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July-August 2024™

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Højgaard,

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FROM THE PUBLISHER: Tony

Munoz

IT'S A SMALL WORLD AFTER ALL

MANAGING MODERN VESSELS HAS CHANGED ACROSS THE INDUSTRY WITH NEW

fuel options, digital equipment, sonar navigational technologies and real-time satellite communications. While this sounds like a brave new world, the most crucial element remains the human one. We must train, teach and test mariners and crew repeatedly because ship accidents should never happen!

This edition features Anglo-Eastern Ship Management and its CEO, Bjørn Højgaard. There's been tremendous growth in the Hong Kong-based company under the leadership of the naval-trained officer and master mariner Højgaard. We've covered the industry since 1996 and finding leaders with his kind of expertise is always inspiring.

Speaking of smart people, Sankar Ragavan, CEO of MariApps Marine Solutions, is the subject of this edition's *Executive Achievement* feature. An IT intellect working at a ship management company, Ragavan realized that a Web-based and mobile app to manage data and people was missing, so he created one and founded MariApps, part of the Bernhard Schulte group, to market it. The rest, as they say, is history.

Meanwhile, our regular columnists were busy getting to the bottom of things. Senior Editor Jack O'Connell provides an update on the cruise industry and his most recent travels in "Cruise Mania." *View from the E.U.* columnist Erik Kravets delights with his analysis of Europe's immigration crisis and shipping's involvement in it, and *Eye on Energy* guru Allen Brooks puts his finger on a hitherto ignored and unrecognized issue – shipping's critical role in the transport of critical minerals needed for the clean energy transition. Enjoy!

In our annual *Academies & Institutes* feature, master mariner Chad Fuhrmann says the industry is struggling to find and retain qualified seafarers and training schools are rising to the challenge. A must-read. In "Trusted Partners," News Editor Paul Benecki surveys *Ship Management* and finds that owners are increasingly reliant on progressive third-party companies to manage their fleets and crews.

On the technology front, "Delivering on the Promise" is the apt title of Associate Editor Allan Jordan's article on *Maritime Software*, and – by popular demand – we've added a new yearly feature on the all-important subject of AI, authored by Sean Hogue, another master mariner. Lots of intellectual capital to digest!

Rounding out this jam-packed edition are Sean Holt's incisive analysis of the pros and cons of ammonia as a ship fuel, Pat Zeitler's survey of ship registries and Tom Peters' review of breakbulk ports, which are doing just fine – like pretty much everything else in shipping.

"From the Bridge" is full of memorable quotes and fun factoids taken from the articles in this issue, so don't miss out on that either.

Enjoy the rest of the summer, and thanks for your continued readership and support! –

MarEx

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Social Media

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X Followers	56,192
LinkedIn Members	142,922
Subtotal	325,569

**Website (page impressions per mo.)	1,768,386
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100,000+

Estimated number of migrants saved by merchant vessels in the Mediterranean, according to a 2023 report.

Source: Erik Kravets, "Atlantropa or Bust?"

93%

Percentage of new ships built in China.

Source: Allen Brooks, "Shipping and the Energy Transition"

32 million

Number of cruise industry passengers in 2023, a record.

Source: Jack O'Connell, "Cruise Mania"

1974

Year Anglo-Eastern Ship Management was founded, 50 years ago, making it one of the first ship management companies.

Source: Tony Munoz, "Celebrating 50 Years of Excellence"

80%

Percentage of global ammonia production used to make fertilizers.

Source: Sean Holt, "Is the Juice Worth the Squeeze?"

16.4 hours

Average amount of time to manually process a standard Bill of Lading.

Source: Sean Hogue, "Rising Tide"

8,600+

Number of vessels registered in Panama, the industry's largest ship registry.

Source: Pat Zeitler, "Choosing the Right Flag"



Quoted



"Our vision is to be the 'go to' digital solutions provider for the maritime industry."

– Sankar Ragavan, CEO, MariApps Marine Solutions

"Atlantropa was Herman Sörgel's plan to install a gigantic hydroelectric dam at the Strait of Gibraltar, drain the Mediterranean and combine Africa and Europe into a single uber-continent. Like most German plans from the 1920s, it never amounted to much."

– Erik Kravets, "Atlantropa or Bust?"

"China is an example of the conflict between clean and dirty energy investments. China has the world's largest renewable energy generating capacity – four times that of the U.S. Its renewable spending in 2023 was double what the E.U. and U.S. spent. At the same time, China built more coal-fired power plants than the rest of the world combined. Neither trend is expected to change in the foreseeable future."

– Allen Brooks, "Shipping and the Energy Transition"

"The mariner shortage is recognized as a critical challenge for the industry globally, significantly impacting supply chains and economic stability."

– Chad Fuhrmann, "Education Underway"

"So we're very much a technically focused ship management company. We don't get involved with the commercial side of the business – the chartering of ships, fixtures and the like. Most owners do that themselves. We're populated by former chief engineers, former ship masters and even architects. That's who we are and where we come from."

– Bjørn Højgaard, CEO, Anglo-Eastern Ship Management

"It's an act of trust to hand over a multimillion-dollar asset to someone outside your company, but the biggest ship managers have a long track record of success – and there are business advantages that make third-party management attractive."

– Paul Benecki, "Trusted Partners"

"Maritime software has gone from a passive monitoring role with simple functionality to being an integral component of fleet operations."

– Staci Satterwhite, CEO, ABS Wavesight

"And THIS is the advantage AI gives us. It isn't going to 'take our jobs.' It's going to free up the massive resource that is our human capital for more important things than shuffling paper. Things like creative problem-solving, strategic planning, relationship-building, ethical and moral reasoning, and creative work."

– Sean Hogue, "Rising Tide"

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BY JACK O'CONNELL

Sankar Ragavan,

CEO, MariApps Marine Solutions

Ragavan and his team at MariApps are leading the way in enterprise software solutions for maritime.

Tell us about yourself – your background and education.

I graduated with a master's degree from Eastern Michigan University in the U.S. and worked in IT and software development for many Fortune 500 companies around the world for 15 years before joining Bernhard Schulte Shipmanagement in 2010 to head their Information Technology and software development efforts.

What led to the founding of MariApps in 2015? What was the strategy behind it?

While working at BSM, I realized that integrated marine solutions were almost non-existent on both Web and mobile platforms. That's when I founded MariApps with the full support of BSM and developed the first Web-based ERP (Enterprise Resource Planning) system in the marine industry. This enabled BSM to consolidate all its disparate systems under one umbrella and continue to expand its solutions. In just eight years, MariApps became the market leader in enterprise asset management systems for the entire maritime industry.

Tell us about the name, "MariApps." Is there a story behind it?

MariApps is short for "marine applications." Our flagship product, *smartPAL*, is a comprehensive suite designed to meet the evolving needs of the maritime industry. With a global team of over 1,000 employees, we're committed to excellence, innovation, and partnership in driving digital transformation.

How many offices are there?

We currently have offices in nine countries with our headquarters in Singapore. We also have research centers in five locations across India – Kochi, Pondicherry, Chennai, Madurai and Hyderabad.

We see you actually have two titles – Chief Digital Officer of the Schulte Group and CEO of MariApps. How does that work?

MariApps is part of the Schulte Group, and while I run MariApps Marine Solutions as CEO I also serve as CDO of the Schulte Group and a member of the BSM Management Board. This dual role helps both companies work together closely with mutual benefits in multiple areas.

What is meant by "digital solutions"? Why have they become so important?

The maritime industry is undergoing a digital revolution. Paperwork and manual communication are giving way to digital solutions that streamline operations, improve communication and allow for better data analysis. This translates to increased efficiency, enhanced safety and security and a more sustainable future for the industry.

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Sankar Ragavan,

CEO, MariApps Marine Solutions

The key takeaways are that digital solutions can save time and money, improve decision-making and reduce the environmental impact of shipping. As the industry embraces these technologies, we can expect even more innovation and a brighter future for the maritime world.

Wow, impressive. Tell us more about the company's flagship offering, smartPAL, and its other software products.

MariApps' flagship product, *smartPAL*, is a comprehensive suite of Web-based, cloud-supported and mobile-compliant maritime digital solutions. With over 30 modules and mobile apps, *smartPAL* enables users to streamline vessel operations, enhance decision-making processes and optimize overall operational performance.

From procurement to voyage management, crewing to safety compliance and

financial operations to business intelligence, *smartPAL* and our value-added products offer a holistic approach to ship management, and we are committed to continuous innovation and collaboration with industry leaders. In collaboration with leading companies worldwide, we deploy cutting-edge technologies like AI, Big Data, IoT, Blockchain and Augmented Reality to develop fully integrated marine solutions.

Our Technology Innovation Hub drives research and development initiatives to stay at the forefront of digital innovation in the maritime sector.

Partnerships – with customers and other companies – are a big part of your business strategy. Tell us about that.

At MariApps we understand that we cannot do it all ourselves. So we have many partners with whom we work closely including Microsoft, PWC, Bin-

fer, Zoho, Deloitte, Rawabi Holdings and OceanOPT.

Our sister companies – Memphis, Resco, Onboard – also work collaboratively in cross-selling products.

In the MariApps Digest for 2023, you mention an "exponential YoY increase in revenue" and highlight 17 new customers including the Kuwaiti Oil Trading Company. How did you do it, and what's the outlook for the current year?

