improvements Project in Dillingham for the replacement of the Dillingham Boat Harbor float system and utilities, extension of the north bulkhead dock and a new boat grid.
- \$11.2 million to the Saint Herman Harbor Moorage Expansion Project in Kodiak for additional berthing capacity in the harbor for large commercial fishing vessels and support craft.
- \$11 million to the City South Dock renovations and New Berthing Dolphins project in Saint Paul for



File photo via Port of Alaska.

renovation of the City South Dock. Project includes new fenders, replacing and upgrading bull rails, ladders and cleats; rails, new 80-ton bollards; safety equipment; new mooring dolphins; a catwalk; and related design, engineering and environmental activities.

- \$9.4 million to the Marine Industrial Center Cargo Dock in Hoonah to upgrade the cargo dock, including sheet pile closed cell bulkhead, fender piles, breasting dolphins, concrete roll on/roll off ramp, fill, rocks and mooring fenders bull rail, bollards and cleats. ■



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BRIX Marine Launching New Megayacht Tender



The T/T *Kismet*. Photo: BRIX Marine.

BRIX Marine, a Port Angeles, Wash.-based producer of custom aluminum vessels, is launching its newest mega yacht tender, the 38-foot T/T *Kismet*, the company announced Nov. 19.

The RHIB (rigid inflatable boat), designed by New Zealand-based Naiad International, is to be part of the tender garage on

the 400-foot (122-meter) *Kismet*, which German shipbuilder Lürssen recently launched.

The tender features twin Yanmar 440HP diesel engines and Hamilton Jet HJX 27 waterjets, which can reach speeds of almost 50 knots, as well as Hamilton's AVX Express system, including MouseBoat control, a Sleipner bow thruster and Zipwake interceptors, among other features, according to BRIX.

"We have been building Naiad designs for years, and this is the first one we have launched as a yacht tender," BRIX spokesman Charlie Crane explained. "We are excited to add yacht tenders to our portfolio."

The vessel is outfitted with 12V and 24V electrical systems, shore power charging, Garmin GPS and navigation and a Fusion Apollo stereo system with JL

Audio speakers and other advanced technology.

"This project had a unique set of requirements for our team to navigate," said Perry Knudson, managing director of BRIX Marine. "We worked together shaping creative solutions that make T/T *Kismet* a standout tender. We are honored to be part of this megayacht project." ■

Port of Oakland Harbor Modernization Receives \$50 Million MARAD Grant

The U.S. Department of Transportation Maritime Administration (MARAD) has awarded the Port of Oakland about \$50 million toward the port's multi-year plan to upgrade wharves and terminal infrastructure at Outer Harbor, the Northern California seaport announced Nov. 21.

The estimated \$66 million in upgrades allows the port to welcome Ultra Large Container Vessels, which can hold as many as 24,000 TEUs, and regularly call at West Coast seaports.

The project also builds upon the port's move toward emission-free operations.

"This federal funding will help us improve infrastructure that will make the Oakland seaport a cleaner, safer and more efficient international gateway for moving imports and exports," port Executive Director Danny Wan explained in a statement.

The project calls for bolstering wharf and support beams, making structural repairs, adding support piles and replacing container crane rails and the electrical bus bar system to make room for bigger ship-to-shore cranes, according to the port.

"It is essential that we upgrade infrastructure because the Oakland seaport is a critical artery for commerce in Northern California," Port Maritime Director Bryan Brandes said. ■



The Port of Oakland headquarters building. File photo by Mark Nero.

BC Ferries Submits Major Vessel Build Plan to BC Ferries Commissioner

British Columbia ferry service provider BC Ferries said in mid-December that it has submitted a plan to build five New Major Vessels, or NMVs, which, if approved by BC Ferries' commissioner, would be the biggest capital investment in the organization's history.

The newbuilds would bolster the region's ferry capacity and reliability, according to BC Ferries. The vessels would replace four older ferries and add one new ferry, allowing the company to add capacity on its highest-demand routes between Metro Vancouver and Vancouver Island, according to the organization.

The new vessels would lower wait times and increase capacity overall by as much as 28% for passengers and 19% for vehicles, according to BC Ferries, which handled its busiest peak season on record in 2024.

The additional capacity of the NMVs would affect not only BC residents who rely on the ferry system for their daily commutes and essential travel, but is projected to also enable nearly 130,000 incremental tourists to travel through the region.

"BC Ferries is a marine highway, and we have a responsibility to provide reliable service to keep people and goods moving in British Columbia," BC Ferries CEO Nicolas Jimenez said.

"We've heard from our customers that our busiest routes are too often fully booked during peak travel times, leaving many without access to the sailings they need," he added. "Without the addition of these vessels on our major routes, we'll be unable to keep pace with the rising population and it'll create a real impact on the economies of coastal communities."

If approved, the first ferry could come online in 2029, with all five in service by 2031, BC Ferries said.

The New Major Vessels (NMV) project is a complex, multi-year, capital program that proposes to deliver up to seven new vessels by the mid-2030s to service BC Ferries' busiest routes, addressing the urgent need to replace aging vessels and address capacity constraints, prepare for future growth, and improve overall system resilience.



Renderings of two of BC Ferries' proposed New Major Vessels, or NMVs. Images: BC Ferries.

BC Ferries has prioritized accessibility throughout the design of these new vessels, resulting in passenger walkways that are wider, and accessible washrooms strategically located on both passenger decks.

The vessel passageways and washrooms are designed with a large 2.1m turning radius to better accommodate larger wheelchairs of today. Additionally, BC Ferries has said that three heavy-duty, marine-type elevators and multiple main stairways will make it easy for all passengers to move between decks, thereby enhancing accessibility across the vessel.

The NMVs are diesel-battery hybrids, designed to operate on bio and renewable diesel from the start, with the potential for fully electric operation in the future when supporting infrastructure becomes available, according to BC Ferries.

"This flexibility," the company said in a statement, "ensures the vessels are ready to adapt as BC's electric grid evolves, representing a futureproof and financially sustainable solution for ferry service."

Significant efficiency improvements

could see 20% energy savings or more on the major routes when compared to the existing vessels, BC Ferries said, adding that the new vessels would reduce fuel consumption and overall emissions, thereby supporting a cleaner future for British Columbia.

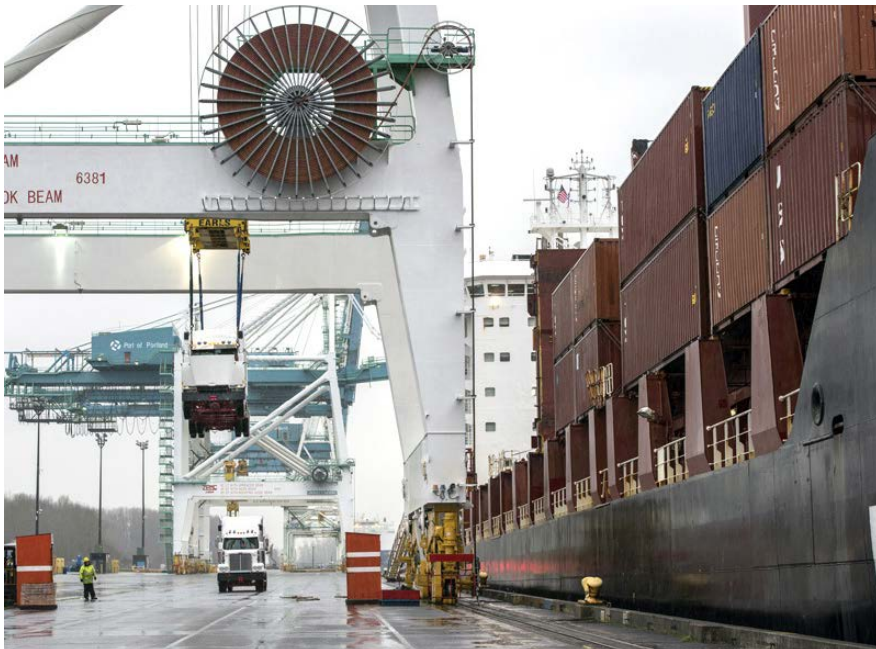
Additionally, the new ferries' propulsion systems are being designed to reduce underwater radiated noise, which poses a known risk to the health of at-risk marine life, including the Southern Resident Killer Whales.

"These features align with BC Ferries' commitment to protecting the marine ecosystems in which it operates," the company said.

The design of the NMV is at the concept stage, with additional features such as new kids' play areas and updated food service offerings still in the process of being designed that would enhance the passenger experience on the vessels.

BC Ferries has said that it plans to continue finalizing design elements and sharing updates as the shipbuilding contract is awarded and more features and passenger amenities are confirmed. ■

Port of Portland, Harbor Industrial in Negotiations for Terminal 6 Operations Contract



Terminal 6. Photo: Port of Portland.

The Port of Portland and Wilmington, Calif.-based Harbor Industrial Services Corp. have a framework agreement in place that would pave the way for Harbor Industrial to be the long-term operator for Terminal 6, the only global container terminal in Oregon, the port revealed Dec. 6.

The framework calls for the creation of a timeline and basic terms to be hammered out over the next six months regarding Terminal 6, which is currently operated by the port, with Harbor Industrial as its stevedore.

“We believe this milestone is a fundamental positive shift in support of the Oregon importers and exporters, to ensure an ongoing, reliable and efficient gateway for Oregon businesses,” Harbor Industrial Chief Operating Officer Tim McCarthy said.

News of the agreement comes eight months after the port announced it would wind down operations at the terminal due to a funding shortfall. In May, the port reversed its decision after the Oregon Legislature pushed to financially help the terminal.

“Scores of businesses throughout Oregon rely on Terminal 6 to ship their goods, and Oregon communities rely on the quality jobs it supports,” Gov. Tina Kotek said. “My recommended budget reflects my commitment to resources to facilitate the continuation of container service, and I intend to advocate for these funds in the Legislature.”

Under the agreement, the port seeks to offset losses from container operations with \$5 million in state support and secure a \$20 million state investment to fund improvements at the terminal, which directly and indirectly supports more than 1,500 jobs and creates an estimated \$20 million in local and state tax revenue annually.

The funding is part of the governor’s recommended budget and also includes money set aside for Columbia River navigation channel maintenance, the port said.

Port Executive Director Curtis Robinhold said the lawmakers’ funding commitment sends a strong signal to international shippers and Pacific Northwest businesses about the terminal’s reliability.

“We’re confident that with Harbor on board as a long-term operator, increasing container volumes and adequate state investment to keep marine trade moving, Terminal 6 will continue providing widespread benefits for Oregon for many years to come,” Robinhold said.

Port commissioners are expected to vote on a lease agreement this summer. ■

Deadline Announced for Filing of Annual Export Strategies with FMC

Ocean common carriers must file documented export strategies with the Federal Maritime Commission beginning March 1, 2025, and at least annually every following year, the FMC announced Dec. 31.

Filings must include information on services offered, markets served, pricing strategies, and equipment provisioning. The submissions must be prospective in nature, providing clear information to the Commission about how ocean carriers will serve the U.S. export market. Multiple filings in a year are permitted if circumstances warrant.

The final rule, called “Definition of Unreasonable

Refusal to Deal or Negotiate with Respect to Vessel Space Accommodations Provided by an Ocean Common Carrier,” published in July, establishes the requirement to file a documented export strategy. That rule was mandated by the Ocean Shipping Reform Act of 2022.

While the final rule has been in effect for nearly six months, approval for the Commission to collect export strategy filings was required from the Office of the Management and Budget. That was provided this past fall, clearing the way for establishing the reporting deadline, the Maritime Commission said. ■



Image: Federal Maritime Commission.

Seaspan Energy Gains LNG Bunkering Accreditation



The Seaspan *Garibaldi* liquefied natural gas bunkering vessel. Photo: Seaspan.

Seaspan Energy now has a liquefied natural gas bunkering accreditation that allows it to provide ship-to-ship LNG bunkering for vessels calling at the Port of Vancouver, the British Columbia-based company announced Nov. 18.

The Vancouver Fraser Port Authority issued the LNG bunkering accreditation after a multi-year process with Seaspan—a first for the port authority.

Seaspan Energy intends to operate three 367-foot-long LNG bunkering vessels: the Seaspan *Garibaldi*, the Seaspan *Lions*

and the Seaspan Baker. *Garibaldi* and *Lions* are expected to come online soon to offer LNG bunkering services to the North American West Coast, the company said.

Seaspan Energy Senior Vice President Harly Penner called the accreditation “a very meaningful step towards the start-up of our Vancouver based LNG bunker hub.”

“This accreditation is an important next step in Seaspan Energy’s journey towards offering low-carbon solutions for ship owners,” Penner said. “LNG will play an integral role in the global transition to cleaner marine fuels, as we collectively aim to meet the International Maritime Organization’s emissions reductions targets by 2030 and beyond.” ■

Port of Redwood City Nets \$1.5 Million Grant for Anti-Terrorism Security Measures

The Port of Redwood City has been awarded a \$1.5 million grant by the Department of Homeland Security to enhance anti-terrorism security efforts, the Northern California seaport announced Dec. 3.

The money from the DHS’ Port Security Grant Program is expected to fund port and first responder training, a 36-foot law enforcement patrol boat, the installation of enhanced security equipment and emergency notifications system, as well as an assessment of cybersecurity infrastructure pain points and ways to better protect against vulnerabilities.

“As a designated federal staging area by FEMA, protecting our port from terrorism requires continual advancements in surveillance and emergency operations,” port Executive Director Kristine Zortman said.

Through the Port Security Grant Program, DHS annually awards funds to various port authorities, government agencies and others to protect port infrastructure against terrorism. ■



The Port of Redwood City has been awarded a \$1.5 million grant by the Department of Homeland Security. Photo: Port of Redwood City.

Silverback Marine Wins Federal Contract for Truckable Tug

Tacoma-based custom aluminum boat building company Silverback Marine has secured a multimillion-dollar Department of Defense contract for its new OX series truckable tractor tug, which is expected to be delivered in late 2025, the company announced Nov. 7.

Silverback Marine teamed with Darley Defense, a family-run Illinois-based supplier of material support and training to the DoD, to win the contract.

Designed collaboratively with Seattle-based Elliot Bay Design Group, the tug would feature two Cummins diesel motors, Schottel Z Drives and Arcosa deck equipment and winches, according to Silverback.

“The core purpose of this mini tug is to bring real, useable towing capacity to the truckable tug market,” Silverback Marine said in a statement. “With the twin azimuth drives, captains can enjoy big tug characteristics in a very compact package, without the headache of costly Subchapter M requirements.”

“The heavy-gauge aluminum hull, protected by Schuyler fendering, reduces weight and corrosion costs compared to traditional steel hulls, and the compact size allows (for) haul out with conventional travel lifts,” the statement continued.

The vessel is also a hybrid and full electric propulsion



Silverback Marine's truckable OX tugboat. Photo: Silverback Marine.

candidate, the company said.

“Especially when operated in multi-vessel teams, operators now enjoy the ability to perform operations normally only possible with much larger tugs,” the company said. “This nimble solution also reduces underwater noise and environmental impacts, making it an attractive choice for ports seeking grant funding opportunities and incentives.” ■

Tacoma Port Maritime Center Project Receives Final Approval



A rendering of the “Maritime|253” skills center in Tacoma. Image: Tacoma Public Schools.

Tacoma, Wash. harbor and school officials are expected to break ground in early 2025 on a 20-acre project that includes the “Maritime|253” skills center, shoreline access to the public and a new port business center.

On Nov. 19, Port of Tacoma Commissioners gave their final approval on the Port Maritime Center project on the eastern portion of Foss Waterway.

This follows Tacoma Public Schools Board’s Nov. 14 approval of the

Maritime|253 skills center, a facility aimed at offering free career and technical education to Pierce County junior and senior high-school students.

Set to launch in Fall 2025 at interim sites while the permanent facility is being built, Maritime|253 programs would

offer courses related to logistics, manufacturing, maritime sustainability, technology, transportation and trades skills, according to a port announcement.

The port is budgeting \$150 million for its part of the project. The port and school district, which announced plans to partner on the project in 2023, are each funding their own facility. The school district is also funding part of the site development costs.

“This partnership with the Port of

Tacoma opens doors to careers that students might never have considered,” Tacoma Public Schools Board President Lisa Keating said. “It’s about providing real-world skills that will serve them well beyond high school and empowering them.”

The project also includes a port business center for future commission meetings and office space for port and Northwest Seaport Alliance employees.

Environmental remediation efforts on the site are expected to start before anticipated construction in early 2025.

Tacoma Public Schools said that it expects Maritime|253 to be completed by Fall 2026, while the port projects an early 2027 opening for the port business office.

“We are transforming historically contaminated land into collaborative ground where education, innovation and opportunity can take root and thrive,” Port Commission President Kristin Ang said. “The Port Maritime Center is a once-in-a-generation investment in our community and our environment.” ■

2 Alaska Companies Join TOTE Group's New Logistics Endeavor

Effective Jan. 1, Alaska trucking and logistics company Carlile and Alaska-based third-party logistics provider Naniq Global Logistics have joined TOTE Logistics, the TOTE Group's new area of focus.