MariApps has achieved YoY growth from its inception and 2023 turned out to be a very good year. Since

smartPAL is the market-leading EAM (Enterprise Asset Management) system, we tend to win most of the tenders we participate in due to the comprehensive digital solutions we bring to the table.

The outlook for 2024 is even better as we have signed some big names like Maersk, MISC (formerly Eaglestar), Intershops and Meratus in the first two quarters, and more clients are in the pipeline.

You put a high value on core principles like integrity, honesty, passion, respect and teamwork. What does that mean in practice?

The maritime industry relies heavily on trust and reliability. Integrity and honesty ensure MariApps' software solutions are dependable and meet the highest standards. By prioritizing honesty in business dealings, MariApps fosters trust with clients, leading to long-term partnerships and repeat business.

A company driven by passion is more likely to develop cutting-edge solutions that address real-world challenges in the maritime industry. Integrity, honesty and passion are attractive qualities to potential employees. These values help MariApps build a strong and dedicated team.

How do you see the future of vessel management software? How far can it go and how big can the market become?

The shipping industry is on the cusp of a revolutionary digital wave. Vessel management software is rapidly evolving, offering real-time data analysis and route optimization – think smarter, more fuel-efficient voyages.

But this is just the beginning. The future holds the promise of autonomous ships navigating complex routes with minimal human intervention. Drone vessels could take over specialized tasks like underwater inspections or pollution monitoring. The market for these technologies has the potential to be massive. As companies embrace automation for cost savings and safety, demand will soar. Regulatory frameworks will need to adapt, but the benefits are undeniable.

However, navigating this future

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“These are just some of the dangers, but by acknowledging them we can develop safeguards. Robust cybersecurity measures, transparent AI systems and ethical data collection are all crucial. We need to ensure AI is a tool that empowers, not endangers, the shipping industry.”

requires a skilled workforce. We'll need crew trained to oversee these sophisticated systems, not replace them entirely. This is an exciting evolution, not a human replacement program.

What are the dangers? How does AI factor into all of this?

Artificial intelligence offers incredible potential for the shipping industry – from optimized routes to enhanced safety. However, here are some of the biggest dangers of AI we need to consider:

Black Box Decisions: AI algorithms can be complex, making it difficult to understand how they reach decisions. This lack of transparency can be risky, especially in critical situations.

Cybersecurity Threats: As ships become more reliant on AI, they become more vulnerable to cyberattacks. Hackers could disrupt operations or even take control of vessels.

Data Bias: AI systems are trained on data sets. If this data is biased, the AI will inherit that bias, potentially leading to unfair or unsafe outcomes.

Job Displacement: While AI can create new jobs, it may also automate some existing jobs currently held by seafarers. We need a plan for retraining and reskilling the workforce.

These are just some of the dangers, but by acknowledging them we can develop safeguards. Robust cybersecurity measures, transparent AI systems and ethical data collection are all crucial. We need to ensure AI is a tool that empowers, not endangers, the shipping industry.

What's your vision for MariApps?

Where would you like to see it in, say, the next five years?

Our vision is to be the “go to” digital solutions provider for the maritime industry. MariApps will become a

strong and comprehensive player with market-leading digital solutions in the cargo, tanker, LNG, LPG, offshore, cruise and yacht segments.

What do you like most about your work? What gives you the most satisfaction?

The best part of my work is building newer software that provides huge business value and having the flexibility to design my work. That gives me the most satisfaction.

What have we left out? Is there one final message you'd like to leave for our readers?

With unwavering support from the Schulte family, our Group CEO Ian Beveridge and Group CFO Tobias Pinker, MariApps will march forward to become the most profitable and most valuable company in the Schulte Group!

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VIEW FROM THE E.U.: Erik

Kravets



ATLANTROPA OR BUST?

THE MEDITERRANEAN MIGRATION CRISIS EMBROILS SHIPPING.

Atlantropa was Herman Sörgel's plan to install a gigantic hydroelectric dam at the Strait of Gibraltar, drain the Mediterranean and combine Africa and Europe into a single uber-continent. Like most German plans from the 1920s, it never amounted to much.

For many, that's wonderful news because without the Mediterranean, the E.U. would have no chance to secure its border. For the rest, we have this:

"The outer deck was full of people and we presume the interior would also have been full," said Greek Coast Guard spokesperson Nikos Alexiou. "It looks as if there was a shift among the people who were crammed on board," which forced the Libyan fishing boat under.

Greek Coast Guard vessels, a navy destroyer and many private ships scrambled to rescue as many as possible from drowning in the Mediterranean. Any sailor would do the same.

The tally? 104 survivors, 86 dead, 560 missing.

It was June 14, 2023, southwest of the Greek city of Kalamata, famous for olives.

The International Organization for Migration estimates that 30,001 people have perished crossing the Mediterranean since 2014, and the U.N. believes more than two million migrants have come into Europe via the Mediterranean. The real numbers are likely higher, since deaths – and crossings – are not supposed to be noticed.

Smugglers bringing migrants to Europe are careful to keep a low profile. They collect between 500-800

euros per "passenger," according to Deutsche Welle. Tax-free.

In interviews with migrants who made it to Lampedusa, Italy, in 2023, the motivations mentioned included making it to a "better place" or the wish to "support our family, to work, to make our family proud."

It's easy to see why migrants would prefer Europe to countries in Sub-Saharan Africa, but as many of them are from "safe origin countries," they don't qualify for asylum under E.U. rules. And they aren't legal immigrants who have obtained residency or work visas in the ordinary manner.

WHO'S RESPONSIBLE?

For shipping, the immigration question is where the fireworks start.

A captain's legal obligation to commit to a rescue is clear, "regardless of the nationality or status of



A captain's legal obligation to commit to a rescue is clear, "regardless of the nationality or status of such persons or the circumstances in which they are found," as set out in Ch. V of the International Convention for the Safety of Life at Sea (SOLAS). Each time a merchant vessel rescues migrants in distress, it's fulfilling its duty under the law.

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such persons or the circumstances in which they are found," as set out in Ch. V of the International Convention for the Safety of Life at Sea (SOLAS). Each time a merchant vessel rescues migrants in distress, it's fulfilling its duty under the law.

But after the rescue is done, who's responsible for the migrants?

Merchant vessels have saved over 100,000 migrants in the Mediterranean according to a 2023 white paper by Risk Intelligence. Apart from finding a host state for the migrants, it's challenging to secure them, feed them and care for them medically.

Maersk Etienne, a product tanker, pulled 27 migrants out of the drink in August 2020. Malta, Spain, France,

Italy and Libya, as well as Denmark, as the vessel's flag state, refused to let the migrants go on land. It wasn't until after 38 days at sea, with food and water running low, that Mediterranean Saving Humans, a non-governmental organization, sent *Mare Jonio*, its rescue ship, to relieve *Maersk Etienne* and end the conundrum.

Also in 2020, using knives, 79 migrants attacked the crew of the cargo vessel *Marina*, which had rescued them. They had run out of fresh water while waiting for a port to let them dock.

Poverty, the many ships using the Mediterranean, a porous E.U. border and North African political instability leave shipping rescuing migrants that nobody wants.

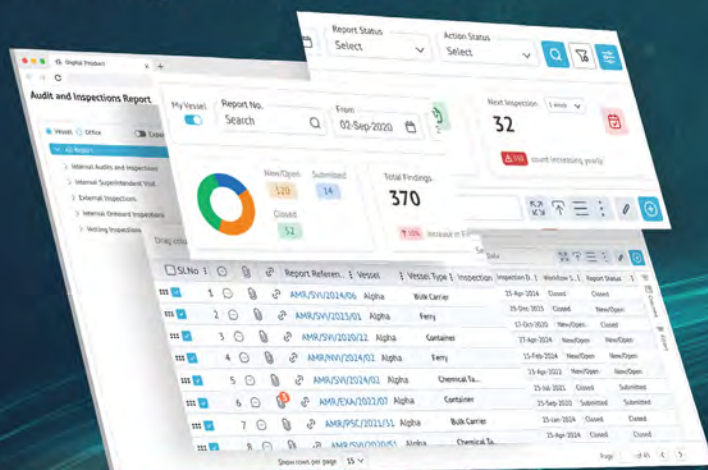
FOREIGN AID?

In camps dotting North Africa's coastline, migrants gather – with some 650,000 waiting just in Libya – and await their chance to escape. The E.U. is aware and has made deals with Morocco, Turkey, Egypt, Lebanon, Mauritania and Tunisia for those states to block migrants going to Europe. They receive financial aid in exchange.

In March 2024, Mauritania took 210 million euros to compensate it for managing migration while Egypt was given 7.4 billion euros along similar lines. Morocco is in the final phases of such a negotiation. These deals are based on the one struck between the E.U. and Tunisia in July 2023, which saw roughly one billion euros in aid

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Meanwhile, the E.U. has welcomed the involvement of non-governmental organizations who operate rescue ships in the Mediterranean. Many of these are flagged in Germany. Italy, Greece, Cyprus and Malta, all of whom are receiving the rescued migrants, have argued that the “flag state” should “take responsibility” for them instead.

linked to tighter border management, i.e., to stopping migrants before they get to Europe.

A 2017 agreement between Italy and Libya rolled out a different model. Nominally under Libyan control but funded and trained by Italy, a Coast Guard cutter would round up migrants and bring them back to shore. In 2018, Nigerian migrants sued Italy for this in the European Court of Human Rights. “Using the Libyan Coast Guard as a proxy to turn back migrant boats is just a new way of trapping them in what the Italian Foreign Ministry itself has qualified as ‘the hell’ of Libya,” said Violeta Moreno-Lax for the plaintiffs.