Carlile specializes in shipping trucking and logistics services throughout Alaska, Canada and the U.S., while Naniq Global is a 3PL with more than 300 employees



throughout North America, including Alaska, Canada, Hawaii and Washington state.

They join TOTE Logistics along with Florida-based Shoreside Logistics and the newly acquired Florida-based Aqua Gulf, a 3PL that specializes in cargo delivery between Puerto Rico and the U.S.

The news was announced Dec. 10.

"Together, these companies provide a breadth of services from Hawaii and Alaska across the mainland to Puerto Rico," according to TOTE Group, which independently operates companies encompassing maritime, terminal and services business as part of the Saltchuk group of brands and companies.

TOTE Group Chief Operating Officer Mike Noone is expected to oversee the newcomer companies as president of TOTE Logistics. Noone brings more than three decades of maritime and logistics experience to the new leadership position.

"The addition of logistics services to the TOTE Group companies allows us to offer effective and efficient opportunities for those moving cargo throughout the U.S., particularly in the non-contiguous trades," TOTE Group President and CEO Tim Nolan said. "Mike is the right person to oversee this new venture." ■

Port of Grays Harbor, AGP Break Ground on Terminal 4 Expansion Project

The Port of Grays Harbor and Nebraska-based soybean processor/refiner AGP have officially broken ground on the port's Terminal 4 Expansion and Redevelopment Project, the port announced Nov. 27.

The project calls for adding more than 40,000 feet of rail at the Marine Terminal Complex, creating a new fendering system and a stormwater collection and treatment facility at the terminals and making room for more than 30 acres of extra laydown space for cargo.

"We are ready to load more vessels and grow here in Grays Harbor and this project will make that possible," AGP CEO Chris Schaffer said in a statement announcing the news.

The groundbreaking follows AGP's recent groundbreaking on a \$170 million project to build a commodity export facility at Terminal 4B, which is expected to yield more ag exports and more than 80 full-time jobs, the port said.

"As a public port district, we strive to utilize our public assets to attract private investment in our community to create jobs and opportunities," said port Commission President Phil Papac, who called the project transformational. "This will be the largest infrastructure project the port has ever undertaken and it will pay dividends well beyond Grays Harbor."

AGP first announced its plans to expand its facility at the port in 2022. ■



Image: Port of Grays Harbor.

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U.S. Shipbuilding and Commercial Maritime Industries Legislation Introduced

On Dec. 19, U.S. Senators Mark Kelly (D-AZ) and Todd Young (R-IN), along with Congressmen John Garamendi (D-CA) and Trent Kelly (R-MS) introduced the SHIPS for America Act in response to a perceived need to bolster America's maritime industry.

The bill aims to authorize the U.S. Merchant Marine to transport vital goods and military cargo during times of conflict while reinforcing American supply chains in peacetime.

Currently, about 80 U.S.-flagged ships are engaged in international commerce compared to over 5,500 China-flagged vessels, and U.S. shipyards' growing industrial base cannot produce oceangoing vessels at scale, the officials said in a statement.

"In addition to this supply chain

gap, there is an increasing demand for qualified mariners," they said in the statement. "This legislation entails a comprehensive strategy to address these critical disparities."

The SHIPS Act, according to the four men, seeks to "ensure national oversight and consistent funding for the maritime industry, enhance the competitiveness of U.S.-flagged vessels, rebuild the U.S. shipyard base, and expand efforts to recruit, train and retain skilled mariners and shipyard workers."

"For far too long, the United States neglected our maritime industries and the critical role they play in our national and economic security – this ends with the SHIPS for America Act," Garamendi said.

"I have spent (more than) 10 years

working to revitalize the U.S. maritime industry in order to strengthen our national economy, create good-paying American jobs, and support our national security during peacetime or war," he continued. "This bill represents the most substantial and comprehensive approach to have America compete and lead globally."

The introduction of this bill represents a strategic effort to rebuild the U.S. maritime industry, securing both national security and global competitiveness, the legislators said in a statement. With China's growing influence in the global maritime sector, strengthening the U.S. Merchant Marine is essential for maintaining U.S. dominance in international commerce.

"In times of conflict, the U.S. Merchant Marine will be vital for transporting goods and military cargo, while in peacetime, it will fortify supply chains and ensure economic resilience," they said. ■



Image: U.S. Merchant Marine.

Seaspan-Built Royal Canadian Navy Support Ship Receives Name

The HMCS *Protecteur* is now the name of the Royal Canadian Navy's newest Joint Support Ship built by North Vancouver, B.C.-based vessel manufacturer Seaspan Shipyards, making it the longest naval ship built in Canada at roughly 569 feet.

Seaspan announced Dec. 13 that it had designed, built and launched the vessel, one of two ships replacing the former *Protecteur*-class Auxiliary Oiler Replenishment vessels. The *Protecteur* and sister Joint Support Ship HMCS *Preserver* were designed to be nimble to serve multiple purposes and able to integrate with any Canadian or allied naval task group, according to Seaspan.

The two warships "will significantly extend the range and endurance of these groups through the provision of fuel, ammunition, aviation support, food, spare parts, exercise and gym facilities, and medical and dental care," according to Seaspan.

The *Protecteur* is being prepared for sea trials at Seaspan's Vancouver Shipyards, with ship delivery anticipated in late 2025.

Seaspan is constructing more than 20 major vessels for the Royal Canadian Navy and Canadian Coast Guard under the country's National Shipbuilding Strategy.

"We look forward to delivering all the vessels in this class, and providing the Canadian Armed Forces with the equipment they need to protect Canadians, at home and abroad," Seaspan Shipyards CEO John McCarthy said. ■



Canadian Prime Minister Justin Trudeau gives a speech during a naming ceremony for the Seaspan-built HMCS *Protecteur*. Photo: Seaspan.

Pasha Hawaii Honored by Chamber of Shipping of America

Honolulu-based container and cargo shipper Pasha Hawaii's fleet of vessels operating in the Hawaii-Mainland trade has been honored for its environmental excellence by the Chamber of Shipping of America, the company announced Nov. 21.

At the chamber's annual Environmental Achievement Awards, Pasha's MV *George II* (formerly named the *Horizon Reliance*) was honored with an environmental achievement certificate for the 23rd consecutive year, *Horizon Spirit* for the 13th year, MV *Jean Anne* for the third year, and MV *George III* for the second year.

"These awards celebrate the dedication to environmental excellence of our seafarers and the company personnel ashore who operate their vessels to the highest standards," Chamber CEO Kathy Metcalf said.

"In today's world, our industry only gets front-page coverage when problems arise," she remarked. "However, tonight we celebrate these positive achievements and the critical contributions the maritime industry makes to the domestic and global economies while operating their vessels in a safe and environmentally responsible manner."



Pasha Hawaii's MV *George II*.
Image: Pasha Hawaii.

Pasha Hawaii President and CEO George Pasha, IV, said the company is honored to be recognized with other esteemed maritime leaders committed to safety and environmental responsibility.

"This award is a testament to the unwavering commitment of our team—both ashore and at sea—who strive every day to operate with the highest standards of excellence," he remarked. "Together, we reaffirm our dedication to a safer, greener future for generations to come." ■

Guam Port Looks to Replace Aging Gantry Cranes



A containership at the Port of Guam. Photo: Guam Port Authority.

Port Authority of Guam directors have authorized a multi-step bid process to replace the port's aging gantry cranes.

The board announced its decision in the edition of the Port Authority of Guam newsletter that was released on Nov. 3. According to the report, the port's current cranes, acquired second-hand in 2009 and over 40 years old, pose a risk to commercial and military logistics.

With the cranes nearing the end of their service life, the port's capacity to manage cargo is effectively at stake,

especially amid rising geopolitical tension, according to the report.

The gap analysis completed in October emphasized the importance of upgrading these cranes to meet increased throughput demands and support national security objectives.

The board's action authorized Port General Manager Rory Respicio to issue an invitation for a bid structured to procure up to three new gantry cranes, contingent on funding. This, the report said, allows the flexibility to acquire up to

three cranes initially that meet rigorous specifications, including cybersecurity measures and storm resilience, to withstand Guam's extreme weather conditions.

"Current funds may only cover one crane but failing to pursue every option to acquire at least three, and ideally four, ship-to-shore gantry cranes would significantly impact the port's operational resilience and strategic important, Respicio said.

"Our efforts to secure new cranes are integral to Guam's role as a reliable logistics hub for commerce and the military—now more than ever amid geopolitical tension," he added.

The report further stated that without additional federal support, the port may only be able to purchase a single crane.

Respicio said that if the bid process identifies a Chinese manufacturer as the most responsive, the port board would evaluate the bid in line with all statutes, but that Defense Department funding would likely preclude the acquisition of China-manufactured cranes, maintaining alignment with U.S. security standards. ■

Crowley Acquires Seattle Harbor Services Company, Receives CSA Award



(Above) Crowley personnel accepts the Environmental Achievement Award from the Chamber of Shipping of America. Photo via Crowley Maritime. (Left) Photo via Crowley.

Crowley Maritime said Jan. 2 that it's expanding its harbor services capabilities via the acquisition of Main Line Inc., a vessel mooring company based in Seattle, effective Jan. 1.

Terms of the transaction were not disclosed.

The addition of Main Line is expected to provide Crowley's customers calling on the ports of Seattle and Tacoma with a comprehensive solution for their vessel mooring and ship assist needs, the company said in a statement.

Main Line is a longtime provider of vessel mooring services in the Pacific Northwest for ship operators who value safe and dependable mooring service. Main Line staff members are transitioning to Crowley as part of the asset purchase agreement, according to the announcement.

"For decades, our customers have put their trust in Crowley to ensure their vessels arrive and depart ports safety and reliably," Crowley Shipping Senior Vice President and General Manager James Fowler said.

"The addition of vessel mooring to our harbor services product offering ensures the highest levels of coordination between the critical services of vessel mooring and ship assist," he continued. "As a result, Crowley customers can have even more confidence their vessels will be docked and sailed without delay or incident."

In other news, Crowley announced in mid-December that it had been honored for environmental achievement by the Chamber of Shipping of America.

In total, the CSA recognized 101 Crowley-operated vessels and their crews with Environmental Achievement Awards, recognizing

"For decades, our customers have put their trust in Crowley to ensure their vessels arrive and depart ports safety and reliably."

Crowley Shipping Senior Vice President and General Manager James Fowler

the company and its people for its safe environmental operations.

The CSA says its award honors vessels that "maintain an exemplary safety record, free from reportable spills, U.S. Coast Guard environmental citations or other pollution incidents."

"The recognition reinforces Crowley's dedication to environmental stewardship throughout its operations," the Chamber said in a statement.

The 101 vessels, which include tugboats, containerships, tank vessels and managed ships for the government, combine to have 864 cumulative years of environmentally safe performance.

"Sustainability and safety are at the heart of everything we do at Crowley, and we're honored to be recognized yet again for our commitment," Crowley Shipping Fleet Operations Director Capt. Boren Chambers said. "These awards are a testament to the hard work that our team puts in to be industry-leaders in environmental stewardship."

In addition, Crowley announced in mid-December that it had been recognized as a top company for women to work for in transportation by the Women in Trucking Association's official magazine, *Redefining the Road*, for the fourth straight year.

"We are thrilled to once again be recognized for our progress and commitment to supporting the progression of women at Crowley through career development programs and benefits that lead to their advancing roles that also propel Crowley as a business," the company's Chief People Officer, Megan Davidson, said.

Crowley was also recently recognized by "U.S. News and World Report" as a top company to work for in logistics and transportation, and by the National Diversity Council as a top employer for Latino leaders. ■

USCG Icebreaker *Healy* Returns to Seattle Following Arctic Deployment



A Guardsman from the Coast Guard cutter *Healy* poses for a photo with loved ones upon the vessel's return to Seattle. Photo via USCG.

U.S. Coast Guard cutter *Healy* returned to Seattle in mid-December following a 73-day Arctic deployment supporting scientific research missions, search and rescue operations, as well as training exercises in the region.

The *Healy* is the Coast Guard's only icebreaker specifically designed to support Arctic research. It provides high-latitude U.S. presence and scientific access to areas too challenging for most research vessels to reach.

Throughout the cutter's 2024 Arctic Fall deployment, the crew aboard the 420-foot polar icebreaker conducted three distinct phases.

Phase one was a collaboration between the U.S. Coast Guard, the National Oceanographic and Atmospheric

Administration (NOAA), the U.S. National Science Foundation (NSF), and the University of New Hampshire.

The interagency science mission to the Chukchi and Beaufort Seas north of Alaska combined oceanographic buoy deployments with a coordinated mapping effort to survey uncharted waters and acquire depth data along a portion of the

Alaskan Arctic Coast Port Access Route Study (AACPARS) corridor.

The corridor is a Coast Guard-proposed preferred vessel route from Utqiagvik, Alaska to the demarcation point of the U.S.-Canada border.

During the second phase, *Healy* hosted 10 postdoctoral researchers and junior faculty members from various institutions supporting the U.S. NSF-funded Polar Early Career Scientist Training project, with contributions from NOAA and the Coast Guard. The at-sea training and research opportunities for the early career scientists included seafloor mapping, water and sediment collection, and other scientific sampling across various disciplines in the operational areas of the Chukchi and Beaufort Seas

and within the marginal ice zone.

During the *Healy*'s third phase, the ship conducted a late-season transit of the western International Maritime Organization's Bering Strait Routing measure through Russian territorial seas, ensuring a free and open Arctic region.

The crew conducted multi-mission operations throughout the Chukchi Sea, Bering Sea and Gulf of Alaska and conducted training above the Arctic Circle to prepare future high-latitude polar operators. The training included helicopter operations and search-and-rescue exercises with Joint Rescue Coordination Center Juneau (JRCC Juneau) and Coast Guard Air Station Kodiak.

Also, while sailing in southeast Alaska, *Healy* was one of several U.S. Coast Guard and good Samaritan vessels that responded to the fishing vessel *Wind Walker* search-and-rescue case, which took place near Couverden Point, Alaska in early December.

"*Healy*'s Arctic West Fall deployment demonstrates the agility and dedication of the crew," *Healy* Commanding Officer Capt. Michele Schallip said. "In addition to contributing to navigation safety and support of scientific research, our deployment exercised the broad array of Coast Guard missions we conduct in the Arctic." ■

Seattle-Based Coast Guard Heavy Icebreaker Departs on Months-Long Antarctica Deployment

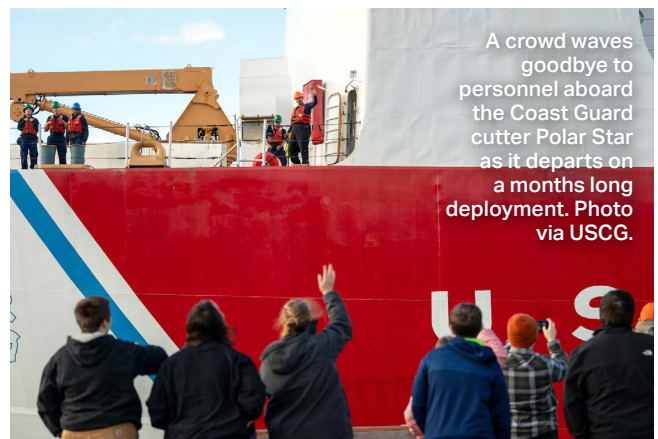
U.S. Coast Guard cutter *Polar Star* departed Seattle in late November for a deployment to Antarctica in support of Operation Deep Freeze, an annual joint military mission to resupply the United States Antarctic stations.

This marks the 28th year that the *Polar Star* is supporting the operation, which supports the National Science Foundation (NSF), the lead agency for the United States Antarctic Program (USAP).

Each year, the *Polar Star* breaks a navigable channel through the ice, allowing fuel and supply ships to reach McMurdo Station, which is the largest Antarctic station and the logistics hub of the USAP.

"After months of pre-deployment preparation and working together through various challenges, the cutter and crew are ready to embark on this enduring and critical mission," *Polar Star*'s commanding officer, Capt. Jeff Rasnake, said in a USCG-provided statement at the outset of the mission.

The Coast Guard has said that it's "recapitalizing" its polar icebreaker fleet to ensure continued access to the polar regions



A crowd waves goodbye to personnel aboard the Coast Guard cutter *Polar Star* as it departs on a months long deployment. Photo via USCG.

and to protect the country's economic, environmental, and national security interests in the high latitudes.

Each year, the *Polar Star*'s crew commits significant time and effort preparing the 48-year-old cutter for the annual deployment in support of ODF. This year, the *Polar Star* completed the fourth of five planned phases of the service life extension project. ■



(Left to right) Jordan Pechie, Harly Penner, and Derek Ollmann.

Seaspan Marine Makes Leadership Changes

As of Jan. 1, new leaders have taken the helm at Vancouver, B.C.-based ship design, engineering, building and repair company Seaspan.

Jordan Pechie has become the president of Seaspan Marine Transportation, while **Harly Penner** has been named president of Seaspan Energy, it was announced Dec. 2.

Pechie, who served as senior vice president at Seaspan Marine, has taken the reins from **Derek Ollmann**, who has become chief executive officer of transportation for Seaspan parent corporation The Washington Companies.