The Italian-Libyan agreement was renewed on February 2, 2023.

The lawsuit, meanwhile, has made little progress, as “international rules do not have a specific court where you can litigate” human rights violations, according to Matteo de Bellis, a migration researcher for Amnesty International. That is true.


Absent a monopoly on the use of force, does law exist? Such rights remain a fantasy. Since no global sovereign can bend the nations to its will, we’re left with the maelstrom of politics. “It is not wisdom but authority that makes a law,” as English political theorist Thomas Hobbes noted in *Leviathan* (1651), his most famous work.

NGOs TO THE RESCUE

Meanwhile, the E.U. has welcomed

the involvement of non-governmental organizations who operate rescue ships in the Mediterranean. Many of these are flagged in Germany. Italy, Greece, Cyprus and Malta, all of whom are receiving the rescued migrants, have argued that the “flag state” should “take responsibility” for them instead.

As of January 2024, 13 such rescue ships were arrested in port due to pending legal cases. The cases target “having too many life jackets on board, having inadequate sewage systems for the number of potentially rescued people” or complain about ships “causing environmental pollution,” says the E.U. Agency for Fundamental Rights. “We know this is a tactic to try and stop our opera-




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tion rather than something that is valid in some way,” remarked Mary Finn, a worker on *Ocean Viking*, one such rescue ship.

Italian Prime Minister Giorgia Meloni believes that rescuing migrants only serves to encourage more to attempt the dangerous Mediterranean crossing to Europe. Italian authorities restrict which ports rescue ships may dock at and limit how many missions they are allowed to carry out, often issuing fines and detention orders.

Now, rescue ships only pick up roughly eight percent of the migrants who reach Italy, compared with 41 percent in 2017. This leaves more migrants for the commercial vessels.

The left hand and the right hand would appear to be at cross-purposes with the national governments most exposed to migrants unwilling to bear the burden.

MONEY TALKS

However, thanks to the money being lavished on migration cooperation agreements in North Africa and Turkey, a repeat of *Maersk Etienne* or of *Marina* is unlikely.

On July 16, 2024, an Anglo-Eastern Suezmax tanker, *Sabine Seaways*, rescued 31 people near Egypt who were clinging to a single-engine, inflatable boat. Those migrants had been spotted by sailors from U.S. Helicopter Maritime Strike Squadron 79, which was assigned to the *Bulkeley*, an American destroyer operating nearby. They were turned over to the Egyptian Navy vessel *Alal Main 115*. That’s 7.4 billion euros for Egypt hard at work.

Attention, merchant vessels: The sea is treacherous, but have you met politics?

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SHIPPING AND THE ENERGY TRANSITION

THE KEY ROLE OF SHIPPING IN TRANSPORTING THE CRITICAL MINERALS NEEDED FOR THE CLEAN ENERGY TRANSITION HAS LARGELY BEEN IGNORED. WILL THERE BE ENOUGH SHIPS?

Although the extreme demands of energy transition activists are receiving pushback from the public, the pressure for change remains. International forecasters point to the recent rapid growth of renewable energy as confirming that the transition is not merely underway but growing rapidly. However, that conclusion is being challenged.

U.N. Secretary-General António Guterres has declared that "We stand at a moment of truth." That truth, in his estimation, is that "We are playing Russian roulette with our

planet." He went on to warn, "We need an exit ramp off the highway to climate hell, and the truth is we have control of the wheel."

Ditching hydrocarbons sooner rather than later is imperative and embracing renewable energy is mandatory, according to Guterres.

The Guterres message was followed by the International Energy Agency predicting that the world is on course for an oil consumption peak by 2030. It forecasts an eight million barrel-a-day oil supply glut by 2035. Such a glut, the IEA says, will destroy the economics of oil production and devastate not just the balance sheets of oil and gas companies but also the economies of

OPEC countries.

The IEA says purveyors of hydrocarbons must shift their capital spending away from hydrocarbons and into renewable energies.

The IEA's conclusion is, however, challenged by the latest data from the Energy Institute Statistical Review of World Energy, which shows hydrocarbon consumption growing faster than renewable energy despite the latter's privileged status and billions in government support.

Government subsidies boost weak renewable energy project financial returns compared to hydrocarbon investments. They're often the only way renewable projects secure financing, given their capital-inten-



What is energy's long-term future? The transition to clean energy is underway. Its pace is uncertain, but a road map exists. Accelerating the transition will force significant personal, business and government adjustments. However, renewable energy's intermittence, dramatically lower financial returns, need for backup utility systems and the requirement for new supply chains will make the transition expensive.

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sive nature. An emerging problem for governments struggling under growing national debt loads is that renewable energy subsidies are overwhelming their budgets.

CHANGED ECONOMIC CLIMATE

Subsidies are increasing to offset renewables' poor returns due to a changed economic climate.

These projects benefited from nearly two decades of ideal conditions for capital-intensive investments. Inflation was low, and supply chain issues were non-existent. The era's low interest rates enabled developers to flourish by utilizing high debt-to-equity financing structures to elevate the normal low returns of these projects. High interest rates are

forcing the abandonment of high-cost renewable energy projects.

The changed economic environment sees hydrocarbon prices rising as people demand the societal benefits these fuels provide. International oil companies are earning record profits from their traditional hydrocarbon businesses. After seeing the public clamor for more hydrocarbon energy, they're shifting their investment focus away from renewables. Similarly, developing countries are doubling down on hydrocarbon power to provide jobs and cheap energy for their economies.

China is an example of the conflict between clean and dirty energy investments. China has the world's largest renewable energy generating

capacity – four times that of the U.S. Its renewable spending in 2023 was double what the E.U. and U.S. spent. At the same time, China built more coal-fired power plants than the rest of the world combined. Neither trend is expected to change in the foreseeable future.

What is energy's long-term future? The transition to clean energy is underway. Its pace is uncertain, but a road map exists. Accelerating the transition will force significant personal, business and government adjustments. However, renewable energy's intermittence, dramatically lower financial returns, need for backup utility systems and the requirement for new supply chains will make the transition expensive.

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66 ***A blind spot in the energy transition narrative is renewable energy's new supply chain. It will take time to build, and the cost will be significant. The challenges will impact the pace of building the supply chain, affecting the amount of critical minerals available for clean energy technologies.***

BUILDING A NEW SUPPLY CHAIN

A blind spot in the energy transition narrative is renewable energy's new supply chain. It will take time to build, and the cost will be significant. The challenges will impact the pace of building the supply chain, affecting the amount of critical minerals available for clean energy technologies.

In 2022, the IEA released a study on the role of critical minerals (copper, nickel, cobalt, lithium, rare earths) in energy transitions. The IEA has two models to predict the energy market and resulting emissions. While the models are for 2050, they also produce interim results. This groundbreaking study focused on what is required of energy and mineral markets to reach

the IEA emissions targets in 2040.

The two models are STEPS (Stated Policies Scenario) and SDS (Sustainable Development Scenario). STEPS means the world and energy markets evolve based on current policies. The SDS model assumes governments will institute policies to meet the emission targets of the 2015 Paris Agreement.

The IEA study focused on clean energy technologies: solar, wind, other low-carbon power generation, electric vehicles and battery storage, electricity networks, and hydrogen fuel. STEPS found that critical mineral demand increased fourfold over 2020-2040. The increase becomes sixfold in SDS. EVs and battery storage needs will drive mineral growth.

Both STEPS and SDS confirm that demand for critical minerals will soar. However, we haven't seen any study outlining how that demand will be met. Not only are we unsure where the supplies will come from, but we do not know the volumes needing to be moved from mine to refinery and eventually to final consumers. How long will it take to build this supply chain? We know that the maritime industry will be key in delivering those critical mineral supplies.

MARITIME'S ROLE

For the last few decades, the maritime industry has focused on growing

the container vessel fleet as global trade patterns shifted in response to producing goods in low-cost labor countries. This resulted in finished products needing to be shipped to developed countries.

Many countries with low labor costs also have low energy costs, generating rapid economic growth, especially in Asia. From 2011 to 2024, the number of container ships in the global fleet increased by 25 percent as carrying capacity grew by nearly 80 percent. Bigger ships dominated the growth.

Critical minerals are found in many countries in the Southern Hemisphere. South America has many ore suppliers, followed by African and Asian countries. Developed countries have enacted laws and mandates, along with providing subsidies, to accelerate the energy transition. To avoid exploitation, some critical-mineral-producing countries have instituted policies directing their industries to move up the value creation curve by refining the ores or starting manufacturing businesses to create intermediate or final clean energy products.

Mineral ores are transported to market by dry bulk carriers. As the energy transition has accelerated, the volume of minerals transported has grown, necessitating more bulk carriers. From 2011 to 2024, the bulk carrier fleet increased by 65 percent with a 13 percent expansion in the past three years. Since 2020, an additional 1,600 dry bulk carriers joined the fleet.

With the IEA forecasting four- to six-fold increases in the volume of critical minerals by 2040, will we need 4-6 times the number of bulk carriers to move them? If so, we would require 2,300-3,500 new ships to enter the fleet annually until 2040. That ignores any fleet losses from accidents and retirements.

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With the IEA forecasting four- to six-fold increases in the volume of critical minerals by 2040, will we need 4-6 times the number of bulk carriers to move them? If so, we would require 2,300-3,500 new ships to enter the fleet annually until 2040. That ignores any fleet losses from accidents and retirements.