A Master Mariner, Pechie brings more than 19 years of maritime industry and leadership experience to the top role. Before joining Seaspan in 2020, Pechie led HaiSea Marine.

“Both Derek Ollmann and Jordan Pechie have demonstrated exceptional leadership in transforming and re-imagining the business at Seaspan Marine,” Washington Companies President and CEO Mark Lamarre said.

“We have full confidence that the leadership transition will be seamless as Derek shifts his focus to overseeing transportation at The Washington Companies, while Jordan continues to build upon the strong foundation he has established at Seaspan Marine,” he added.

Penner, who serves as Seaspan Energy’s senior vice president, is a maritime veteran with more than 25 years of experience in the industry. Penner previously helmed Seaspan Ferries Corp. ■

Trigon Announces New Terminal President

Terminal operations executive **Craig Olley** has been appointed to the newly created role of president of Trigon Pacific Terminals, the Prince Rupert, British Columbia-based terminal operator announced Nov. 27.



Craig Olley.

Olley, who previously worked as vice president of operations at a Port of Vancouver marine terminal, is expected to oversee Trigon’s daily operations, customer relations and project management, according to the company.

Olley has a Master of Business Administration degree from the Simon Fraser University Beedie School of Business, where he also received a graduate degree in business administration.

He also attended the University of Chicago Booth School of Business, where he completed the Teck Resources’ Leading for Excellence program and the Building and Implementing Growth Strategies program.

“Craig’s strong commitment to continuous improvement, safety and excellence is fully aligned with Trigon values,” said Trigon Chief Executive Officer Rob Booker. “We’re the largest terminal by volume in the Port of Prince Rupert, and I’m confident his exceptional skills, experience and customer focus will help drive Trigon Terminals even farther forward.” ■

New Port of San Diego President-CEO Named

Carlsbad, Calif. City Manager **Scott Chadwick** has been chosen as the Port of San Diego’s new president and chief executive officer, the Southern California seaport announced Nov. 21.

Chadwick, whose contract is expected to be ratified by the Board of Port Commissioners on Dec. 10, is anticipated to start leading the port’s nearly 600 employees in the top role in mid-January.



Scott Chadwick.

Chadwick has two decades of experience in city government, including more than six years in Carlsbad and about 14 years with the City of San Diego, where he served as chief operating officer, human resources director and labor relations director.

He grew up in San Diego County and earned a bachelor’s degree in political science from Purdue University. He served eight years as an intelligence analyst for the U.S. Army before working for AFSCME (American Federation of State, County and Municipal Employees) in San Diego for five years.

Chadwick is poised to take the reins from Acting President and CEO Randa Coniglio, who formerly served as the port’s first female president and CEO from 2015 to 2020. She was asked to return to the top job in 2023 after former President and CEO Joe Stuyvesant was placed on administrative leave. Stuyvesant officially resigned in January.

Board members lauded the selection of Chadwick, who was chosen from hundreds of applicants in a leadership search that started in February.

“In Scott, we have a proven leader who believes that people and relationships are of utmost importance in public service and in business,” Board Chairman Frank Urtasun said.

Board Vice Chair Danielle Moore echoed the sentiment.

“Scott is committed to people-focused leadership and has a reputation for building strong, high-performing teams that drive forward organizations and the communities they serve,” Moore said. “The Port of San Diego is a dynamic entity and Scott’s extensive background in city management, government operations, legislative affairs, human resources, labor relations and the military, coupled with his robust networks across the region and state, position the port for success in the years ahead.” ■

Port of Seattle Selects New Economic Development Division Director

Veteran executive **Neepaporn Boungjaktha** (pronounced Nee-Pa-Pawn Boing-Juk-Tah) is the new managing director of the Port of Seattle's Economic Development Division, the port announced Dec. 4.

Boungjaktha, who was chosen through a nationwide search conducted by executive search firm Jorgenson Pace, joined the port after serving as an executive director for the Snohomish County (Wash.) Executive Office.

She also was previously the managing director of global trade and investment at Greater Seattle Partners, and served as vice president of global engagement and other roles at the Seattle Metro Chamber of Commerce.

Boungjaktha attended the University of Washington, where she earned a Bachelor of Arts degree in international studies, according to the port.

"As the Port of Seattle looks to build a port for the future, a clear vision of how economic development through real estate, economic opportunities for businesses of all kinds and support of regional travel and tourism is essential," Boungjaktha said. "I look forward to bringing my experience working at both county and regional economic development and trade organizations to the port to bring that vision to fruition."

Port Executive Director Steve Metruck said the port looks forward to Boungjaktha's leadership and strong regional knowledge.

"In this role, (Boungjaktha) will be focused on setting a vision for the port's economic development future including developing and expanding its real estate portfolio, expanding economic opportunity with a focus on equity and sustainability, and working with our partners at the Northwest Seaport Alliance," Metruck said. ■



Neepaporn Boungjaktha.

Norris Joins Vigor as Vice President of Marine Fabrication

Pacific Northwest-based industrial firm Vigor on Jan. 6 announced the appointment of **Mark Norris** as the new vice president of the company's marine fabrication division.

In his new role, Norris is responsible for leading Vigor's defense and commercial marine fabrication projects while growing and maintaining an experienced skilled team. He will be based at Vigor's Vancouver, Wash. facility.

In a statement, Norris said he was excited to join Vigor while the company is already doing such important work and has a great vision for future growth.

"The talent and expertise within this company are well-known, and this is a great opportunity to help elevate our work to new heights," he said.

Vigor President and CEO Francesco Valente said the company is fortunate to have someone of Norris' experience and knowledge joining the firm at a critical time for marine fabrication division, which is currently in production on the Maneuver Support Vehicle (Light) or MSVL, the U.S. Army's new generation landing craft.

Norris has nearly four decades of experience leading major defense programs, spending 25 years at Lockheed Martin, rising to vice president of joint programs for the Army and Navy. He then joined Italian shipbuilding company Fincantieri, and most recently led strategy and business development for BAE Systems Inc.'s F-35 Lightning II program. ■



Mark Norris.

POLB Harbor Commissioner Olvera, Jr. Named ILWU International President

Longtime labor leader and Long Beach Harbor Commissioner **Bobby Olvera, Jr.** is the new international president of the International Longshore and Warehouse Union (ILWU), representing thousands of longshore workers across 29 ports along the U.S. West Coast, the organization announced Nov. 8.



Bobby Olvera, Jr.

Olvera, Jr. and the new leadership team, which consists of Vice President **Ryan Whitman**, Vice President **Brandon Wolff** and returning Secretary-Treasurer **Ed Ferris**, were elected by ILWU members and sworn in Oct. 29 by outgoing International President **Willie Adams** at the organization's International Executive Board meeting in San Francisco.

At the swearing-in ceremony, Olvera lauded Adams' steady leadership, "steering the union through a difficult six years" and "clearing the deck" so the new team of leaders could have the chance "to grow and strengthen the union in the next three years," according to the ILWU announcement.

The ILWU surprised Adams by naming the courtyard of the International Offices after him. Adams said he was touched by the gesture.

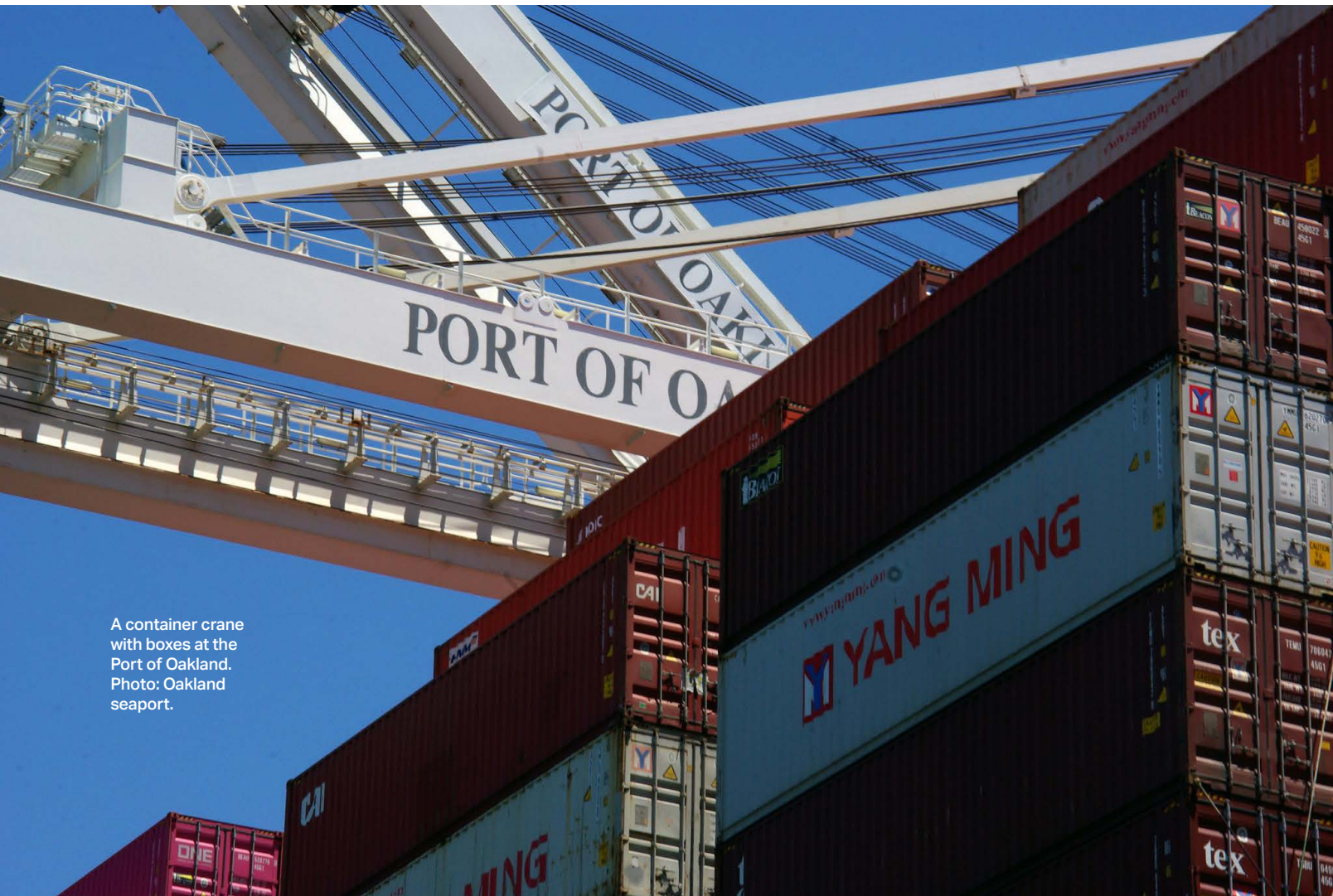
"I never would have thought I would receive an honor like this and it means a lot to me," he said.

Olvera's history with the ILWU spans more than three decades. After registering with the organization in 1989, Olvera was chosen by Local 13 members to serve on the executive board, political action committee and as a ILWU Longshore Caucus and Convention delegate, according to his port bio.

From 1991 to 1998, Olvera served in the U.S. Marine Corps. In 2018, Olvera was elected as ILWU International Vice President and appointed to the Long Beach Board of Harbor Commissioners in 2020. ■

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A container crane with boxes at the Port of Oakland. Photo: Oakland seaport.

Regional Update: Northern California Ports

By Karen Robes Meeks
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In recent years, Northern California has seen major public and private investment in the region, whether it's public money for seaports and transportation entities to make operations more sustainable and efficient or private sector funding for manufacturing and terminal facilities in and around area seaports.

All this investment seeks to bolster trade and logistics business in the region, where seaports move a diverse amount of cargo, ranging from agricultural goods and battery parts to cement and other breakbulk.

Here's a look at what the major seaports in the region are up to.

Port of Oakland

Northern California's busiest seaport experienced 12 straight months of loaded import growth during 2024, approaching pre-pandemic levels, with October imports up 11.2%, to 81,498 TEUs, from the same time a year prior.

"The sustained growth in loaded imports reflects stronger consumer demand in Northern California and the broader Western region, as well as efforts by our logistics community to enhance supply chain sufficiency," Port of Oakland Maritime Director Bryan Brandes said.

He added that the port's focus on streamlining cargo movement, including extended gate hours and improved trucker turn times, have contributed to the upward trend.

Meanwhile, Oakland's loaded exports rose 6.7% between January and October, thanks in large part to agricultural products that have made up for

a lower demand in recycled paper. The port moved close to \$8.5 billion worth of U.S. agricultural goods and ranked first in the U.S. by TEUs in global refrigerated exports, which reached \$7 billion in value in 2023.

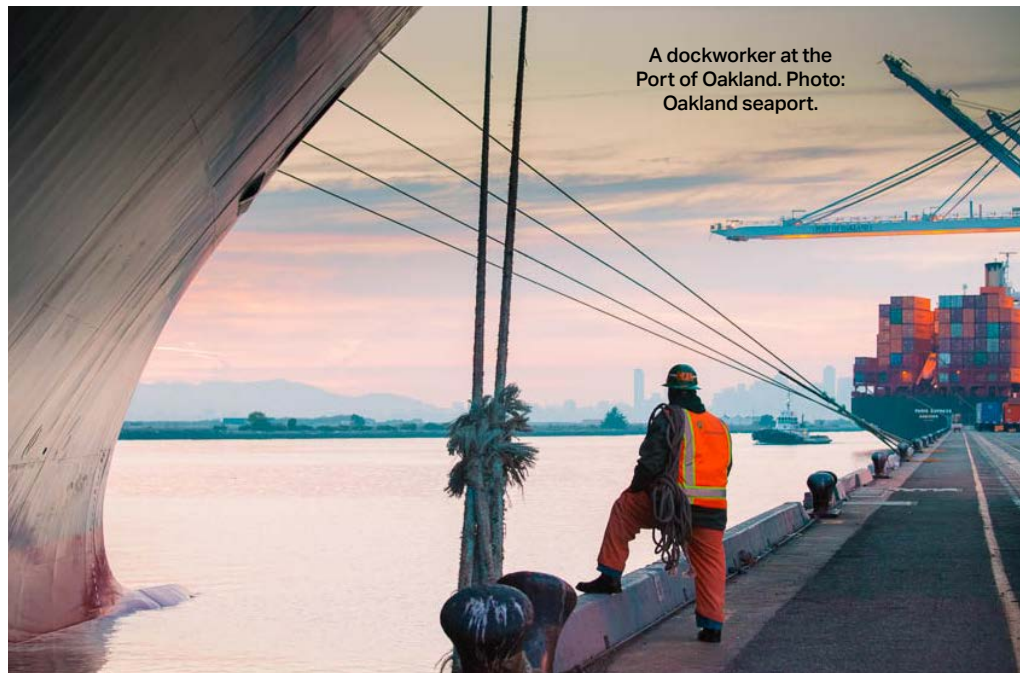
Fruits and nuts topped Oakland exports with 90,461 TEUs and a value of \$3.4 billion, followed by frozen proteins with 49,552 TEUs and \$2.95 billion and dairy products with 19,316 TEUs and \$680 million.

The port credits a long-term investment in refrigeration, including expanding cold storage and power plugs for reefer containers that enable partners to maintain the quality of perishable goods, Brandes said.

“Looking forward, we plan to continue targeting the cold chain sector, both through infrastructure investment and by marketing Oakland as the gateway for agriculture exports to global markets,” he said, adding that the port is actively exploring opportunities to expand import refrigerated cargo volumes.

“The Bay Area’s proximity to a diverse and affluent consumer market makes Oakland an ideal hub for inbound refrigerated goods and we plan to leverage this advantage in the years to come,” Brandes remarked.

The Port of Oakland is also embarking



A dockworker at the Port of Oakland. Photo: Oakland seaport.

on various infrastructure projects, including the Outer Harbor development set to start in 2025 and be completed by 2028. The project, which was awarded a \$50 million federal grant in November, seeks to modernize aging infrastructure, improve berthing capacity and enhance cargo-handling capabilities.

“These upgrades are essential to keeping Oakland competitive as a major

West Coast gateway, enabling us to accommodate larger vessels and improve operational efficiency,” Brandes said.