In recent years, shipbuilders added 400-500 new bulk carriers a year. Could they construct 6-8 times the number of bulk carriers delivered annually? If they were the only ships built, maybe it's possible.

Additionally, ships are built from steel. More ships mean more iron ore must be transported from mines, adding to bulk carrier demand. Off-setting fleet growth could be reduced coal shipments.

The number of new bulk carriers depends on the distances they travel. Issues such as low water in the Panama Canal due to drought and avoiding the Red Sea and Suez Canal because of Houthi attacks will impact distances traveled. The speed of bulk carriers could also affect the number of new

vessels needed. The time spent in ports loading and unloading ships will play a role. Larger ships take longer to load and unload.

The need for such a rapid fleet expansion is occurring along with the IMO's efforts to decarbonize shipping. Abandoning hydrocarbon fuels means finding new energy sources for vessels. Experimenting with multiple clean energy technologies has shown none to be as cheap or convenient as bunker fuel. Solving that problem will take time.

The uncertainty over future vessel power has shipowners hesitant to expand fleets rapidly. A wrong engine choice could shorten the economic life of a vessel with disastrous financial fallout. Therefore, the powering solu-

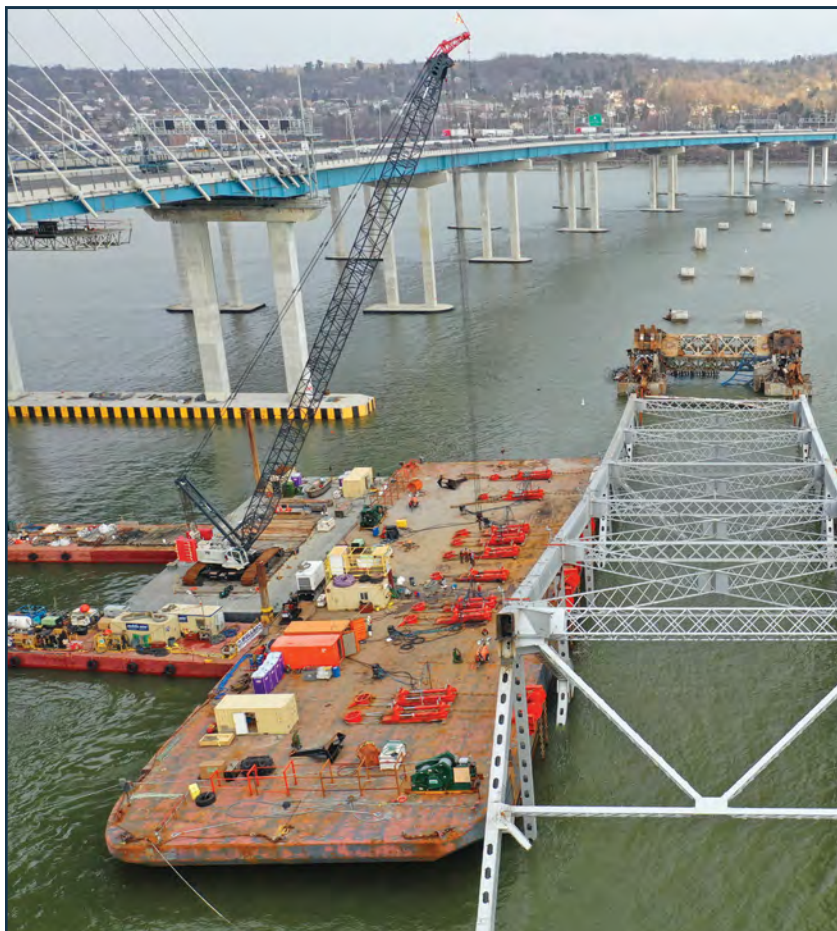
tion will add to vessel operating costs and boost the cost of transportation.

WILL THERE BE ENOUGH SHIPS?

According to the U.N. Trade and Development database, 93 percent of new ships are built in China, South Korea and Japan. While shipbuilders in China continue to increase their capacity, is it feasible to expect them to expand fast enough to deliver the number of new ships required for the energy transition?

Shipping industry challenges have been ignored in the transition debate. They must be addressed for it to advance.

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UPGRADES & DOWNGRADES: Jack

O'Connell



CRUISE MANIA

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CRUISE LINES ARE HAVING A GREAT YEAR, AND GUESTS - ALONG WITH SHAREHOLDERS - ARE BEING REWARDED.

It's a good year to be a cruiser. Or better yet, to own a cruise line. At the annual Seatrade Cruise Global convention back in April, the industry's largest, the mood was celebratory with record attendance, a record number of exhibits and record enthusiasm. "Happy Days Are Here Again" was the unmistakable message, and we couldn't agree more.

The industry is on a roll. No more pandemic. No more masks. No more vax checks or Covid tests. No more isolation. As a result, a record number of cruisers set sail last year – nearly 32 million, up two million from the pre-pandemic record set in 2019. Meanwhile, industry trade group CLIA (Cruise Lines International Association) is forecasting another two million plus passengers this year.

"The concept of pent-up demand is gone," declared Carnival President & CEO Josh Weinstein, meaning it's no longer "pent-up" but in full swing. Calling the current demand level "unprecedented," he added that bookings in 2025 were also at record levels and CLIA was forecasting a three-million-passenger increase next year.

THE WONDERS OF CRUISING

Barbara and I were part of that unprecedented demand, setting sail in March on a random cruise to the southern Caribbean. Why? Because we wanted to get away, have some fun, go somewhere we'd never been before, and because it was so cheap – proving once again the incredible value proposition that cruising is. Plus we hadn't been on a "big ship" in six years, favoring the smaller river cruises instead, and wanted to see if we still liked it.

We did. It was the *Celebrity Equinox*

– a premium experience and a line we'd never sailed on but had heard good things about from seasoned cruisers whose opinions we respected. Not too big, not too small. Just under 3,000 passengers (well, too big for my colleague Tony Munoz). Excellent service, excellent food, smaller accommodations than on a river cruise (but hey, you can't have everything), and lots of Canadians, which surprised me. We traveled with a large group of friends, so there was always someone to talk to.

Starting from Port Everglades on Florida's east coast, we sailed mainly east and then southeast, winding up in the Atlantic time zone. We island-hopped from Antigua to Barbados to Martinique, St. Lucia and St. Kitts. Nearly to South America and back, a 2,500-nautical-mile round-trip.

How many of those islands have you been to? We hadn't been to any, which is why the itinerary appealed to us,

Starting from Port Everglades on Florida's east coast, we sailed mainly east and then southeast, winding up in the Atlantic time zone. We island-hopped from Antigua to Barbados to Martinique, St. Lucia and St. Kitts. Nearly to South America and back, a 2,500-nautical-mile round-trip.

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so we took guided tours at every stop, taking in the scenery, the cuisine, the local history and culture and flora and fauna. These are all volcanic islands, springing up from the sea and featuring mountains and long-dormant volcanoes.

Have you ever seen a mongoose? We did – in St. Kitts, dozens of them near a crowded beach, scurrying around like squirrels, looking for worms and rodents and reptiles to eat. Not surprisingly, there are no snakes on St. Kitts nor on most of the other islands we visited.

Cruising is all about exploration and discovery. We learned that all of these islands were centers of sugar production – and its major byproduct, rum – beginning in the 17th century and

continuing pretty much uninterrupted until the late 19th century when bigger islands like Cuba and Jamaica took over. Today, they depend largely on tourism to get them through the year, with the main cruise season lasting from December to May when there are no hurricanes.

The most recent, Hurricane *Beryl* in early July, a Category 5 monster, unfortunately wreaked havoc on Barbados and most of the other islands we visited. It's a fact of life to the natives who live there and a constant threat, but hardly seems to diminish their sunny outlook.

Barbados was the biggest and by far the most prosperous of the islands, and it still produces some sugar (and lots of world-class rum) but generates

most of its income from mainstream activities like banking and real estate and, of course, tourism.

It's also known for its cuisine, and in that regard we were fortunate to have our good friends Paul and Charlotte, experienced cruisers both, with us. They had visited Barbados many times and guided us to a restaurant in Bridgetown called Changers, at a beautiful site overlooking the water and which we would never have found on our own. I had grilled barracuda for the first time and enjoyed a bottle (or was it two?) of Banks beer – the local favorite, brewed in Barbados.

Among the colorful characters we met along the way – and there are always colorful characters on cruises – was Ron, a 90-year-old, long-time

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Celebrity cruiser who had just lost his wife of 62 years and was traveling with his daughter. He introduced himself in the Sky Bar one night, *sans* daughter, and explained to us that the secret to a long life was a daily Belvedere martini. He was at the bar every night.

Shane, our tour guide on St. Kitts, was another. Barbara picked him out of a line of guides with signs advertising their services as we exited the ship (she has a shrewd eye), and he turned out to be a gem. Took us around in his 12-passenger, air-conditioned white van (just the two of us) and showed us places both on and off the beaten track, including the beach where we saw the mongooses and had lunch. He even took us by the house where he grew up and where his mother still lives. She came out to greet us and reminded him to mind his manners.

A third character was a big, grizzled farmer with a deep voice and thick fingers from western Saskatchewan named Tim. He was travelling with a group of fellow Canadians, doing a “back-to-back,” meaning they’d stay on the ship when she docked in Port Everglades and go on her next voyage out, this one to the “ABC islands.” I know you savvy *MarEx* readers know what the ABC islands are, so I won’t bother naming them.