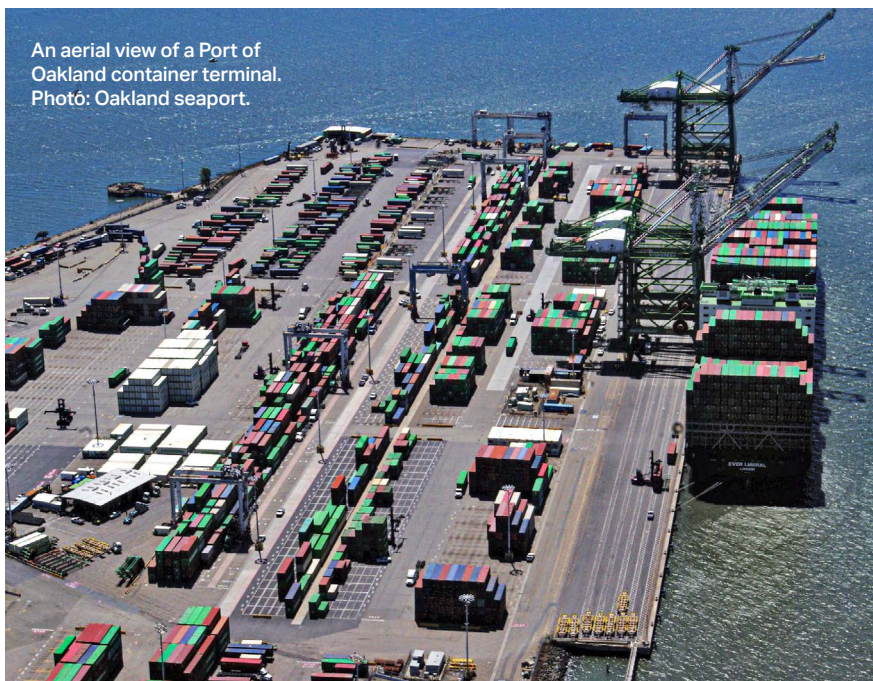
The port is also moving forward on zero emissions projects. In October 2024, Oakland won a \$322 million EPA grant to expedite the port’s conversion to zero-emissions cargo handling operations. The grant is intended to finance 663 pieces of zero-emissions equipment, including 475 drayage trucks and 188 pieces of cargo-handling equipment.

Purchase and deployment are expected to be incremental and could start as early as 2025, according to the port.

Other future port initiatives include looking to expand Oakland’s turning basins to accommodate larger vessels and advancing the development of the former Howard Terminal, which hasn’t been operational since 2013.

The port’s expected to consider a number of proposals for the property, for uses ranging from maritime, manufacturing and distribution to educational, entertainment, recreation, cultural and water-oriented projects, Brandes said.

As for cargo volumes, the port is cautiously optimistic that growth will continue, though much depends on global economic conditions and trade policy, he added.



An aerial view of a Port of Oakland container terminal. Photo: Oakland seaport.

Port of Stockton

Located in the Sacramento-San Joaquin Delta, the Port of Stockton, which specializes in dry and liquid bulk cargo, saw its liquid and general cargoes increase in 2024 and its dry bulk drop by about 35%, port spokesman Pete Grossgart told *Pacific Maritime*.

What's really affected the port's tonnage, he said, is coal, which is down about 400,000 tons.

"And that's largely related to economics overseas," Grossgart said. "Australian coal is cheaper now and so the shipper is selling it domestically."

With imports accounting for about three-quarters of Stockton's cargo volumes, expected tariffs imposed by the incoming Trump administration are expected to impact the port, he added.

"The tariffs are gonna hurt us, particularly on general cargo," Grossgart said, citing steel cargo primarily from Korea and Taiwan, which is up about 41% at the port in 2024.

"It's mission one on the cargo side to try to get new and exciting cargoes."

Pete Grossgart, Port of Stockton

"We can't see that continuing, to be honest with you," he said. "And then you start talking about, 'Okay, so we're imposing tariffs. What are other countries going to do in retaliation?' I mean, you don't have to be a rocket scientist to figure that out there. A year from now, things will be very different."

Diversifying its cargo business will be key for the port, which is pursuing interests that export biomass, a renewable energy stemming from organic materials such as plants and animals. In 2021, the port received its first barge of renewable fuels.

"That is becoming a bigger and bigger part of our portfolio," Grossgart said.

The Denmark Natural Soda Ash Export Terminal and Remedial Activities project at the port gives Stockton another option to diversify. The project, which includes a new bulk cargo marine terminal for soda ash exports in the West Complex, is expected to begin construction in the first quarter of 2025 and begin operations by 2028, said Jeff Wingfield, the port's deputy port director of regulatory and public affairs.

"Diversification is critical; I mean, it's mission one on the cargo side to try to get new and exciting cargoes," he said.

Meanwhile, the port is moving forward on electrification. In 2018, the port began a concerted effort to replace equipment with greener versions and develop plans to track and lower emissions. And in 2023, the port finished its MD/HD Zero Emission Vehicle (ZEV) Blueprint, setting the stage for the deployment of electric vehicle technologies.

"Stockton is one of the most heavily impacted areas for pollution and emissions ... so we are trying to do everything that we can as we grow and develop to reduce the emissions on the community around us," Wingfield said.

The port announced in November that it netted the single biggest federal investment in port history, a grant of more than \$110 million from the U.S. Environmental Protection Agency through its Clean Ports Program. The money allows Stockton to be in a position to expedite its zero-emission efforts, including equipment deployment and infrastructure.

About 40% of the port's cargo handling equipment runs on zero emissions; with the grant funding, that number comes closer to 95%, Wingfield said, by allowing the port to replace diesel forklifts with zero-emission technology and purchase two electric cranes and support infrastructure.

Growing the port sustainably, modernizing infrastructure and pursuing more grant funding are top goals for the port in the coming years, Wingfield said.

West Sacramento

Situated 79 nautical miles from San Francisco, the Port of West Sacramento mainly moves rice exports and cement imports through its North Terminal facility, operated by SSA Marine.

The port handled about 900,000 tons of cargo in 2024, with cement accounting for about 630,000 tons and rice for about 270,000 tons. These cargo numbers have been consistent for the last several years, according to Port General Manager Rick Toft.

This is in addition to CEMEX Sacramento Cement Terminal, a private facility that processes about 400,000 tons of cement, he added.

As for tariffs, Toft is aware of the potential impact they could bring to cement imports. In the previous Trump administration, import tariffs were imposed primarily on China, where most of the cement handled by the port previously originated. Those imports now come from Vietnam.

"If those tariffs are extended beyond China and more broadly to Asia in general, then we could feel some impact," he said.

However, Toft expects the outlook for cargo volumes to be stable.

Meanwhile, Alameda, Calif.-based battery parts manufacturer Sepion Technologies announced in October that it plans to construct a 1 million square-foot manufacturing facility for lithium-ion battery separators in the Capitol Innovation District.

Sepion said it selected the district because of its proximity to the port and the area's emerging Bridge District neighborhood. Production is anticipated to start in 2027.

The port is installing street and utility infrastructure for the project, Toft said.

The project, which has secured a \$17.5 million grant from CALSTART and the California Energy Commission's PowerForward: ZEV Battery Manufacturing Grant Program, is expected to annually produce 50 tons of polymer and 50 million square meters of coated separators. That's enough for 50,000 electric vehicles, according to Sepion.

The company is seeking to close a gap on a projected deficit of battery separators in the coming years, citing a McKinsey & Company report. The study forecasted a 54% drop in domestic battery separator supply by 2030.

"We are excited to launch this transformative project to address the domestic battery separator supply gap," Sepion CEO and co-founder Peter Frischmann said. "With this facility, we're advancing the clean-energy transition, creating jobs to solidify California's position as a leader in sustainable manufacturing and showcasing how American battery innovation can scale from lab to factory."

Meanwhile, the port is partnering with the city of West Sacramento to construct a bridge over the ship channel at Enterprise Boulevard. The project



A Princess Cruises vessel at the Port of San Francisco. Photo: POSF.

would create a new truck route straight up to the freeway and really allow us to develop the port's real estate.

The incoming structure's expected to change the traffic circulation in the city and in and around the port and in all the truck traffic that's creating congestion around the port's main entrance, officials said.

The estimated \$200 million bridge project is currently in the design phase, Toft said, adding that he expects design and environmental analysis for the project to take two to three years.

The port is also in the early stages of a modernization project that involves demolishing obsolete cargo-handling facilities, primarily conveyor systems that aren't in use.

"The cargo that they used to handle are no longer viable here, so we're kind of clearing the deck for future facilities," he said.

The port is converting the high-voltage network that was used primarily to power those conveyor systems over to EV charging, Toft said.

"We're not cold ironing here yet because the vessels that call here can't receive the power at this point, but we have the potential to use that power to cold iron in the future," he said.

Terminal operator SSA is in the process of converting diesel yard-handling equipment to electric equipment, specifically heavy forklifts that handle rice. At least eight forklifts run on electricity out of 20, Toft said, adding that the port installed some fast chargers about 18 months ago in the first phase of that installation project. He anticipates launching phase two in 2025.

"The goal is to be an all-electric terminal," he said.

In the coming years, the port's concentrating its energy on modernization projects, maintaining and optimizing existing facilities and advancing the bridge project, Toft said.

San Francisco

The Port of San Francisco has a number of projects in the works that are designed to make its maritime operations more sustainable.

In November, the port and San Francisco Bay Ferry announced that it secured a \$55 million EPA grant to finish building out a high-speed zero-emission ferry network.

The network seeks to link transportation centers that the SF Bay Ferry serves, connecting areas such as Alameda, Oakland, Richmond and Vallejo to financial and biotech employment hubs.

The funding would help pay for building a fast 400-passenger, zero-emission vessel and a new ferry terminal in Mission Bay, installing electrification infrastructure at the Downtown San Francisco Ferry Terminal and establishing a regional maritime workforce development program.

Design of the Downtown Ferry Terminal Electrification Project is in



The *Grand Princess* cruise ship at the Port of San Francisco. Photo: POSF.

progress, and is anticipated to be completed in 2025, port spokesman Eric Young said.

The procurement, bidding and award process is expected to be complete by 2026, with construction beginning later that year and substantial completion and operation expected by 2027, Young said.

Procurement, bidding and award for the Mission Bay Ferry Landing Shore Power and Anchoring Systems Project is also anticipated to be finished by 2025, with construction starting in 2026, and completion and operation by 2027.

Meanwhile, construction for the Zero-Emission Electric Vessel project is set to start in 2025, with completion and operation expected by 2028.

The port wrapped 2024 with the announcement of an approved Fisherman's Wharf Revitalization project term sheet proposal, paving the way for long-term investment in the iconic destination.

The term sheet between Fisherman's Wharf Revitalized LLC and the Port of San Francisco lays out major project plans, structures for financing and lease terms that encompass the development of the area's fish-processing hub Pier 45 and parts of Seawall Lots 300-301.

Fisherman's Wharf Revitalization LLC intends to upgrade Shed A and rebuild Shed C to accommodate fishing storage, a processing facility with an area for public viewing and parking. The "Fisherman's Wharf Experience" would feature a seafood market, food hall, exhibits about the fishing industry and wharf and space for events and performances. There's also plans for infrastructure investment into the pier.

The developer's plans for Seawall Lot 300-301 includes a larger waterfront plaza and shared-use promenade, as well as a visitor center, beverage garden and short-term vacation rentals, according to the port.

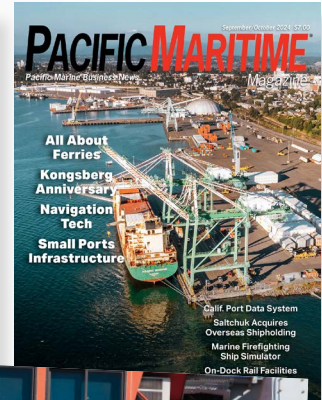
This follows the port's November unveiling of Fisherman's Wharf Promenade, a family-friendly space between Powell and Jefferson streets at Pier 43 to the Franciscan Crab Restaurant at Pier 45.

"This is a major milestone for what will be the most transformative improvement along the northern waterfront since the Embarcadero freeway came down," Mayor London Breed said of the project term sheet on Dec. 11.

"Once completed, this will transform the Fisherman's Wharf to become a place where San Franciscans will enjoy coming to and visitors will be drawn to from across the Bay Area and beyond," she said. ■

KAREN ROBES MEEKS, a Southern California native, is an award-winning journalist with more than 20 years' writing experience. Her articles have appeared in the *Los Angeles Times*, *San Francisco Chronicle*, *Orange County Register* and *Long Beach Press-Telegram*, where she worked as a reporter for nearly 14 years. Her work has been recognized by the California News Publishers Association, the Associated Press News Executives Council and the Los Angeles Press Club.





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Container Handling Trends Include Electrification, Going Green, Smart Tech, Automation

By Don Jergler



Two new Liebherr ship-to-shore cranes help drive productivity at TraPac's Oakland terminal. They're the first Liebherr CHE pieces on the West Coast. Photo: Liebherr Container Cranes.

In what has become an unchanging bottom-line for ports, shippers and the transportation industry, the trend to electrify and go green at ports, shippers and the transportation industry as a whole continues to be a pressing matter across the spectrum of operators and suppliers.

For the container-handling equipment segment in particular, becoming greener is front-and-center, with calls for more electrified and efficient equipment from buyers, ports and regulators.

It's not new, but it's a noteworthy movement. The container handling equipment, or CHE, market is expected to hit an estimated \$11.9 billion by 2032, according to a report by Allied Market Research. Within that large industry, advancements in technology—increased automation of CHE and the introduction of self-propelled modular transporters—are likely to impact the future of the industry, the report shows.

Global trade is also pushing the demand for more—and more advanced—CHE at ports across the world.

According to the firm Allied Market Research, the automated equipment segment should see significant near-future growth, as will the 100-ton-plus equipment segment.

CHE equipment went largely unchanged for decades, until the 1960s when operators saw new equipment as a way to improve efficiencies with the development of retractable and rolling-steel hatch covers and shipborne cranes.

The three big trends now are improved energy efficiency through electrification or being greener, smart technology and automated technology.

Green CHE

A new push for change has emerged in the last two decades as governments answer calls to be more environmentally friendly and address emissions to reduce the impacts of climate change.

At Konecranes, a Finnish specialist crane-and-lifting equipment manufacturer, customer interest in greener equipment is coming from all over, but there is great interest in greener CHE from West Coast operators in particular.

"We would say there is a general trend for electrification on the West Coast of the USA and up to Canada, as seen in recent deliveries we have made," Konecranes spokesperson Svend Videbaek said. "It could be said, justifiably, that the West Coast of the USA is in the forefront of electrification in North America."

He cited as an example the delivery of two all-electric Konecranes Gottwald Mobile Harbor Cranes to the Port of San Diego. Both are now operating as fully electric cranes drawing power from the local grid. The cranes use back-up power from battery drives for mobility.

"This kind of all-electric mobile harbor crane operation is a fairly recent development, which Konecranes has pioneered," Videbaek said. "These cranes are mainly devoted to handling project cargo, but they are used to handle containers as well."

The Long Beach Container Terminal also operates a fleet of Konecranes Automated Guided Vehicles, which are battery-driven and come with automated charging stations. The Konecranes TEAMS ECS is used for fleet control for optimized container operations between quay and yard, Videbaek said.

Some of the push to further electrify and green up West



(Left) Konecranes Gottwald Automated Guided Vehicles (AGV) at the Long Beach Container Terminal. LBCT has a large fleet of the machines, which are fully automated and transport containers to and from the quayside, the ship-to-shore cranes, and the container yard. Photo: Konecranes. (Right) A Konecranes Noell Straddle Carrier is shown during the unveiling of the straddle carrier prototype in June. The prototype is much shorter than normal for testing purposes. At its full height, the straddle carrier stacks containers one-over-three. Photo: Konecranes.

Coast cargo operations stems from recent regulations calling for sweeping changes.

The San Pedro Bay Ports Clean Air Action Plan (CAAP) calls for the Los Angeles and Long Beach seaports to transition terminal equipment to zero emissions by 2030. The CAAP is a strategy that proponents say will accelerate the ports toward a zero-emissions future.

Port-related air pollution for both seaports combined have dropped 91% for diesel particulate matter, 72% for nitrogen oxides and 98% for sulfur oxides, according to the latest CAAP update.

Targets to reduce greenhouse gases from port-related sources were introduced in 2017 under calls for the ports to reduce such emissions to 40% below 1990 levels by 2030. The goal is to reduce GHG emissions to 80% below 1990 levels by 2050.

As a result, many CHE manufacturers working with San Pedro Bay ports and marine terminal operations focus on zero emissions or near-zero emissions (NZE) fuel-technology platforms, according to the CAAP 2021 study. The latest progress update on the CAAP was issued by the ports on Nov. 21.

Funding is also coming for port investment in greener equipment and

operations.

In 2022, the Port of Long Beach received a \$30.1 million grant from the U.S. Department of Transportation to replace diesel yard tractors with 60 electric, human-operated yard tractors at Long Beach Container Terminal. The L.A. and Long Beach ports are involved in more than a dozen demonstration projects toward reaching a zero-emissions CHE fleet by 2030; they include battery-electric forklifts, yard tractors and rubber-tired gantry cranes.

Due to the uptick in interest for greener CHE and the incentives from regulators in government, Videbaek sees the demand for these technologies growing in coming years. He described Konecranes' philosophy of "ecolifting," a step-by-step, flexible movement towards fully electric "zero tailpipe exhaust" operation.

Ecolifting covers all of the company's mobile container handling equipment, such as heavy-duty lift trucks, mobile harbor cranes and straddle carriers.

According to Videbaek, rail-riding container handling equipment, such as ship-to-shore (STS) and rail-mounted gantry (RMG) cranes, are fully electric by default.

"There is growing demand in our customer base for fully electric container handling equipment, and we are satisfying this demand step by step," Videbaek said. "With our new-design straddle carrier, we offer a complete range of power options from hybrid to battery to (future) hydrogen power. We also offer the E-VER fully electric forklift truck in the 10 to 25 ton lifting capacity range."

Konecranes is focused on producing all low-carbon, energy-efficient equipment in the immediate future, he said, adding that Konecranes aims to offer a "fully electric port equipment portfolio by 2026."

Kalmar, a Helsinki, Finland-based provider of cargo handling solutions and services to ports, terminals, distribution centers and heavy industry, is another company in the CHE space capitalizing on efforts to green and electrify.

In March, the company announced that it signed a contract with APM Terminals' Pier 400 facility in Los Angeles to supply two Kalmar electric Auto Straddle Carriers. The company said the AutoStrads are able to reduce emissions by up to 40% because they use a regenerative power system and an efficient diesel engine.

The deal includes a retrofit of two

existing hybrid straddle carriers as part of APM Terminal's \$60 million electrification pilot project.

APM has committed to carbon neutrality by 2040 by switching to green electricity, on-site renewables and electrifying assets. This includes a switch from primarily diesel-driven equipment to zero-emission electric versions. APM estimates it'll need to buy or retrofit more than 2,650 pieces of electric heavy port equipment over the next decade.

Killarney, Ireland-based CHE maker Liebherr Container Cranes, which makes ship-to-shore container cranes, rubber-tired gantry cranes, rail-mounted gantry cranes and straddle carriers, is another provider gearing up to answer the demands.

"The drive for sustainable solutions is continuing to grow," Liebherr spokesman Trevor O'Donoghue told *Pacific Maritime*. "Our range of electric and hybrid machines meets this demand."

Liebherr Container Cranes recently made its entry into the market on the West Coast; it obtained its first contract to supply ship-to-shore container cranes to the West Coast when terminal operator TraPac Oakland awarded a contract for two STS cranes.

The cranes have a 216-foot outreach, a 173-foot lift height, a span of 100 feet and a lifting capacity of 66 long tonnes in twin-lift mode. They're also equipped with advanced technology and semi-automation systems.

For Hyster Co., a lift truck designer and manufacturer in existence for nearly 100 years, the interest from customers in environmentally friendly offerings includes electric and hydrogen fuel powered CHE.

"There is tremendous interest in

electric machines in the market," Hyster spokesman Herman Klaus said. "We see a lot of interest in our zero-emission portfolio, stretching from our battery-electric products—a wide range of forklifts, including port equipment—as well as our hydrogen fuel cell powered container handling equipment."

"We have been able to deploy battery electric heavy-duty forklifts in the field where several customers had the ability to trial the equipment," he added.

Klaus said the electrification of CHE at ports is in its infancy stage, but it's a landscape that is evolving quickly, pushed by regulations and customer demand.

"Governments and companies are setting timelines for reducing emissions, and C-suite terminal executives with technology and sustainability responsibilities are considering the kinds of solutions that will be necessary to achieve those goals while satisfying the performance requirements of their operations," Klaus explained.

The company has an agreement with APM Terminals to deliver 10 battery-electric terminal tractors. Hyster's also providing on-site support for the equipment.

Smart Technology

CHE customers are also asking for additional smart technology, according to Liebherr's O'Donoghue, who said calls for newer technologies to make equipment moving more efficient is becoming a primary driver in the space.

"The push for smart technology and productivity aids has always been quite robust and continues to be so," he said. "Furthermore, our crane upgrade service Liebherr Transform offers an extensive suite of upgrades on our container cranes to make them, stronger, faster, smarter

and greener."

The approach at Konecranes with its container handling equipment is to offer "smart features" with its product range, according to Konecranes' Videbaek, who also has observed rising demand for the technology.

"The smart features are designed to improve performance for on-board as well as remote operators," Videbaek said. "With our Rubber-Tired Gantry (RTG) cranes, for example, we offer a very popular feature called Auto-Steering which is based on DGPS technology. This feature is almost taken as standard by customers purchasing Konecranes Rubber-Tired Gantry cranes because it makes it very easy to drive the RTG along the container stack."

Other smart features include auto-positioning, which automatically stops an RTG gantry and trolley above the correct container slot when there is an active job from the Terminal Operating System (TOS), along with other more sophisticated smart features that lead up to remote operation and full automation of an RTG yard.

Autonomous Equipment

Automation, which can be considered a smart feature, is a third big trend that has emerged in recent years in the CHE market. For Liebherr, it's a key selling point.

"We continue to develop our automated products and currently have a full range of automated and indeed remote-controlled STS, RTGs and RMGs in operation around the world," O'Donoghue said.

According to Videbaek, autonomous equipment in mixed-traffic environments is progressing within the sector. However, container terminals continue to prioritize controlled automation in segregated environments to ensure safety, he added.

Automation in container handling involves multiple layers, including the equipment, the TOS, and the Equipment Control System that bridges the TOS with the machinery, Videbaek said.

"While the adoption of automation at the equipment level has been relatively slow," Videbaek said, "the proven efficiency gains make this an area for ongoing development." ■



DON JERBLER has been a professional journalist for more than 25 years, covering insurance, real estate and more. He spent two decades as a reporter at several daily newspapers, then entered business-to-business reporting. His freelance work has appeared in the *Los Angeles Times*, *Long Beach Post*, *Orange County Register* and numerous B2B publications. He's currently the Western Region editor of *Insurance Journal*.

Workplace Safety and Electric Cargo Handling Equipment

By Tom Ewing

In August, the U.S. Department of Transportation's Office of the Assistant Secretary for Transportation Policy held a webinar titled "Battery Safety Post-Incident Stakeholder Meeting."

DOT's central focus was on electric vehicles (EVs)—particularly autos and light trucks. For port and warehouse managers, however, the webinar raised issues that deserve a close look.

After all, federal energy officials are pushing to replace fossil-fuel powered cargo handling equipment (CHE) with electric powered equipment (e-CHE). The latter is powered by multiple lithium batteries grouped together into what federal officials refer to as REESS—rechargeable electrical energy storage systems.

Even if ports are slow to adopt e-CHE they'll be impacted by an increasing number of electric powered heavy trucks. An incident in a port setting holds different consequences than an accident on a relatively open road or highway.

Post-Incident Means Planning

The "post-incident" term doesn't imply a passive look-back in order to complete a report. In this instance, "post-incident" means action. In some cases, almost immediate action—such as an urgent evaluation of risks of explosion or shock from a damaged vehicle.

Post-incident could mean collecting and decontaminating fire department water runoff. Or finding isolated storage for a damaged lithium-ion battery vehicle because it can remain flammable and explosive after an incident.

In a port's industrial setting, it could mean decontaminating a warehouse because of toxic and explosive smoke and gases or cleaning up and proper disposal of PFAS (Perfluoroalkyl and Polyfluoroalkyl Substance) compounds.

PFAS are a large, complex group of synthetic chemicals that have been used in consumer products around the world.

The August webinar presented new, ongoing research, but no final answers.



Photo via Department of Energy/Pacific Northwest National Laboratory.

Speakers and panelists addressed fire incident response, issues with trucks and heavy vehicles, emerging battery technologies and challenges with "stranded energy"—i.e., energy remaining in a damaged battery, presenting a safety hazard known as "thermal runaway."

In addition to DOT staff, the webinar included personnel from the National Highway Traffic Safety Administration (NHTSA) and the National Fire Protection Association (NFPA).

REESS systems vary in construction, chemistry and the software designed to instantaneously keep thousands of cells coordinated and under control. Energy officials stress that EV fires and related emergencies are far less frequent than fires in vehicles with internal combustion engines. But EV fires present unique dangers and are difficult to extinguish.

Victoria Hutchison, a senior research project manager for NFPA's research foundation, was a webinar speaker and panelist. She said an EV fire takes 60-90 minutes to extinguish and requires thousands of gallons, usually more water than can be carried in a tanker truck.

Internal combustion engine fires take 30 minutes and about 500 gallons to extinguish, she said.

Hutchison also said that lithium-ion batteries are a common technology for e-CHE and there is a scale up for cargo equipment.

"Generally speaking, if there is a

demand for more energy/capacity or range, the (battery) packs will typically be larger," she explained. "But it is all based on the same battery cell—it's simply how many cells or modules (grouping of cells) are in the battery, to meet the capacity or range demands."

She said that lithium battery fires are particularly difficult because they serve as fuel for a fire and they can release their own oxygen. The battery pack also is shielded, making it difficult to get water directly to the fuel source.

The same challenges would apply to container-handling equipment; access to the battery pack would be a major factor for firefighters.

Hutchison was asked about worksites and accidents.

"There are a number of scenarios that could occur, but they typically all come back to a core set of failure modes such as overheating and an internal/external short circuit or overcharge or over discharge," she said. "The concern is exposing the battery system to an environment or scenario that can trigger thermal runaway."

In addition, REESS hazardous gases and smoke require advanced personal protective equipment for firefighters, she explained. This can degrade to a post-incident scene in which safety is difficult to evaluate. With lithium batteries, fires thought to be extinguished have self-ignited hours or days later, presenting a

devilish hazard for “secondary responders,” i.e., tow truck drivers and personnel at storage sites.

A significant portion of the webinar dealt with research and development underway to avoid accidents. Last April, in a Federal Register notice, the NHTSA proposed new requirements and test procedures to enhance electric vehicle safety, including a requirement for an audio and visual warning if a thermal event occurs in the REESS and a warning—like a “check engine” light—to alert drivers that the controls that manage REESS operation have failed.

Another significant proposal is for REESS manufacturers to develop emergency response guides (ERGs) for every battery propulsion system they make. This information would be available online for first responders. The NHTSA would establish and maintain the database.

ERGs already are prepared by manufacturers, but filing is voluntary. NHTSA’s proposal would set filing requirements and standardize the system, making it more expansive and dependable for firefighters.

The NHTSA wants emergency response guides to be vehicle specific, again, because of varying electric designs and development.

“Currently, the ERGs and rescue sheets on the NFPA website are not available for all vehicle makes, models, and model years,” federal officials said. “The agency tentatively believes that requiring information on all vehicles is necessary to best reduce response times and the safety risks to emergency responders.”

‘External Fault Inputs’

The Occupational Safety and Health Administration (OSHA) was asked about DOT’s post-incident webinar and whether OSHA and the Department of Labor evaluating possible workplace hazards from REESS cargo equipment. A spokesperson said that OSHA “continues to evaluate workplace safety and health hazards associated with the manufacture, use, maintenance and disposal of lithium-ion batteries” and that the agency is working to expand its “understanding of potential hazards associated with these devices.”

Additionally, the spokesperson said that OSHA is developing a guidance for “the safe use of this rapidly emerging technology.” This includes a fact sheet for lithium-ion battery safety.

On their own, and undisturbed, REESS systems are safe, and random or spontaneous dangerous events are rare, proponents say, while adding that accidents and extreme events—such as submersion in water, say, after a hurricane—can change that.

The NHTSA uses the term “external fault inputs” when referencing external events and impacts. External fault inputs include overcharge, over discharge, overcurrent, external short circuit and/or operations at extreme high and low temperatures.

Regulators write that the safety proposal would “ensure that REESS operations are within the manufacturer-specified functional range and increase the likelihood of safe operation of the (vehicle’s) REESS and other electrical systems.”

At a worksite, container-handing equipment is not usually endangered by high speeds and crashes, a top concern for the NHTSA and its automotive focus.

But what are the worksite “external fault inputs” that might mimic a high-speed crash? Could an “external fault input” result

when a slow-moving rail car strikes a powered yard tractor?

Maintenance staff frequently remove and replace battery systems in order to keep a machine powered and working and handling increases risks. Are there worksite maintenance proposals to ensure that e-cargo operations stay within the manufacturer’s specified functional range and increase the likelihood of safe operation?

Firefighters—and an entire fire scene—would likely benefit from web access to a specific e-CHE emergency response guide.

The Heart of the Matter

It’s difficult to determine how e-CHE manufacturing companies are advising customers about REESS post-incident planning or the extent to which they’re focusing on it. Ditto for warehouse and logistics companies.

Shipping giant APM Maersk is a strong e-CHE advocate. Last October, APM Terminals, along with the Port of Rotterdam, DP World, a Dubai-based multinational logistics company, and other maritime sponsors, published a white paper called “Reaching a Tipping Point in Battery-Electric Container Handling Equipment.”

The white paper cites a need for a “call to action for the entire port ecosystem and container-handling equipment value chain to accelerate toward a tipping point for battery electric.”

APM Terminals was asked about U.S. efforts, at least with transport REESS, to develop emergency guides and whether such specific information would be valuable for e-CHEs and, more broadly, whether post-incident planning is part of their overall message.

An APM spokesperson said that workplace safety is a key priority and that as it promotes and adopts e-CHE, the company is completing “risk assessments and updating emergency response plans to address the new risks introduced.”

The spokesperson explained that APM works with institutes like Australian EV research initiative EVfiresafe and local fire departments “to improve our standards.”

Through these collaborative efforts, APM has updated its emergency response guides.

The spokesperson noted the very low risk of fire for normal REESS operations but did not mention higher risks associated with “external fault inputs.” Regarding emergency guides from manufacturers, the spokesperson suggested contacting those companies.

“Some would have those risk assessments,” the spokesperson noted, and added, “but it would be their decision to distribute.”

Depending on when NHTSA finalizes its REESS proposals, it won’t be a *decision* for auto and truck companies about making such guides publicly available. They will be *required* to do so.

The question is whether industrial REESS manufacturers should face that same requirement. ■

TOM EWING is a freelance writer specializing in energy, environmental and related regulatory issues.





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Accelerating the 'Blue Economy' with Modern Technology, Sustainability, Data



Eco Wave Power has received the final permits necessary for the installation of the first-ever onshore wave energy pilot station in the U.S., planned for near AltaSea's Port of Los Angeles campus. Photo courtesy of AltaSea and Eco Wave Power.

By Sara Hall

The “blue economy” is growing faster than ever.

West Coast companies are innovating new products and pioneering new methods to make the most out of the ocean's resources, while maritime organizations are connecting entrepreneurs and accelerating startups to help meet the growing needs of the market.

The American blue economy grew faster than the nation's economy as a whole in 2019, according to the National Oceanic and Atmospheric Administration. At that time, it supported 2.4 million jobs and contributed \$397 billion to the nation's gross domestic product through activities such as tourism and recreation, shipping and transportation, commercial and recreational fishing, power generation, research and related goods and services.

NOAA also noted that demand for maritime commerce is expected to triple by 2030 and points out that modern technology, sustainability and logistics require a “new blue economy.” It should be focused on improved data collection, analysis and dissemination of ocean and coastal-derived data and information to support economic growth, protect the ocean's health and address societal challenges, the agency concluded.

In 2021, the U.S. West Coast contributed \$69.6 billion to the GDP, according to NOAA's 2024 Marine Economy Report. The

study also found that the value of the West Coast regional blue economy to the GDP increased by 10% from 2011 to 2021.

California's marine economy alone contributed about \$51.3 billion (an increase of 7% over the previous decade), followed by Washington with \$15 billion (10% growth). Oregon provided \$3.4 billion (an increase of 54%) to the GDP, the report states.

The Pacific/Hawaii region contributed \$9.2 billion to the GDP in 2021 (an increase of 8% in the 10-year time frame). The Alaska region provided \$8.9 billion (although the value decreased by 32% over that 10-year span).

In early 2021, NOAA released its Blue Economy Strategic Plan for 2021-2025, which aimed to provide a roadmap for new ways to advance America's Blue Economy and enhance the global ocean economy.

There are five areas of focus in the plan for NOAA to address through agency-wide initiatives: marine transportation, ocean exploration, seafood competitiveness, tourism and recreation and coastal resilience.

In a statement released with the plan, NOAA officials said the agency wants to bolster these areas through public-private partnerships, emerging technologies and development of STEM education and outreach efforts.

“By marshalling NOAA's in-house expertise and collaborating

with partners across the country, we can foster American business, entrepreneurship and education in service of a sustainable blue economy,” NOAA Assistant Administrator Nicole LeBoeuf said.

In late 2024, NOAA and the Department of Commerce announced proposed awards of \$54.3 million for four organizations to act as “accelerators” to support ocean-focused small businesses and entrepreneurs. The investment was funded by the Inflation Reduction Act as part of the Biden-Harris administration’s “Investing in America” agenda.

In a Dec. 9 statement, the agencies jointly recommended \$13.5 million for the StartBlue Ocean Enterprise Accelerator; \$13.4 million for gener8tor Great Lakes Innovation Accelerator; \$13.5 million for VentureWell Ocean Enterprise Accelerator, and \$13.9 million for the Continuum (a partnership of seven ocean enterprise accelerators).

The four groups provide guidance, support and funding to small businesses and startups to help spur the development of technologies and services that address a wide range of maritime issues and bring solutions to market that will benefit coastal resilience.

“This program is the first of its kind,” NOAA Administrator Rick Spinrad said. “We are bringing the public and private sectors together to create sustainable business models for technologies, products and services that tackle climate resilience needs.”

NOAA, in collaboration with the Ocean Enterprise Initiative program, is also gathering data about blue economy needs and requirements, as well as studying the market and investment potential for those technologies.

“This program is about collaboration, partnership and most importantly, sending the signal that there is demand for ocean-based products and services to support the blue economy,” U.S. Integrated Ocean Observing System Director Carl Gouldman said. “We’re asking what’s needed, listening to the response and advancing solutions.”