We docked in Martinique on a Sunday and took a bus ride to a small seaside town when it started to rain. Across the street from the plaza where

the bus parked was a Catholic church – the Church of St. Henri – and there was a Mass going on. It was in French with English subtitles on two elevated screens, one on each side of the altar. The church was packed, unlike most other churches in the world. We ventured in, partly out of curiosity and partly to get out of the rain, and arrived just in time for the sermon (and the collection basket). We wound up staying till the end, along with several other cruisers. When we emerged from the church, the rain had stopped.

Such are the wonders of cruising. One surprise after another. One new experience after another. Everything taken care of – meals, drinks, lodging, transportation, excursions. All you have to do is show up. The biggest decision you’ll make each day is what to wear to dinner that night.

POSTSCRIPT

Celebrity, the line we cruised on, is part of the Royal Caribbean Group (NYSE: RCL), whose other brands include Royal Caribbean (its contemporary, family-oriented, mega-ship offering) and – on the luxury end – Silversea, featuring much smaller vessels and highly personalized service.

Celebrity is the in-between brand, its so-called “premium” offering. The iconic “X” on the stacks is the Greek letter “chi” (rhymes with “sky”) and represents the first two letters of Chandris, the name of the Greek

family that founded the company. Even today, almost all the officers on Celebrity ships, including the one we sailed on, are Greek.

The three Royal Caribbean brands are having a banner year, and RCL stock is up nearly 50 percent year-to-date at a recent \$168, easily outperforming the market as well as its two major competitors, Carnival and Norwegian.

In a recent *Barrons* article, Citi’s James Hardiman says, “Royal Caribbean is our top pick across the leisure and travel sector as the company has the best assets, the best management team, and the best balance sheet to capitalize on the moment that the cruise industry is having.”

He adds that cruise passengers are getting more bang for the buck as travel prices have skyrocketed: “The price of a cruise vacation relative to a comparable land-based vacation/hotel stay is as wide as it has ever been, and has expanded significantly since the onset of the pandemic. We would argue that this gap should be smaller than ever given significant advancements made to the cruise experience and, conversely, deteriorating customer satisfaction with traditional hotels/resorts.”

Couldn’t put it better myself. Look for continued value in the cruise experience and in cruise stocks like RCL, and happy sailing!

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> Education Underway

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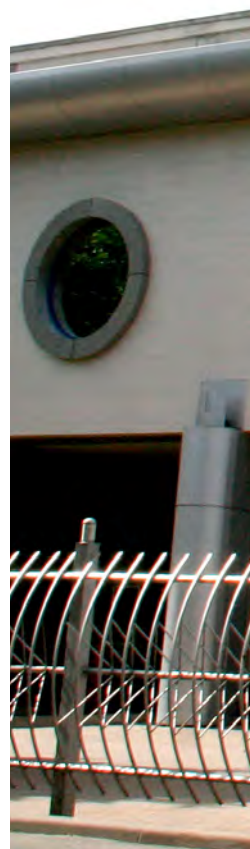
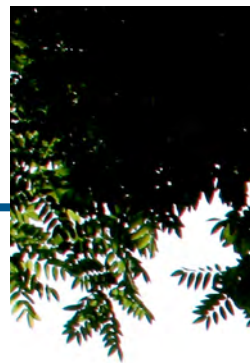
BY CHAD FUHRMANN

To state the obvious, the maritime industry is struggling to sustain qualified seafarers in sufficient quantities, struggling against a backdrop of evolving technology and myriad commercial concerns such as ESG. This chaotic patchwork is framed by what can only be described as an all-out panic as international leaders react (finally!) to the realization that the maritime industry is critical for economic stability and security.

Color the industry unsurprised, having predicted this seafarer scarcity for decades.

Over twenty years ago, the American Maritime Officers' Union (AMO), via its STAR Center training division, developed comprehensive programs to address the issue. These programs are designed for individuals on both deck and engineering license paths and include an Officer in Charge of an Engineering Watch (OICEW) curriculum which, according to Director of Training, Captain Gerard Pannell, "will reopen the hawsepipe path, addressing the burden imposed by increased STCW requirements and removing a potential barrier to advancement."

The mariner shortage is recognized as a





“Even being under conditions of war, NUOMA continues to take all possible measures to ensure the quality of education and to achieve its maritime objectives,” states Dr. Miyusov, one of which is to “build a bridge” between people’s desires to obtain qualifications and the needs of the maritime labor market.



critical challenge for the industry globally, significantly impacting supply chains and economic stability, but it’s not just about filling open roles on board. Better-trained and highly skilled professionals are required to navigate the complexities of modern maritime operations. The problem is you can’t get experience without getting the job, but you can’t get the job without experience.

Innovations across the training and education spectrum mirror those of the industry itself and offer potential solutions. With a comprehensive online infrastructure, Maritime Trainer, for example, espouses a strategy integrating customized training with the evolving needs of the industry. Specializing in bespoke solutions, Maritime Trainer “expands the knowledge and skills that seafarers require in a cost-effective manner, providing a holistic and blended training experience,” says Captain Ozgur Alemdag, CEO.

Meanwhile, despite being

caught in the middle of the Russia-Ukraine war, Rector Dr. Mykhaylo Miyusov and his team at the National University of Odessa Maritime Academy (NUOMA) are leveraging innovation to maintain a healthy maritime officer training program. “Even being under conditions of war, NUOMA continues to take all possible measures

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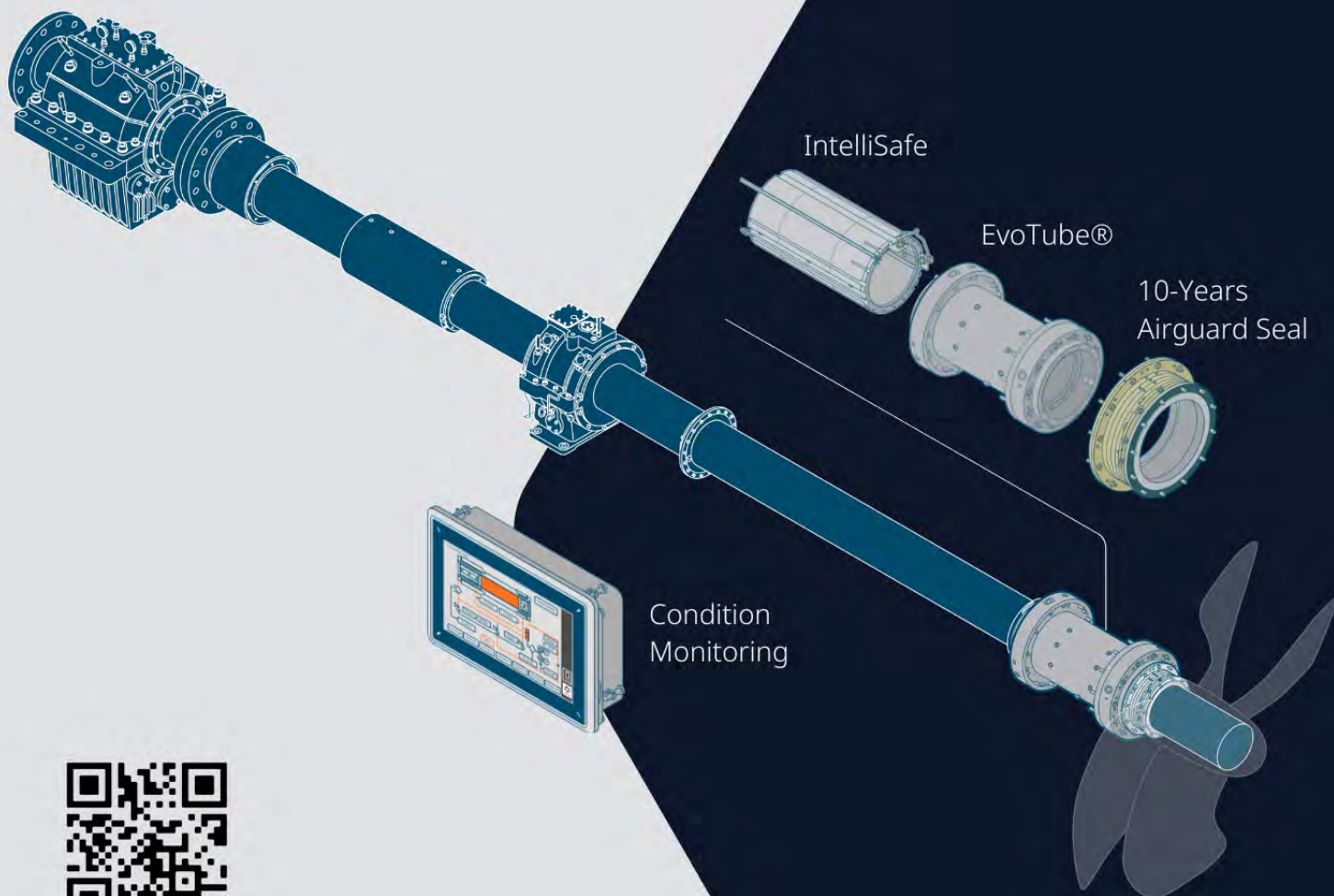
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ACADEMIES & INSTITUTES

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to ensure the quality of education and to achieve its maritime objectives,” states Dr. Miyusov, one of which is to “build a bridge” between people’s desires to obtain qualifications and the needs of the maritime labor market.