In 2020, the Department of Energy and NOAA named Seatrec, based in Vista, Calif., as one of the winners of the DISCOVER stage of the Powering the Blue Economy: Ocean Observing Prize. The competition was designed to spur

technology innovation, allow for easier and cheaper data collection across oceans and contribute to the growth of the blue economy.

“A strong and thriving Blue Economy demands innovation as NOAA seeks to expand it, along with regaining international leadership in global environmental observations and Earth-system modeling,” then-acting NOAA administrator Neil Jacobs said in a statement.

According to Seatrec, the prize was awarded to the company for its work in “creating a green energy solution for persistent ocean observation to power profiling floats and underwater gliders.”

The underwater floats and gliders are powered using Seatrec technology that harvests energy from the temperature differences in the ocean.

Seatrec tested a Sea-Bird Scientific Navis float in February 2020. It was powered by two Seatrec SL1 energy harvesting modules and successfully profiled to a depth of 1,000 meters (about 3,280 feet). The SL1 harvests energy from temperature differentials in the ocean and

converts it to stored electrical energy for future use.

Officials noted in a statement about the award that the energy could potentially power the profiling floats indefinitely. The continuous profiling would allow for more data to be captured, which would dramatically improve climate modeling and help drive a better understanding of the world’s oceans.

A prominent driver of the blue economy in the Pacific Northwest is Maritime Blue, which is playing a pivotal role in accelerating innovation, fostering sustainable growth and advancing ocean-based climate solutions.

The organization connects startups, industry leaders, policymakers and research institutions and investors, positioning Washington state as a leader in maritime innovation and sustainability.

“Our work, from decarbonizing maritime transport to empowering the next generation of maritime professionals, is creating real impact that benefits both our economy, environment and communities,” Maritime Blue CEO Joshua Berger said.



HyperKelp tests a smart buoy off the coast of Dana Point Harbor, Calif. Photo courtesy of Port of San Diego and HyperKelp.



A rendering of the Maritime Innovation Center at the Port of Seattle, where Maritime Blue will be the anchor tenant. Image courtesy of Port of Seattle.

The organization is known for its Blue Ventures programs, which are designed to support the next generation of maritime innovators. The Innovation Accelerator offers venture-scale startups \$100,000, while the regional incubators receive no-cost support, free office space and access to a rich network of industry mentors and potential partners.

What sets the programs apart is their connection to the Maritime Blue Cluster, North America's largest blue economy network. Startups are able to directly engage with industry mentors and pilot opportunities. Through these connections, participants can accelerate their path to market and rapidly scale their solutions.

"The blue economy is a powerful engine for economic growth, but it must be driven by innovation and collaboration. Maritime Blue's cluster model connects key stakeholders across sectors, accelerating the transition to a sustainable maritime future," Maritime Blue Vice President of Operations Devon Emily Thorsell said.

One of Maritime Blue's most impressive initiatives is Quiet Sound, which addresses the urgent need to reduce underwater noise pollution affecting endangered Southern resident killer whales.

Organization representatives have reported that, through voluntary vessel slowdowns and real-time whale tracking, Quiet Sound has reduced underwater noise by 50%, showing measurable progress in preserving marine ecosystems while supporting maritime commerce.

Maritime Blue is also playing a role in decarbonizing the maritime industry and advancing sustainable energy solutions.

The Sustainable Maritime Fuels Collaborative brings together stakeholders from across the supply chain to drive production and use of low-carbon fuels. Additionally, the Blue Wind program is working to position Washington state as a hub for the floating offshore wind supply chain, creating new opportunities for clean energy generation.

Washington Maritime Blue announced the launch of Blue Wind in October 2023. The collaborative initiative aims to activate the region's offshore wind energy supply chain. According

to a statement regarding the launch, the program would protect existing maritime jobs and greatly expand sustainable and equitable employment opportunities for people living in Washington state. The fields include shipbuilding, maritime operations, technology research and development, wind turbine and components manufacturing and materials transportation to offshore sites in Oregon and California.

In another partnership, Maritime Blue is set as the anchor tenant at the new Maritime Innovation Center (MInC) at the Port of Seattle. The project is part of the port's investment to modernize the fisherman's terminal. The flagship building will be a center for emerging maritime companies to tackle industry issues, find technical and financial support and utilize a space meant for

incubators and accelerators.

Port of Seattle Commissioner Ryan Calkins said in a statement that MInC would foster an atmosphere of collaboration and innovation to ensure that all the sectors of the maritime industry have "not only a home, but an anchor in Seattle.

"The future of the maritime industry and the ocean economy is innovative, sustainable and equitable," Calkins said.

The project broke ground in May and officials expect the facility to be open for use in the last quarter of 2025.

In California, the accelerator AltaSea, located on 35 acres at the Port of Los Angeles, is creating global partnerships to advance the blue economy.

AltaSea announced in November that it signed a fiscal sponsorship with Aquaai to partner on a Circularity for Biodiversity project.

Aquaai is a deep-tech climate company headquartered near San Diego and operating in Norway and the United Arab Emirates. The company's closed-loop project applies data, A.I. and robotic fish sensor platforms to detect discarded fishing gear, remove it from the ocean and then upcycle it into robot fish to detect and collect more derelict equipment.

"Detecting and transforming discarded fishing gear into tools that can further clean the ocean, we're creating a sustainable loop that not only protects marine life, but also supports the growing blue economy," Aquaai co-founder and CEO Liane Thompson said.

Aquaai launched the project Dec. 2.

Also in November, Israel-based Eco Wave Power received the final permits necessary for the installation of the first-ever onshore wave energy pilot station in the United States, which would be located near AltaSea's campus.

The U.S. Army Corps of Engineers issued the permit, which allows Eco Wave Power to install eight wave energy floaters on the piles of an existing concrete wharf structure and an energy conversion unit, comprised of two 20-foot shipping containers, which is to be placed on the wharf deck and connected to the floaters.

Officials anticipate installation will be complete by the end of the first quarter of 2025.

“We are thrilled to receive this final permit and move one step closer to bringing wave energy to the U.S.,” Eco Wave Power founder and CEO Inna Braverman said. “This project represents not only a technological breakthrough but also a crucial step in advancing the global transition to renewable energy. We are deeply grateful for the support of AltaSea, the Port of Los Angeles, Shell MRE and the U.S. Army Corps of Engineers as we work to make wave energy a key part of the sustainable energy landscape.”

Both Aquaai and Eco Wave Power are pioneers in their fields and are demonstrating the vast potential of the blue economy—advancing ocean-based solutions to drive economic growth and create new jobs, AltaSea President and CEO Terry Tamminen said.

In a May statement written jointly by Tamminen and California Community Colleges Chancellor Sonya Christian, they point to the ocean as a “massive job-generating opportunity.”

“Enter the ‘blue’ economy: One of the fastest growing economic sectors in California. From ocean exploration and regenerative aquaculture to underwater robotics and renewable energy, the blue economy is expected to create new jobs of every kind, bringing opportunities that can benefit diverse communities,” Tamminen and Christian said.

In San Diego, the regional seaport is building a reputation as the “blue tech bay” as it actively works on driving sustainable development of the blue economy.

The Port of San Diego established its Blue Economy Incubator program in 2016 as a launch pad for entrepreneurs and ocean-related business ventures around the bay, providing funding, key assets, support services and pilot project facilitation.

In June, the port released the fifth edition of its Blue Economy Incubator Highlights Report. According to the report, \$5.4 million in investments were leveraged by incubator companies, with another \$2.5 million in research and development funds. It also noted that \$1.95 million in funding went to support the launch of sustainable aquaculture and

blue-tech pilot projects.

To date, 10 agreements have been approved by the Board of Port Commissioners with early-stage companies. Of those, six have been completed.

San Clemente, Calif.-based startup HyperKelp Inc. is the latest addition to the portfolio.

The Port of San Diego partnered with HyperKelp in 2023 to demonstrate a sensor agnostic “smart” buoy platform designed to collect and aggregate data in near real-time and display results on an online dashboard for monitoring and live decision-making. The technology would monitor underwater noise levels, atmospheric carbon dioxide concentrations and various water quality parameters.

As part of the pilot project, HyperKelp was tasked with developing, testing and validating a smart buoy hardware platform tailored for various port-specific monitoring activities.

Last summer, they launched five smart buoy platforms at sites located throughout the district’s tidelands. The buoys monitor underwater noise levels and various water quality parameters for the port’s environmental initiatives, including shellfish and seaweed aquaculture planning, environmental protection, conservation, restoration, enhancement and nature-based solutions projects.

Far to the north, the University of Alaska Fairbanks’ Alaska Blue Economy Center focuses on sustainability and amplifying community benefits through collaborative partnerships. ABEC balances stewardship and sustainable use of marine resources, while serving and developing opportunities and value-adding activities.

Established in 2019, the center aims to serve as a platform to connect existing resources in Alaska across the blue

economy sectors, generating new funding for the state.

Much of ABEC’s focus in recent years has been in the area of mari-culture (marine aquaculture of macroalgae and shellfish), center Director Tommy Sheridan told *Pacific Maritime*. The effort receives funding from the Alaska Legislature, the Economic Development Administration Build Back Better program (Alaska Mariculture Cluster) and the city of Valdez.

Sheridan noted that ABEC has supported research around the state with partners from the Anchorage, Fairbanks and Southeast campuses of the University of Alaska.

The center also supports workforce development in collaboration with Prince William Sound College and Valdez.

The city was a key stakeholder when the Alaska Mariculture Cluster was awarded \$49 million through an EDA Build Back Better regional challenge grant program in 2022. Funds are earmarked for programs that support the region’s growing mari-culture industry and ensure that it provides shellfish and seaweed for the long-term benefit of Alaska’s economy, environment and communities.

As part of the cluster’s work, the Valdez-based college is expected to collaborate with ABEC and other partners to create and implement a sustainable workforce development strategy, according to the UAF.

Hands-on training materials for kelp hatchery systems, farm operations and marine and food safety are all included.

The Alaska Blue Economy Center also supports the traditional Alaskan seafood industry through collaborations with partners at the Alaska Fisheries Development Foundation, Alaska Seafood Marketing Institute and Iceland Ocean Cluster, Sheridan said. ■

SARA HALL has 15 years of experience at several regional and national magazines, online news outlets, and daily and weekly newspapers, where coverage has included reporting on local harbor activities, marine-based news, and regional and state coastal agencies. Her work has included photography, writing, design and layout.





A rendering of the Port of Long Beach's proposed "Pier Wind" offshore wind energy project. Image: POLB.

California, Oregon Offshore Wind Energy on Different Tracks

By Daniel Mintz

Offshore wind energy development is steadily advancing in California but lurching in Oregon, where a federal ocean area lease sale auction has been called off.

Lease sales for areas offshore of California's Humboldt County and Morro Bay topped \$775 million two years ago. Five companies entered the leases and are working on design, construction and operations plans which will eventually be put to public environmental review.

Oregon was following the same path until late September, when a planned lease auction for an ocean area offshore of Brookings was canceled by the federal Bureau of Ocean Energy Management (BOEM).

Wind energy development is generally challenged by supply chain and power contract uncertainties. But in Oregon, there are political obstacles that are even more daunting.

Controversy rumbled as soon as BOEM identified two Oregon lease auction areas, the second offshore of Coos Bay.

At a spring 2023 meeting, the Pacific Fishery Management Council (PFMC) called for scrapping the maps and starting from scratch, disagreeing with BOEM's conclusion that commercial fishing would only be minimally impacted.

Concerns about impacts intensified. A group of Native American tribes have sued BOEM in a bid to block the lease sale, and last September, Oregon Gov. Tina Kotek wrote a letter to the agency asking that the auction be canceled.

As the Oct. 15 auction neared, it was obvious that the state was far from being all in on offshore wind, despite having legislation calling for net neutral carbon emissions by 2040.

In a statement, BOEM described the auction as being postponed, as only one of

five would-be bidding companies showed interest.

The agency said it will "coordinate on potential leasing and support ongoing stakeholder engagement processes on broader offshore wind considerations, such as the state-led development of a strategic roadmap for offshore wind."

A very different scenario is unfolding in California, where BOEM has released a draft Programmatic Environmental Impact Statement (PEIS), which, according to the agency, "analyzes programmatic avoidance, minimization, mitigation and monitoring measures that BOEM may require as conditions of its approval for any future proposed offshore wind projects in California."

The statement is up for public review until Feb. 12.

Meanwhile, two ports are gearing up for major redevelopment to accommodate the assembly and deployment of huge wind turbines.

The port of Humboldt Bay is pursuing an \$853 million upgrade project, with half the cost covered by a federal grant. And in November, the Port of Long Beach announced that new funding is "propelling" its upgrade project, dubbed Pier Wind.

The port in Long Beach is applying for a state grant, committing \$14 million of its own money as a matching contribution. And the week before the port's announcement, California voters approved Proposition 4, a bond measure that includes \$475 million for port projects serving offshore wind.

Port of Long Beach Chief Operations Officer Dr. Noel Hacegaba said the port is confident in the state's support of offshore wind.

"What's different about what we're doing here in California is the state has made this a goal," he said. "And so far, the state of California has given every indication that (it is) serious about meeting this goal of 25 gigawatts (of offshore wind) by 2045."

Passage of Prop 4 furthers that, he said.

"The approach we're taking is we're aligning our project and our strategy with all the steps that the state of California has taken," he stated.

The Port of Long Beach is a

large-scale commercial container port, so fishing impacts aren't in the mix there. But offshore wind's impacts on commercial fishing are substantial and, to an extent, impossible to address—BOEM's environmental statement says that "similar" impacts will be seen with or without mitigation measures.

A statewide group—the California Fishermen's Resiliency Association—is responding to the challenges. Negotiating "industry to industry" agreements is a key part of its work.

Ken Bates of the CFRA, and a longtime leading member of the Humboldt (Calif.) Fishermen's Marketing Association, is part of a fishermen's working group "coming up with language and guidance for avoidance and minimization of impacts" as well negotiating "compensatory mitigation" for loss of fishing grounds.

On the governmental side, Bates said a sought-after result is "a statewide strategy" on protecting coastal fishing

communities from loss of fishing areas and harbor impacts.

Bates estimated that development of the state's ocean lease areas would displace

Though there's strong political support for California offshore wind energy, market uncertainty may have played a role in the postponement of Oregon's lease auction.

4,000 square miles of fishing grounds north of San Francisco. Another 1,000 square miles would potentially be lost to cable line maintenance buffers.

"Then it gets down to determining the value of the fishing grounds that are lost

and that value isn't just for one year, it's for the next 30 or 40 years," he said.

The CFRA is advocating for a "resiliency funding" program to be used by coastal communities "to keep fishermen fishing," Bates continued, with potential payouts in the form of subsidies for expenses like fuel and observers, and fishing-related port infrastructure projects.

Though there's strong political support for California offshore wind energy, market uncertainty may have played a role in the postponement of Oregon's lease auction.

It also remains to be seen what type of care will be provided for fishing communities.

"We have been continually suggesting that these five lease areas be treated as pilot projects only and that there will be no more leases until these things have actually been built and are producing electricity for a few years," Bates said. ■

Long Beach, Humboldt Ports Seal Floating Offshore Wind Development Agreement

The Port of Long Beach and Humboldt Bay Harbor District have signed an agreement with the California State Lands Commission to advance efforts to build the needed port infrastructure to facilitate offshore wind development, the Port of Long Beach announced Dec. 18.

The agreement solidifies the two ports' position as sites for such development, and that all parties intend to move forward in a sustainable way that's sensitive to affected communities.

The memorandum of understanding lists 11 areas that the state commission and ports intend to "confer, cooperate and exchange information consistent with the AB 525 Strategic Plan," including staging and integration site planning and permitting, green port strategies and funding, according to the port.

"This important agreement parlays the foundations of offshore wind energy development—environmental protection, equity, public engagement and the economy—into a partnership that leads the way toward a clean energy future,"

State Controller and Lands Commission Chair Malia Cohen said in a statement.

The Port of Long Beach is proposing development of the \$4.7 billion "Pier Wind" project, a terminal for supporting the assembly of floating offshore wind turbines. If approved, project construction could begin as early as 2027, with the first 200 acres completed by 2031 and full completion by 2035, according to the POLB.

"We thank the State Lands Commission for focusing on a multi-port strategy that allows the Port of Long Beach and the Port of Humboldt to serve as turbine assembly sites in California's floating offshore wind industry," Port of Long Beach CEO Mario Cordero said.

"This agreement, combined with the climate bond recently approved by California voters and the state's commitment to procure up to 7.6 gigawatts of energy from offshore wind by 2035, gives the industry and California ports the confidence to invest in Long Beach's Pier Wind and other complementary projects." ■



Port of Long Beach, California State Lands Commission and Humboldt Bay Harbor District logos. Images courtesy of each agency.



How User Experience is Transforming Logistics Operations

By Harvey Bauer, Vice President of Customer Success, Advent eModal

In today's logistics landscape, user experience (UX) is quickly becoming a pivotal factor in the effectiveness of technology platforms. These platforms have evolved from merely functional tools to user-centric systems that enhance productivity, streamline processes and cater to operators' needs. In a world where time and efficiency are crucial, logistics providers embrace UX-driven designs to stay ahead, improving their systems to meet customer demands.

The push towards enhanced user experience is particularly noticeable in port operations, where intuitive technologies are streamlining complex processes and elevating efficiency. Stakeholders throughout the supply chain, from terminal operators to trucking companies, increasingly rely on digital tools that prioritize user-friendly processes.

A growing emphasis on UX simplifies interactions and ensures that technological advancements directly address the needs of end users, allowing providers to maintain a competitive edge in a rapidly evolving industry. This user-driven approach is vital as it helps to eliminate operational bottlenecks and enhances overall productivity, making the logistics process smoother and more responsive to the demands of today's market.

What's Driving the UX Revolution in Logistics?

The need for improved UX stems from the imperative to enhance efficiency and minimize user error. As expectations for seamless digital experiences increase, logistics providers are pressured to optimize their platforms for enhanced usability. Making interfaces more intuitive reduces an operator's required time and effort for training while simultaneously increasing overall productivity.

In addition, the evolution of UX in the overall tech landscape is driving changes across industry solutions. Modern users, who are used to seamless experiences in their daily interactions with technology, now expect the same from their work tools. This demand has pushed logistics software providers to deliver functional, smooth, and easy-to-navigate solutions. Given this trend, platforms with well-designed UX are becoming non-negotiable in the logistics industry.

Enhanced UX is Revolutionizing Logistics

The benefits of better UX are significant, covering nearly every aspect of logistics operations. Systems that are easy to use lead to more productive operations, reduced wait times and better communication between stakeholders. Tools like Advent eModal's appointment scheduling platform are prime examples of these outcomes. The platform allows operators to streamline activities at terminals, reduce congestion and keep the entire system running more efficiently.

UX-enhanced platforms provide real-time data visibility, empowering logistics professionals to make quicker, more informed decisions. This improved transparency increases operational agility and allows operators to identify potential bottlenecks or issues early. With enhanced data insights at their fingertips, operators can anticipate disruptions and make proactive adjustments. Better visibility also reduces the likelihood of errors, ensuring that tasks across the supply chain are executed more accurately.

Enhancing UX with Emerging Technology

The logistics industry has long been known for its complexity, but as technology evolves, providers are finding innovative ways to prioritize UX. Advent eModal, for instance, has been at the forefront of this change, continuously updating its platforms to meet the industry's growing demands. Introducing automation is one of the key developments across our platform, allowing users to reduce manual input and streamline processes like scheduling and container management.

Other advancements are shaping the future of logistics solutions as well. Artificial Intelligence (A.I.) and machine learning, in particular, are revolutionizing the ability of logistics platforms to predict and respond to different scenarios. These predictive technologies ensure systems can adjust to sudden changes, allowing logistics leaders to maintain fluidity and respond proactively to rapid shifts that impact operations.

A.I. and machine learning are instrumental in customizing the user experience, tailoring interfaces and functionalities to meet specific user demands and improving interactions. As a result, logistics platforms are becoming more adaptive to business needs and more adept at improving the productivity of logistics operations.

Handling UX Challenges

While UX is becoming more widely embraced, improving UX in logistics platforms isn't without its challenges. One of the biggest hurdles is creating a unified interface capable of handling complex tasks without introducing too much intricacy. To address this, providers must carefully design systems tailored to specific workflows, ensuring they are both intuitive and effective. This focus on specialized design helps reduce potential pain points, facilitating smoother interactions with the platform.

Investing in UX design is essential for creating intuitive and effective systems, but it's not a one-time task—it's an ongoing process that necessitates active collaboration with end-users. Logistics providers should continuously refine and optimize their platforms by regularly engaging with users and gathering feedback in real-time. Following an iterative approach allows providers to adapt their systems to changing user requirements and emerging industry trends, ensuring that UX remains at the forefront of their digital strategy.

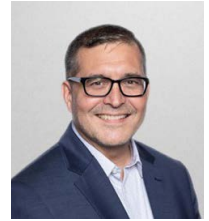
Future Role of UX in Logistics

Emerging technologies such as A.I., automation and machine learning are already changing how systems operate, and integrating these tools will continue transforming user interactions and operational performance. Platforms with predictive analytics and A.I.-driven decision-making will raise the bar for efficiency, allowing logistics professionals to focus more on strategy instead of handling day-to-day tasks.

Technology providers who understand the importance of UX will lead the future of the logistics and intermodal industries. As the industry evolves, those who adopt intuitive, user-centered systems will gain a significant competitive edge. Logistics providers are positioning themselves for long-term success by investing in UX, ensuring smoother operations, improved communication and an overall enhanced experience for all supply chain stakeholders. ■

HARVEY BAUER

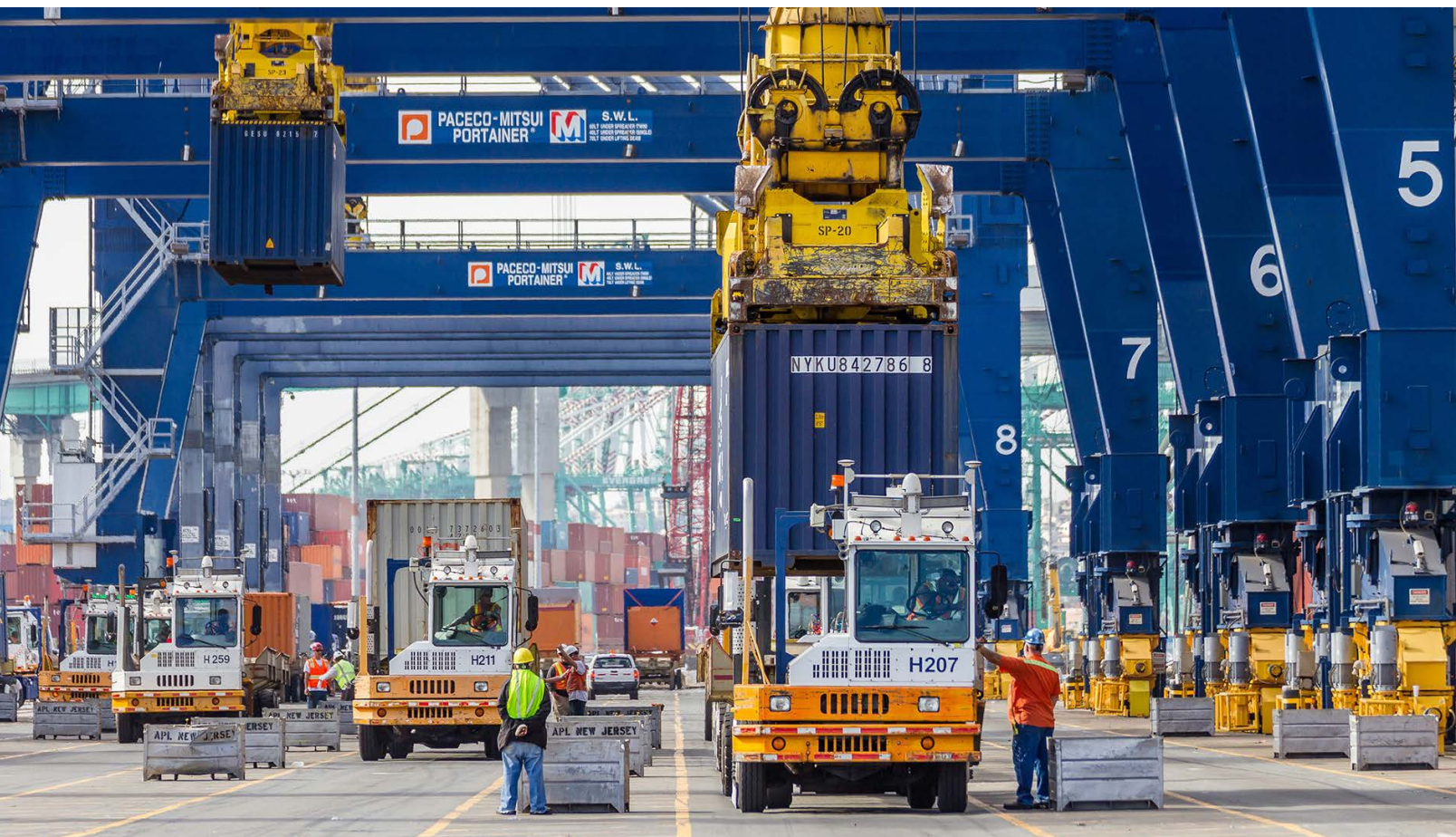
is Vice President of Customer Success at Advent eModal (AeM), the world's largest port community provider. Harvey joined AeM in 2020 and oversees the support, relationship development and growth of AeM's customer base. With more than 30 years of experience in the maritime industry, Harvey has a unique blend of technology and operational perspectives utilized for customers' needs. Before joining AeM, Harvey held positions at Tideworks Technology and international terminals in Colon, Panama and Manzanillo, Mexico, serving a wide range of roles in marketing, vessel operations, terminal operations, business development and management. Harvey has a BA from the University of Washington, where he graduated Magna Cum Laude.



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Dockworkers at a Port of Los Angeles container terminal. File photo via POLA.

'Complex Disruption' Scenarios at the Los Angeles and Long Beach Seaports

By Andrew Tucci (U.S. Coast Guard, retired), Fred Roberts (Rutgers University), Adam Rose (University of Southern California), Noah Miller (Carnegie Mellon University), Zhenhua Chen (The Ohio State University) and Latha Vijayagopal (Rutgers University)

The Los Angeles and Long Beach seaports link businesses across the country with markets and manufacturers across the world. The ports claim over 200,000 port-related jobs, and their collective trade volume value exceeds \$400 billion.

In late 2024, the ports set cargo records month after month. Their success is due to the skill and strength of truck, rail and ILWU (International Longshore and Warehouse Union) labor, the business acumen of terminal managers, advanced cargo technology and the countless agencies, small businesses and others that make this hard-working waterfront succeed.

The complexity that allows a port

to operate can be astonishing to people on the outside, and sometimes even to port workers themselves. Complexity is powerful when managed for success, but it also brings risk.

If each element is necessary, then the loss of any can disrupt the system. And if multiple disruptions occur, the consequences may be surprising, including being greater than the sum of the parts.

An early example of "complex disruptions" to maritime supply chains occurred on March 23, 2021, when the containership *Ever Given* grounded in the Suez Canal, blocking the waterway for eight days as the pandemic already

had scrambled supply chains around the world. High cargo volumes were already starting to stack up in LA/Long Beach, with more to come.

Fortunately for world markets, especially in Europe, the vessel refloated before many ships needed to divert and supply chains returned to an (almost) normal level.

Since then, global maritime trade has endured disruptions that make the *Ever Given* incident look relatively modest in comparison.

Extraordinary cargo volumes at the end of 2021. Severe drought impacts on the Panama Canal and the Mississippi River. The Russian invasion of Ukraine. Houthi attacks on the Red Sea. And most recently, trade volume distortions attributed to threats of strikes, tariffs and other factors.

Researching Disruptions

With the support of the Department of Homeland Security, three DHS university “centers of excellence” (CCICADA based at Rutgers University, CREATE based at the University of Southern California and CAOIE at Arizona State University) have been researching “complex disruptions,” which we define as a series of distinct disruptions to maritime trade that occur within a given time and geographic region such that recovery from any of the disruptions is not complete before the next arrives.

We believe this will improve risk assessments and help identify resilience strategies—which may reduce the financial impact of these events by significant amounts, up to 70% in at least one of our studies.

Also, because we include economic impacts beyond port environments, this can promote a better appreciation for the importance of safe, reliable maritime transportation to the many businesses and individuals that depend on maritime supply chains.

Our methodology is to learn about regional maritime trade areas, devise plausible scenarios involving multiple disruptions, work with local experts to refine that understanding and predict the operational and economic consequences of these scenarios.

What would a complex disruption to the San Pedro Basin surrounding the twin ports look like?

There are many possibilities, but, for our research, we began with a labor/management dispute that, while not especially severe, strains the system, reducing its ability to absorb larger disruptions.

Because strikes and similar events have occurred in recent times, we have the advantage of an established body of work that quantifies their economic impact, providing us a foundation for projecting the impact of the additional combined disruptions.

We then introduce a series of wildfires that result in power outages to the port, interrupting cargo operations. Finally, while the impact of power outages remains, we imagine an apparent terrorist attack with immediate and persistent impacts to the entire port region.

Before we continue, we point out that our choice of these disruptions is not to imply that they are inevitable or that businesses and agencies are unprepared for them.

On the contrary, we are impressed by the level of professionalism, preparedness and dedication that our many industry and government experts conveyed as they generously shared their perspectives with us.

And we do not mean to reduce the impact of challenging and indeed horrific scenarios into dollars and cents entirely. Our hope is that we can help identify risk-reduction strategies for stakeholders within the port community and highlight the value of a strong and resilient marine transportation system to others outside of that community.

With that understanding, the details of our hypothetical scenarios are as follows. While these scenarios are to a large extent hypothetical, they reflect realistic concerns on behalf of many port stakeholders we have consulted, who also helped us refine them.



A Los Angeles Fire Department fireboat sprays water at a Port of Los Angeles terminal. Photo: POLA.

Background Condition:

The contracts of 22,000 dockworkers at 29 West Coast ports expire without agreement on July 1. Conflicts regarding new contract negotiations cause a labor/management dispute between the ILWU and terminal operators. This conflict occurs right before peak shipping season of August to October.

On July 2, 800 dockworkers go on strike. The strike lasts for five days (July 2-7) as dockworkers and terminals negotiate issues including wages and automation.

In our scenario, the strike lasts for five days, but of course, the duration is unknown at the start. Shipping lines begin diverting cargo to Oakland, Seattle and Tacoma. However, their capacity is far less than LA and Long Beach in the best of times, and they're also experiencing a busy period, with limited additional capacity.

Gulf Coast ports are the next available option and some cargo is diverted to Houston. These diversions increase congestion and lead times, resulting in ocean shipping spot rates as high as \$8,768/40-foot container (which is \$5,439 higher than the five-year average of \$3,329).

In the ports of L.A./Long Beach, there are 38 container ships at anchor and crowding and congestion on the waterfront.

Container wait times after the strike are as high as 26.5 days. The strike aggravates shortages and increases consumer pricing, which is estimated to cost the economy \$1.76 billion (This value and the spot rate we cite in this paragraph come from studies in the literature),

Initial Disruption:

Wildfires have increased in frequency and severity around the world as the number of days with favorable fire conditions (high winds and low relative humidity) doubles in comparison to conditions in the last four decades.

In California, fires damage transmission lines and substations servicing the L.A./Long Beach ports area on July 12, causing power failures and reducing the effectiveness of automated systems.

Ship-to-shore cranes are repeatedly idled while sensitive electronics, including some components of Terminal Operating



An aerial view of the Port of Long Beach. Photo: POLB.

Systems, take hours to reset, even after a momentary power loss.

The brownouts and power outages persist for three days. Power is restored on a gradual basis, with all port facilities on full power by July 16. We note that wildfires sufficient to interrupt power to the ports would impact many homes, businesses and institutions, and draw public and private resources and personnel.

Air quality and heat could make outdoor work hazardous, perhaps requiring more frequent breaks and other mitigations.

Secondary Disruption:

On the morning of July 18, while the ports are still struggling to work through the backlog caused by the strike and power outages, an explosion occurs inside a container as it is being transferred from ship to shore at a terminal.

The incident results in three deaths, six injuries and severe damage to the gantry crane and surrounding infrastructure. The terminal shuts down immediately.

Nearby terminals slow or stop operations in what they hope is an abundance of caution, and to protect their workers until the cause of the incident is known. Local police and fire departments, emergency personnel, forensic teams, U.S. Coast Guard and FBI officials respond to the explosion, render immediate assistance and begin their investigations.

Authorities quickly determine that the explosion was not an accident. Rather, an unknown terrorist organization used a shipping container to smuggle and detonate a bomb, apparently targeting the port itself.

The Coast Guard sets MARSEC (Maritime Security) Level 2 for the ports of L.A. and Long Beach. This triggers additional security checks (screening) for cargo, personnel and trucks, which require additional personnel and leads to further backlogs.

With capacity in L.A. already down by 15% due to the targeted terminal being down for repairs, other terminals struggle to meet the additional MARSEC screening requirements while absorbing the additional cargo load along with the disruption from numerous law enforcement and emergency response agencies.

At the targeted terminal, workers support the forensic teams for three days (July 19-22) while removing some of the debris. The damaged gantry crane will make one berth unavailable for months and limit the movement of other cranes. It will take two years to replace.

The attack is followed by a credible threat that other similarly sabotaged containers may be on their way into U.S. ports or perhaps have already been offloaded and are awaiting transfer. Port and affiliated workers refuse to work until the government assures some degree of safety. The Coast Guard sets MARSEC Level 2 for the entire West Coast.

Terminals scramble to find, hire, train and deploy extra security guards. Even where additional security personnel are present, the extra screening requirements slow the movement of cargo on and off terminals, leading to backups from the anchorages to the highways and rail lines.

The additional screening requirements increase overall shipment costs and cause significant container wait times and berth delays. Coast Guard, Customs and other agencies confer on how to manage the crisis and develop effective container screening procedures.

No further attacks occur and after one week, the security situation is such that the Coast Guard sets MARSEC Level 1 for all West Coast ports and terminals.