The Diversity Challenge

The pace of change in the maritime sector continues to accelerate. Innovation is pushing the technical boundaries of shipboard systems, and the slope of the learning curve is becoming dangerously steep.

However, as learning tools are advancing, the profile of the typical mariner appears to be finally shifting as well. Anecdotally, one U.S. East Coast vessel operator notes that the average age of its vessel captains dropped from 67 to 33 in less than three years! While that may be exceptional, it illustrates the trend toward younger mariners, who provide a much different perspective on technology and learning styles.

Training providers such as MarinePALS realize that a paradigm shift is required to better equip the future maritime industry. “The major challenge is that many companies in the industry have historically looked at training from a minimum compliance viewpoint rather than from the perspective of resilience and growth,” says Founder & CEO, Captain Pradeep Chawla, pointing out that the maritime industry spends less than half of other high-hazard industries on training as a percentage of operating costs.

Modern training methods must be adapted for a new generation, but maintaining motivation among these trainees can be challenging. Maritime Trainer’s Alemdag points out that younger learners have different expectations: “As digital

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Global shipping companies reduced speeds to 10 knots or less in 2023.

Photo by John Calambokidis

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MSC - NingBo Ocean Shipping Co. - NYK Ro-Ro
Ocean Network Express - OOCL - OSG Ship Management
Swire Shipping - Yang Ming - Wallenius Wilhelmsen

Gold Level

COSCO - Evergreen - Hyundai GLOVIS - K Line - Maersk - Mol ACE
Navquim Ship Management - Scorpio Group - Stolt Tankers - Wan Hai

Blue Sky Level

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MARINEPALS FOUNDER & CEO,
CAPTAIN PRADEEP CHAWLA.



Newly minted seafarers are faced with technology that will continue to evolve throughout their careers. As MarinePAL's Chawla puts it, "Seafarers will have to get used to continuous learning and rapid changes in technology. Continuous professional development (CPD) will play a vital role as seafarers not only keep up to date but also maintain the credentials necessary to prove their qualifications."

natives, they tend to favor interactive and gamified learning experiences over conventional approaches."

Training providers must incorporate modern elements that pose unique challenges with real-time feedback to keep trainees engaged. Innovative methods include micro-training, virtual reality (VR) simulations and interactive e-learning. The key, according to Captain Jon Kjaerulff, Director of Business Development at the Maritime Institute of Technology and Graduate Studies (MITAGS), "is to help mariners and employers view training as an investment, not an expense."

Of course, diversity is another major challenge, and while many shy away from the perceived issues surrounding diversity, equity and inclusion (DEI), NUOMA embraces them by creating equitable conditions, an effort it initiated long before the Russian invasion. In accordance with the policy of the IMO, the involvement of women in particular is strongly supported. Furthermore, a significant strength of Ukrainian seafarers in international shipping is their service as part of multinational crews, emphasizing respect and tolerance for crew members of other nationalities, cultures and religions.

Cutting through the positives of accessibility and inclusiveness, however, is safety, the core concern of many underrepresented groups. In particular, women

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ACADEMIES & INSTITUTES



AMO STAR Center has undertaken a significant effort to update the content and delivery of its professional development courses beyond the engineering hawspipe pathway. Its expanded CPD programming includes bridge-oriented skills such as emergency shiphhandling, electronic navigation and dynamic positioning. It's Captain Pannell's belief that "This will lead to enhancing the skills of our AMO officers by providing CPD that is relevant, practical for today's real-world requirements, and for the vessels of the future."

and LGBTQIA+ are not well represented in the industry, due in no small part to the fundamental issue of safety.

"These seafarers may have faced a variety of difficulties on board including harassment and a general lack of acceptance," states MarinePALS' Chawla. For this reason, training organizations have developed programs on sexual assault and sexual harassment (SASH), mental health issues, suicide prevention and other topics to introduce seafarers to viewpoints with which they may not be familiar or comfortable.

Maritime training institutes have long understood that diversity and representation are crucial to strengthening the industry, and this diversity extends to the accessibility of the training platforms themselves. Modern training programs are designed to be inclusive and accessible, providing materials in multiple languages and ensuring user-friendly platforms for individuals with varying levels of digital literacy.

"Everybody Wins"

Attracting new and diverse talent is only one part of the effort necessary for maritime's growth.

Newly minted seafarers are faced with technology that will continue to evolve throughout their careers. As MarinePAL's Chawla puts it, "Seafarers will have to get used to continuous learning and rapid changes in technology. Continuous professional development (CPD) will play a vital role as seafarers not only keep up to date but also maintain the credentials necessary to prove their qualifications."

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Maritime TOAR Assessments, out of Rhode Island, leans heavily on simulation training and assessments to improve mariners' perception and judgment of dangerous situations. Simulation improves training outcomes compared to conventional on-board training exercise and creates more collaborative, critical thinking.

NUOMA supports adaptability and collaboration as keys to a modern workforce regardless of conditions. Despite martial law, Dr. Miyusov and his team continue to participate in international activities and organizations as Ukrainian delegates to the International Association of Maritime Universities. NUOMA ensures that innova-





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MITAGS' Kjaerulff reminds us, however, that regardless of the courses being taught or the delivery method employed, the overarching goal of training has never changed – and never should. Keeping ships safe and protecting the environment require highly trained professionals. “We align ourselves with industry players and people who want to be the best and are always looking for ways to do better,” Kjaerulff says. “When ships come home safe and there are no accidents, everybody wins.”

tion remains a crucial part of its evolving curricula including greenhouse gas reduction, alternative fuels, autonomous vessels and cybersecurity.

To be certain, the meaning of “competence” has evolved well beyond what might be considered traditional seafaring skills. In addition to technical literacy, these skills now include vocational aptitude, personality profiles, maritime English proficiency and comprehensive onboard training encompassing cultural integration and SMS.

MITAGS' Kjaerulff reminds us, however, that regardless of the courses being taught or the delivery method employed, the overarching goal of training has never changed – and never should. Keeping ships safe and protecting the environment require highly trained professionals. “We align ourselves with industry players and people who want to be the best and are always looking for ways to do better,” Kjaerulff says. “When ships come home safe and there are no accidents, everybody wins.”

Industry 4.Ocean

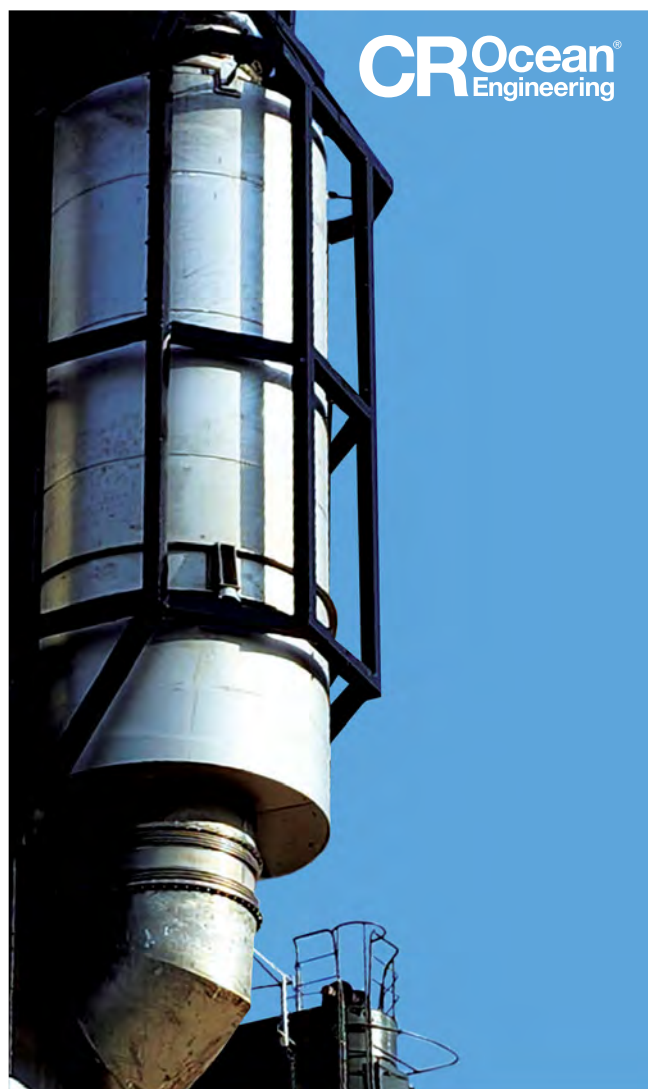
Today, we thrive in the chaos of what many consider the Fourth Industrial Revolution, a revolution characterized by a blinding pace of innovation, increased scrutiny of ESG issues and equal parts fear and anticipation of growing digitalization and autonomy.

The maritime sector is quickly becoming a brave new watery world with brand-new adventures and challenges.

Training providers navigate a landscape marked by rapid technological advances, evolving industry standards and shifting workforce demographics. The integration of advanced technologies like AI, VR and machine learning into training requires a significant investment of time and resources but simultaneously offers unique and malleable solutions to emerging issues.

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ANGLO-EASTERN



SHIP MANAGEMENT



AT A GLANCE:

Anglo-Eastern Ship Management

Founded: 1974

HQ: Kowloon Bay, Hong Kong

CEO: Bjørn Højgaard

Offices: 29

Employees:

37,000 seafarers,

2,100 shoreside

Vessels Managed:

~700 (full technical management),

~500 (crew management),

~1,000 (project management)

ANGLO-EASTERN



SHIP MANAGEMENT

C E L E B R A T I N G

By sticking to its core competencies and “doing the right things the right way,” Anglo-Eastern has achieved an enviable record of success.

BY TONY MUNOZ

“SHIP MANAGEMENT IS about like-minded shipowners pooling their resources around certain quality standards,” says Anglo-Eastern CEO Bjørn Højgaard, “and we want to be the safest, most reliable and highest quality provider.” Sounds surprisingly simple, doesn’t it? But it’s really a tall order.

Founded in 1974 in Hong Kong by Englishman Peter Nash, Anglo-Eastern was one of the earliest ship management companies. It didn’t start out that way, but it soon became apparent to Nash and others that companies would pay for someone else to manage their assets – in this case, ships. A new industry was born.

A successful management buyout in 1998, led by current Chairman Peter Cremers, followed by a merger with U.K.-based Denholm Ship Management in 2001, established the company as we know it today. That was followed by an even bigger merger in 2015 – this time with Hong Kong-based Univan Ship Management – that brought Højgaard, who was running Univan at the time, into the fold.

More recently, Anglo-Eastern entered the cruise sector with the acquisition of Cruise Management International in 2022 and earlier this year agreed to purchase Euronav Ship Management Hellas, giving it a strong foothold in the Greek market, not to mention Euronav’s around 60 tankers.

SETTING THE STANDARD

Today, Anglo-Eastern (the name refers to its Anglo-Saxon roots and Hong Kong base) is among



the biggest ship managers in the business, and it may be the best. With about 700 vessels under full Technical Management (meaning everything from crewing and training to safety and compliance), 500 more under Crew Management and roughly 1,000 special projects over the years (supervising drydocks, retrofits, newbuilds and the like), it's been setting records for decades.

But size is not the goal. Being the safest, most reliable and highest-quality provider is. And in that regard, Højgaard says he is fortunate that the company is privately held and the three large shareholding families, when he meets with them at board meetings, don't start off with, "Have we got more ships" or "What's the bottom line?" but rather, "Can we still be proud of the name? Are we doing good with our people and are we developing standards and lifting the game?"

It's not that they don't care about size or profits, of course. It's simply that they believe profits are something you get from doing things well, from doing things the right way. "So let's focus on doing things well rather than focusing on the profit" is the message. Profit is a byproduct of all the rest. Profit comes from having high

standards, pushing the envelope, not being satisfied with the status quo.

It also comes from having good people – up and down the ranks. Højgaard is proud that he's surrounded by master mariners like himself – along with ex-captains, ex-chief engineers, naval architects and specialists in every conceivable area.

"We're very much a technically focused ship management company," he says. "Engineering and technology are in our DNA. We believe in science, in getting to the bottom of things, analyzing and sticking with the facts. Our clients value our technical expertise, our competencies and our experience. And they look to us for guidance on a whole range of issues, particularly the ongoing energy transition and the digital revolution."

Further supporting this effort is an extensive base of training centers, particularly in India, that ensure an adequate supply of properly trained, fit-for-purpose seafarers. The first – the Anglo-Eastern Maritime Training Centre – was established in Mumbai in 2000. That was followed by the Anglo-Eastern Maritime Academy in 2009 and the state-of-the-art Anglo-Eastern Fleet

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SHIP MANAGEMENT



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Performance Centre in 2021, part of the digital revolution and designed to leverage data to improve overall fleet safety, performance and efficiency.

The company sources its seafarers mainly from India and the Philippines with roughly 70 percent from India and 20 percent from the Philippines.

“We’re very committed to continue to recruit 90 percent of our seafaring roster from those two countries,” Højgaard says. “We basically have a principle that we want a maximum of two nationalities on each ship. And the reason is our experience just shows it works better if there is a similar culture or two similar cultures rather than a whole host of different cultures. We recognize that DEI is very important these days, but I always say if you’re in a meeting and everyone says the same, then you’re definitely in the wrong meeting. But if you’re in a meeting and everyone says something different, then you’re probably also in the wrong meeting. So you’ve got to find a good middle ground, a balance.”

Proper training is just one component of Anglo-Eastern’s commitment to its seafarers. During the Covid crisis, it went above and beyond to ensure its crews were relieved on time and returned home on time. Sometimes that meant chartering flights because there were no scheduled flights available, or paying exorbitant sums for tickets on scheduled flights when they were available.

“We have an exceptionally good client base,” says Højgaard, “and almost all of them took the position that, come hell or high water, we’re going to get people on and off the ships when they’re due, even though it may cost a lot.”

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SHIP MANAGEMENT

demonstrating that care by showing it had their backs during times of crisis. That's what good ship managers do.

NAVIGATING THE FUTURE

As the company celebrates its 50th year, Højgaard says his role is to make sure in the next ten years it continues doing the same quality ship management for the best and most discerning shipowners in the world. There's no thought of branching out or doing different things.

"We're a ship management company at the core," he states, "and we're going to continue to be that. The strategy is very much about staying in private hands under the guidance of the three major shareholding families."

Given the changing nature of the industry and the ship management business, he anticipates business will continue to grow – perhaps at an accelerated pace – as more and more owners shift the increasing burden of managing their fleets to experienced and competent ship managers. Expanding and often conflicting regulations, the rapid pace of the energy transition and the digital

revolution all contribute to the growing complexity of running ships.

It's a headache, all right, and more and more owners are recognizing the value proposition that ship management companies offer.

"It's not very different than any other business," explains Højgaard, "in the sense that if I can produce something for \$80 that you think is worth \$100, then if I sell it to you for \$90, I get \$10 and you get \$10. It's that simple, really. If I can provide a service to you that you think is more valuable than if you had to do it yourself, and if I can do it in a way that leverages the scale and the global presence and the depth of training centers and crewing centers that I have around the world, then it's a win-win situation."

As Anglo-Eastern enters its second fifty years, the winning streak continues.

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TONY MUNOZ is Founder, Publisher & Editor-in-Chief of *The Maritime Executive*.

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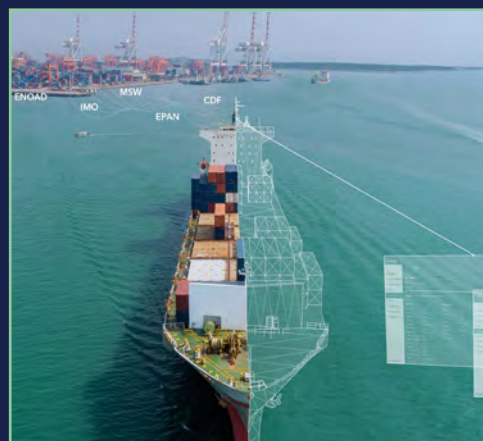
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Book a meeting



A portrait of Bjørn Højgaard, CEO of Anglo-Eastern Ship Management. He is a middle-aged man with short, light brown hair, wearing a dark navy blue blazer over a white button-down shirt. He is seated at a light-colored wooden desk, leaning forward with his arms crossed. He is wearing a black smartwatch on his left wrist and a black ring on his left ring finger. The background is an office setting with a light-colored wall, a framed picture on the left, and a potted orchid with purple flowers on the right.

Bjørn Højgaard,

CEO, Anglo-Eastern Ship Management

A master mariner and lifelong lover of the sea, Højgaard is committed to helping shape a better maritime future – for both Anglo-Eastern and the entire industry.

BY TONY MUNOZ



TME EXECUTIVE INTERVIEW

BJØRN HØJGAARD, CEO, ANGLO-EASTERN SHIP MANAGEMENT

Let's start with you, Bjørn. Tell us about yourself – your background and education and how you found your way to the maritime industry.

I grew up in the rural part of Denmark as a very normal, middle-class child. My parents were both public school teachers. They had a stint in Greenland as teachers, so I spent a couple of years there as well. I had no relation to the sea – either through family or otherwise – but I just loved it from a very young age. I got into the water any chance I had. I started windsurfing and scuba diving when I was 10 and knew very early on that I wanted to work with the sea and that's how I ended up in shipping.

You served in the Danish Royal Navy, right?

Yes. After college, I joined the navy and learned the ropes and then switched to the commercial side. I was fortunate to join Maersk which, being from Denmark, was sort of the obvious place to try your luck. Maersk was very good to me, gave me opportunities to try things out both at sea and on shore, and I eventually captained one of their largest container ships and became Managing Director of a major Maersk subsidiary.

In 2007, I decided it was time to try something different. I was living in Hong Kong at the time and wound up in ship management, which was an industry I only knew from the perspective of a shipowner and operator. I didn't know the concept of *outsourced* ship management, but I absolutely loved it.

I spent the first four years in the industry with Thome, which is Norwegian-owned but Singapore-based. I returned to Hong Kong in early 2012 to head up Univan. Three years later, Univan merged with Anglo-Eastern where I continued as CEO. And that was nine years ago, so quite the journey. Time flies, doesn't it?

Indeed it does. Tell us about the history of ship management – of the industry itself. When did it start and who came up with the idea?

It's a good question. I mean, ship management as we know it today probably started in the early Seventies, and there were a number of incumbents. Univan, founded by Captain Charles A.J. Vanderperre, was one of them. He was sort of the father of ship management. He passed away in 2009 at the age of 87 – before I joined in 2012 – and he was still running the company literally from his deathbed. He was in a hospital in Thailand and people were flying from Hong Kong to Thailand to get the checks signed once a week to pay the expenses of the company.