Disentangling Factors

Pacific Maritime readers can well imagine the operational impact of the above scenarios. Ships would be waiting at anchorage, trucks would be backed up at the gate, importers would be demanding prompt deliveries.

Everyone in and around the ports would be putting in overtime to get cargo moving. Our trio of disruptions would certainly result in long delays and high costs.

Gaining a more complete picture of the net economic costs to the port community and beyond is a challenge. Some costs are absolute, such as spoiled cargo from reefer containers held too long. In other cases, one person's loss is another's gain, i.e. overtime payments or rerouting cargo.

Still others are complex: a cargo backlog may mean steady work for a port terminal, but the delays could have large and unmitigated economic impacts to upland businesses far from the pier. What is the impact of resilience activities, such as use of stockpiled inventories? And what if the actual delays are shorter, or longer, than our assumptions?

Disentangling these factors requires a rigorous analysis. Part of our study builds on the Economic Consequence Analysis

Tool E-CAT and its extensions, whose development was led by one member of our research team, Adam Rose.

As part of our study, we've been expanding E-CAT to develop a user-friendly decision support tool called MCAT for dealing with the kinds of complex disruptions we have described. MCAT uses a "computable general equilibrium" model to estimate the total economic impacts of individual and compound disruptions to the marine transportation system.

For our particular example, we have used MCAT to examine the economic impacts of our scenarios to the L.A. area, to San Francisco, the rest of California, and the United States as a whole.

Computable general equilibrium (CGE) models are a class of economic models that characterize the economy as a set of interrelated supply chains and use actual economic data to estimate how an economy might react to economic shocks or policy changes.

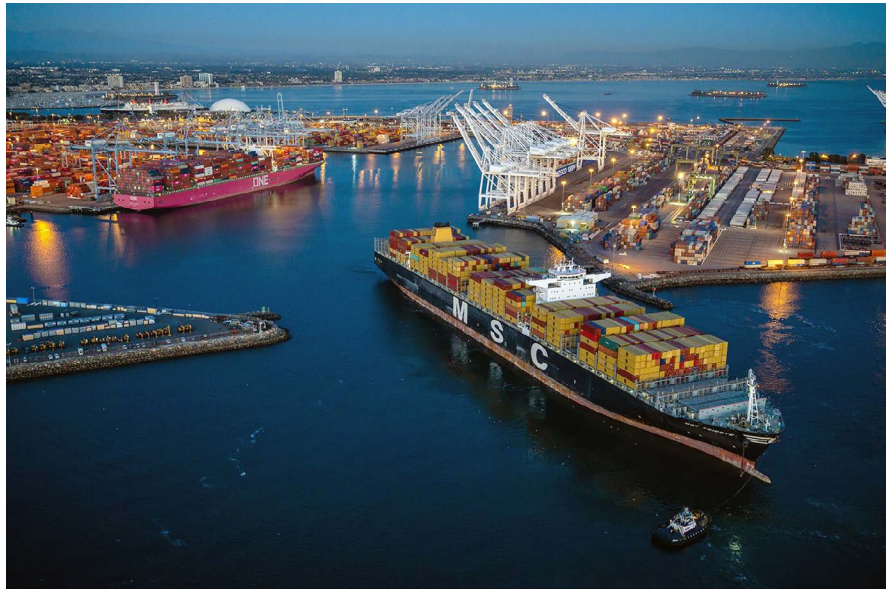
A full explanation of the CGE modeling technique is beyond the scope of this article but will be published in an economics journal soon.

Our results suggest that the net impact to the L.A. Metro area is a reduction in GDP of about \$4.1 billion. That estimate assumes that businesses employ a variety of pre-disruption mitigation tactics and post-disruption resilience tactics to reduce what would otherwise be much larger impacts. Also, there is an overall reduction in GDP to the entire U.S. of about \$300 million.

This is less than the reduction in L.A. Metro because San Francisco Metro and other parts of the U.S. actually attain an increase in GDP by accommodating rerouted ships and making up a good deal of the slack in lost production in L.A. Metro.

Of course, these numbers are just initial estimates, but they show the general direction of impacts. Our actual analysis goes into much more detail, investigating how these numbers might change under some shifts in the scenarios and in the basic assumptions.

These are results from an analysis of the complex disruption consisting of all three components of our example. We also compared the results of individual disruptions and concluded that the



Container vessels and terminals at the Port of Long Beach. Photo: POLB.

MARSEC incident would have the largest effect on the L.A. Metro economy of all three, while the strike would have the largest effect on the overall U.S. economy.

Our analysis estimates that dockworker avoidance behavior associated with a raising of the MARSEC level leads to L.A. Metro impacts 13% higher than they would have been without it.

The resilience tactics applied to reducing business interruption we studied include rerouting cargo, expanding port capacity with overtime and extended gate hours, and good management practices, such as drills, cross training and contingency planning. Importers have similar options, such as maintaining a larger inventory, identifying alternative supply sources and business continuity planning.

Our results showed that just these few

resilience tactics can reduce losses for L.A. Metro by 72% and that production recapture, inventories and ship-rerouting have the strongest effects.

The diverse collection of businesses, labor and agencies that make ports so successful have endured many disruptions in the past and will doubtless continue to do so. Still, when we ask port stakeholders "what keeps you up at night?," we often get answers such as those included in this research.

Worst case scenarios may well occur, and they will likely occur in the context of other disruptions. Smart business planning and risk assessments should reflect that reality.

Please contact us if you have thoughts on improving maritime supply chain resilience to complex disruptions or questions on our research. We welcome your expertise! ■

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Emissions Reductions, Globalism Highlighted During Hong Kong Maritime Week

By Mark Edward Nero
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Andreas Nordseth, Director General of the Danish Maritime Authority speaks during a session on risk and resilience during Hong Kong Maritime Week.

The issue of “green” technology was among the major global issues discussed at the annual Hong Kong Maritime Week event, which took place in late November.

The latest event, which organizers say attracted 14,000 attendees from 30 countries, is now in its eighth year. It’s designed to unite and showcase Hong Kong maritime interests, raise awareness of the economic contributions of Hong Kong’s maritime and port industries and promote the region as a base for maritime business.

During multiple conferences and seminars, the topic of new technology for cargo carrier vessels was discussed. Several speakers made clear that the trend has shifted from developing autonomous ships (also called self-steering or unmanned vessels) to devising zero-emissions and low-emissions technologies for vessels.

This is due to emissions regulations that are being imposed in the relatively near future, including an International Maritime Organization goal of a 20% reduction in emissions (from 2008

levels) by 2030, with a non-binding goal of 30%; a 70% reduction in emissions by 2040, with a goal of 80%, and a net-zero target by 2050.

During his opening remarks on the first full day of the event, American Bureau of Shipping President and Chief Operating Officer John McDonald said that environmental issues that affect shipping are of paramount importance during what’s becoming a season of change for the industry.

“Our industry must respond to climate change and decarbonization, along with digitalization and the rise of cyber-enabled systems onboard, with all the associated risks,” he said. “You combine that with a rapid regulatory advance and you have an unbelievably challenging operational environment.”

“We truly are in uncharted waters,” he continued. “At the heart of this challenge today is the global energy transition and its requirement for shipping to reduce its emissions.”

“But as we break through the technology barriers, develop the engines, source the fuels and identify the operational and safety requirements we will need, it’s becoming clear the energy transition is much, much more than the sum of these parts,” he explained. “The transition will require extensive infrastructure investment in fuel bunkering (and) storage in ports, as well as the transformational potential of green shipping corridors and global energy marine hubs.”

Another speaker at the event, International Maritime Organization Secretary-General Arsenio Dominguez, underscored the need for cohesive global regulations regarding significant issues, including decarbonization, and said that the IMO’s member states remain “strongly committed” to achieving emissions goals.

“New technologies are imperative to protect our oceans and planet from GHG (greenhouse gas) emissions and from pollution (with) the potential to disrupt, but shipping simply has to adapt,” he said. “IMO will continue to work to regulate shipping to a greener, safer, more secure and more sustainable future.”

Decarbonization Focus

Capt. Nittin Handa, the director of regulatory affairs for the Hong Kong Shipowners Association, told *Pacific Maritime* that because of the incoming IMO regulations, creation of low- and zero-emissions technologies has taken precedent over other industry initiatives, such as the development of autonomous ships, something that was trending upward until the COVID-19 pandemic.



(Left) American Bureau of Shipping President and Chief Operating Officer John McDonald addresses summit attendees during Hong Kong Maritime Week. (Right) Angad Banga, chairman of the Hong Kong Shipowners Association, gives a speech as part of a trade summit during Hong Kong Maritime Week. Photos by Mark Edward Nero.

“Right now, I think the industry is more focused on decarbonization,” he said. “The technological development (of autonomous vessels) is definitely happening, it’s going on (but) I think it’s still a little bit down the line. Our immediate target is decarbonization.”

“I think (smart vessel) development will be led by the regulators in this particular case, because there is much more at risk from the vessel point of view,” he added. “The development has to come from the vessels and then from the regulators and then both the parties—the vessels and the ports—need to adopt those technologies to kind of interface with each other.”

Global Economy, World Security

Another trending topic that numerous panelists and speakers discussed during Maritime Week was the need for cooperation between nations, spurred by the results of the 2024 American presidential election and the President-elect’s stated pro-U.S. agenda.

Angad Banga, chairman of the Hong Kong Shipowners Association said that a “challenging” geopolitical environment is “putting longstanding free trade principles in jeopardy” and leading to “an erosion of the global rules-based systems on which our industry has flourished.”

“We must stand firm, do all that we can to prevent further erosion and fight to prevent what has already taken place, because the global economy and perhaps world security are depending on our ability to navigate the seas of the world,” he said.

Marina Hadjimanolis, the deputy shipping minister for the Republic of Cyprus, stated bluntly that her country is against protectionism.

“It is a dangerous path,” she said. “What Cyprus is doing, is we encourage dialogue on not only national matters, but global matters as well. And we feel that (with) many countries in this dialogue, we win together. Because none of us can do it alone, but together we can make it (protectionism) maybe stop in a few years.”

“It is only by working and engaging with each other that we can find the solutions to risks and disruptions that arise,” Dominguez said. “Member states engage in discussions and make decisions on global regulations essential to assuring that shipping continues to operate safely and efficiently.

“Shipping is inherently international, and unilateral rules can undermine the regulatory framework agreed upon by IMO,” he added.

McDonald added that given shipping’s role in feeding the world and powering the economy, an ability to deliver a “cleaner, more efficient industry that is safer and therefore truly sustainable is a challenge that everyone has a stake in.”

“By working together,” he said, “I am confident that we can deliver. We must: the world is definitely relying on us.” ■

“The global economy, and perhaps world security, are depending on our ability to navigate the seas of the world.”

Angad Banga, Hong Kong Shipowners Association

Asian Shipowners, Others Call for End to Unjust Seafarer Detentions

By Mark Edward Nero
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The unjust treatment of seafarers was an ongoing topic among members of the container goods movement industry during Hong Kong Maritime Week in November.

A number of speakers at various panel discussions and other events sought to bring to the issue to the forefront of discussions during the event.

Many comments came as the industry commemorated the one-year anniversary of the taking of the *Galaxy Leader*, a vehicle carrier traveling through the Red Sea, by Houthi rebels. As of the end of 2024, the crew was still being held hostage, despite calls from the International Chamber of Shipping, the International Maritime Organization and other bodies to release them.

The 25-member crew of the NYK-leased vessel includes nationals from the Philippines, Mexico, Ukraine, Romania and Bulgaria. According to reports, the Houthis have used the carrier for propaganda purposes, including allowing visitors to tour the ship.

“Seafarers should not and cannot be collateral in geopolitical conflicts,” International Chamber of Shipping Chairman Emanuele Grimaldi said in a speech on Nov. 18, the day prior to the first anniversary of the *Galaxy Leader* being taken.

“The international shipping industry’s vital to world trade,” he said. “Anything that threatens to destabilize free flow of goods is a threat to all of us.”

In remarks of his own, Elmer Sarmiento, the Department of Transportation’s Undersecretary for the Maritime Sector in the Philippines detailed his country’s seafarer rights and training law, which was enacted in the fall.

The so-called Magna Carta of Filipino Seafarers, which was signed into law Sept. 23, aims to ensure that Filipino seafarers have protections and opportunities in line with global standards, including new rules restricting wage garnishment.

“We can work together for and on behalf of seafarers,” Sarmiento said. “They’re the nucleus of shipping, and they’re the unsung heroes of our time.”

Hong Kong Shipowners Association Managing Director Sandy Chan made a similar comment.

“We need the members of the general public to know that they (seafarers) are the unsung heroes. They are very important for maintaining the global supply chain, and the global supply chain is important for everybody.”

One of her colleagues, Hong Kong Shipowners Association regulatory affairs director Capt. Nittin Handa, also highlighted the issue.

“This is very high on our agenda—the unfair criminalization of seafarers, and especially the impact of the declining security situation where this is happening,” told *Pacific Maritime*. “Very few people have raised a voice about the seafarers’ security situation.”

He said he sympathizes with the *Galaxy Leader* crew members who are being held by the rebels.

“Me being a former seafarer myself and having sailed in pirate-infested waters, I can relate to that,” he said. “It’s a humanitarian crisis.”

Call to Action

In a call to action during its Nov. 19 meeting in Hong Kong, the Asian Shipowners Association’s Ship Insurance and Liability Committee focused on the critical issue of unjust seafarer detention.

The committee highlighted a growing crisis that threatens the foundation of the global shipping industry and the rights of those who keep it afloat.

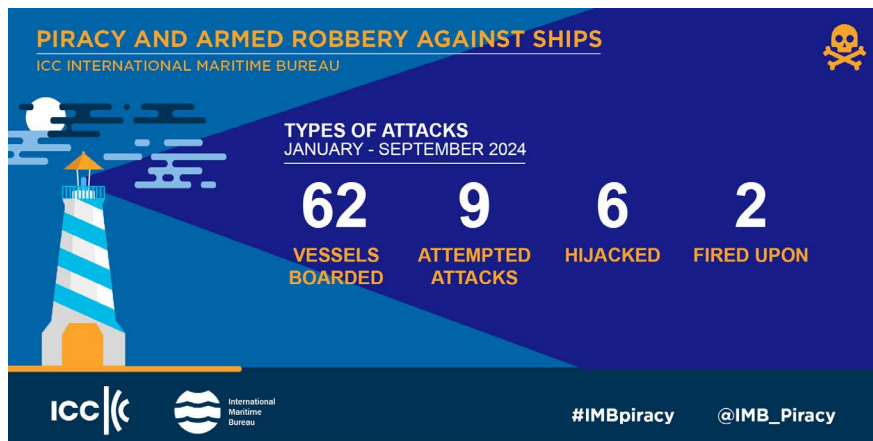
“Every day, hundreds of thousands of seafarers navigate the world’s oceans, ensuring the smooth flow of goods and commodities. Yet, despite their crucial role, these maritime workers are increasingly finding themselves caught in a web of legal uncertainties,” the ASA said in a statement.

Accused of crimes without compelling evidence, many are detained for extended periods, facing severe emotional and financial distress.

Recent incidents have underscored the vulnerability of seafarers, particularly in countries with limited experience in maritime law. The committee noted with concern that detentions often occur in places where legal systems are ill-equipped to handle complex maritime cases, leading

“Seafarers should not and cannot be collateral in geopolitical conflicts.”

Emanuele Grimaldi, International Chamber of Shipping



to prolonged and unfair treatment of crew members.

For example, a Chinese master mariner was imprisoned in Honduras for over two years with no charges brought against him.

The committee outlined three proactive steps to address the trend:

- **Global Awareness Campaigns:** It is essential to raise the profile of these incidents on international platforms. By sharing these stories, we can galvanize public opinion and pressure governments to act.
- **Advocacy for Equitable Legal Processes:** International maritime organizations must champion the cause of fair legal treatment for seafarers.
- **Building Robust Support Networks:** Comprehensive support systems for seafarers are crucial.

The Asian Shipowners Association has called upon all stakeholders in the maritime industry to unite in defense of seafarers' rights.

"Shipping companies, international organizations, and governments must collaborate to create a safer and more just environment for maritime workers," the Association said in a statement.

Incidents Down, Threats Remain

Although maritime piracy remains a large concern globally, it was actually down in 2024 compared to the prior year, according to data from the ICC International Maritime Bureau (IMB).

IMB data show that there were 79 maritime piracy incidents from January-September 2024, down from 99 incidents during the same period the year before.

During the latest nine-month period, 62 vessels were boarded, six were hijacked, nine faced attempted attacks and two were fired upon, IMB data show. In 86% of incidents, perpetrators successfully gained access to the vessel, with most incidents occurring at night.

Also, a total of 111 crew taken hostage, 11 kidnapped and three threatened, according to the data. Perpetrators were armed with weapons, guns and knives in 45 of the reported incidents.

"This is an important time to reinforce our message not to be complacent, and for vessel owners and operators to adhere to IMB guidelines," IMB Director Michael Howlett said in a statement. ■



Images courtesy of ICC International Maritime Bureau.

HAVE A TIP TO SHARE ABOUT INTERNATIONAL MARITIME NEWS?

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