Anglo-Eastern, started by Peter Nash in 1974, was another early entrant, and Wallem was into it as well.

The outsourcing model was really in response to

owners who wanted to trade assets and didn't want the trouble and expense of having their own organization that they needed for maybe two years, and then a year when they don't need it, and then there's another two years when they do. So having a little bit of flexibility in terms of being able to buy and sell assets without scaling your organization rapidly up and down is a big advantage of using ship managers.

Has the business of ship management changed much over the years?

The last five years have seen dramatic change in shipping and certainly in ship management. The first 35 years of my career we had one kind of engine with one kind of fuel or maybe two. But in the last five years we've seen scrubbers, low-sulfur fuels and regulations, a future defined by maybe ammonia, methanol or hybrid engines, all kinds of energy-saving devices and incredible advances in connectivity and digitalization.

So ship management has become exceptionally complicated and complex. The green energy transition and the digital transformation are like the defining themes overlaying ship management today, which is not to diminish the foundational elements of having good people fit for purpose, coming back to the same ship or fleet of ships again and again, people who understand the requirements of the trade, the needs of the cargo and the needs of the charterers and owners.

We note three different kinds of ship management services listed on your website – Technical Management, Crew Management and Project Management. What's the difference between them?

Yes, it's not terribly well understood. Technical Management means full-service ship management. It means we're responsible for the safety of the ship and the cargo and the people on board. We're responsible for the manning and training on board. We're responsible for carrying the cargo from point A to point B safely and reliably, and we're also responsible for making sure that the ship is kept up to snuff in terms of standards and maintenance and that it has valid certificates throughout its lifetime.

That's the sort of all-encompassing service offerings of a ship manager.

But some owners want to keep most of that within their own organization and need help with only the Crew Management bit. Maybe they have five, 10, 20 ships. And that's where we provide just the hands, if you will, making sure we put together a team of officers and ratings who are certified and fit for that particular ship and who then



TME EXECUTIVE INTERVIEW
BJØRN HØJGAARD, CEO, ANGLO-EASTERN SHIP MANAGEMENT



get trained in that shipowner's document of compliance, his safety management system, his way of doing things. So it's a slightly different model.

Today we have about 700 ships in ship management, which is full technical ship management. We have another 500 or so ships in crew management. Sometimes all 21 or 22 or 23 crew are provided, sometimes only the officers, sometimes only the ratings.

The third leg, which you've seen on our website, is Project Management – really everything that sits outside but has to do with the technical aspects of ships. For instance, newbuilds and conversions, retrofits, energy-efficiency projects, drydock supervision. We've been doing this for the last 30+ years, and we've built or helped our clients build roughly 1,000 ships in yards all around the world.

So we're very much a technically focused ship management company. We don't get involved with the commercial side of the business – the chartering of ships, fixtures and the like. Most owners do that themselves.

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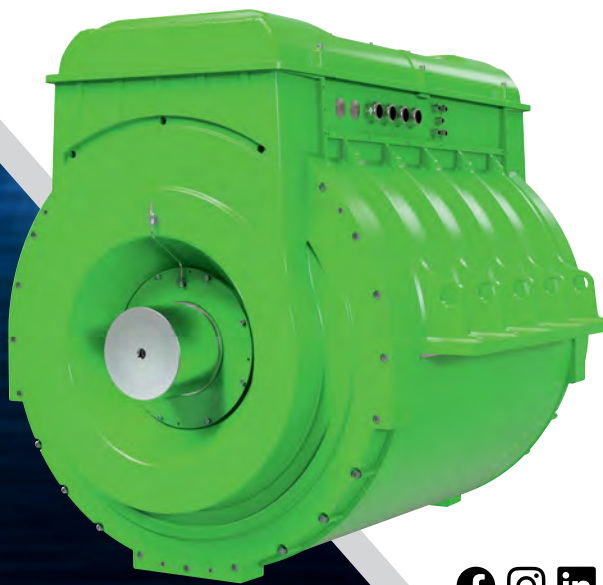
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TME EXECUTIVE INTERVIEW

BJØRN HØJGAARD, CEO, ANGLO-EASTERN SHIP MANAGEMENT

We're populated by former chief engineers, former ship masters and even architects. That's who we are and where we come from.

What percent of the global fleet is run by ship management companies?

I think it's a fifth or maybe even less than a fifth. Smaller ships would not be candidates. Coastal trade would not be candidates or only in rare cases. But if we consider ships above 10,000 tons deadweight, we have about 60,000 ships in the world, and of those I'd say 10 to 12,000 are managed by companies like Anglo-Eastern. Now we're not all in the "many-hundreds-of-ships" category. There are many ship managers out there with just 20 or 30 ships on the books.

However, given the increasing complexity of managing ships and the seismic changes over the last five years – partly technological and partly regulatory – I think having the scale and depth and breadth to manage that complexity, like we do, should be increasingly attractive to many owners and a wise choice. It's become much more of a technological and regulatory burden for owners, and I think many more will resort to outsourcing to ship managers.

"Doing the right things the right way." That seems to sum up Anglo-Eastern's values and differentiate it somewhat from others. What does it mean in practice?

Yes, that's something that very much permeates our company today. What it means is that, as a company, we're not an island. We don't exist in a vacuum. We're part of a bigger world, and we get from that world and we have to give back to that world, and we all like to one day hopefully leave the world a better place than when we entered it. And there's a lot we can all do on that journey through life.

As a company, we're basically trying to add value. Ship management at its core is putting together a bunch of elements, shaking the bag and hopefully what comes out is more valuable than what it costs to produce. And that extra value can then be given to the client. It can be given to shareholders. It can be given to staff. It can be given to seafarers. It can be given to suppliers. It shouldn't be just one party that benefits from all that value creation. It should be shared by everyone who is part of the journey, including the communities we work in.

So it sits very much in the DNA of the company that we should be doing things right and we should be doing the right things. And if we stick to that and do that consistently, then over time we find it builds trust and it builds understanding and it builds some emotional credit, which can then help to solve issues when they arise and challenges when they arise on the business side.

The other thing is, as I said before, we are captains, we



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TME EXECUTIVE INTERVIEW
BJØRN HØJGAARD, CEO, ANGLO-EASTERN SHIP MANAGEMENT

are chief engineers and naval architects. Engineering is in our DNA. We believe people by and large patronize our business because of our experience, our expertise, our competencies, our understanding of the technical intricacies of managing ships. So we keep saying, yes, let's make sure we do the right things, no shortcuts, and do it the right way.

How do you unwind? What do you like to do in your spare time?

I like to hike with my wife and our dogs. My people probably don't know this, but Hong Kong is an amazing place for hiking. We have 700 kilometers of pristine hiking trails in Hong Kong. It's only 28 percent built up. There's 72 percent of Hong Kong that's country parks and mountainous trails, and it's an amazing place to wind down and relax and recharge. That's the best relaxation for me.

I also have a little open motor boat and like to go out if the weather is nice and just find a secluded bay some-

where and drop anchor and swim and walk on the beach. That's sort of, again, connecting with nature, connecting with water, being out there. That's how I recharge my batteries.

Wonderful! One last question. Is Anglo-Eastern the biggest ship management company?

It depends on how you count. I think in number of ships, we might be. In terms of revenue, we're probably not because we don't have the breadth of services that some other companies do. Again, we're not a commercial operator. We don't try and do stuff that doesn't speak to our inner passion. We're very focused on keeping it to doing things that really resonate with the kind of company we are. And because of that, we're probably not the biggest.

It's also not important. I think what's important is to keep lifting the bar for performance, keep innovating, driving progress, building trust and making a better maritime future. That's really what this is all about.

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In a time of unprecedented change and challenges, more and more owners are turning to the experts – ship management companies – to operate their fleets.

BY PAUL BENECKI

The general contours of modern shipping took shape in the 1950s when Greek owners made their fortune, open registries took off and the first container ship entered service. The most important changes of that era remain today – bunker fuel is still the dominant energy source and boxships are still growing – but it's safe to say that the business has become much more complex.

Regulations are far more extensive and differ between regions. Geopolitical disruption has become the norm rather than the exception. Emissions concerns are driving changes in fuel composition and type, creating more complexity in the engine room.

To make the most of these changes, many owners have turned to outside experts to manage the day-to-day functioning of their vessels. Third-party ship managers position themselves as independent advisers, operators and HR departments, capable of handling all of a ship's technical needs. Since the details of shipping are getting more complex every year, ship managers say their expertise is going to be more important than ever in the decades to come.

CALLING IN THE EXPERTS

It's an act of trust to hand over a multimillion-dollar asset to someone outside your company, but the biggest ship managers have a long track record of success – and

there are business advantages that make third-party management attractive.

Big shipping companies have extensive internal resources, but the average shipowner isn't a goliath like CSSC or Maersk. It's a family firm with half a dozen ships. A third-party ship manager gives that small owner access to the advantages of a bigger firm. A global-scale manager has more leverage in purchasing, draws on a larger pool of trained seafarers, has more technical specialists on staff and maintains a broader global presence. Many also bring deep expertise in a particular niche, like chemical tankers or ro/ros.

"Owners give their vessels to a third-party manager so they can focus on their core competence of managing their vessels commercially while the manager specializes in operating the ships efficiently and safely," says Wallem's Managing Director of Ship Management, Ioannis Stefanou.

Owners leverage a ship manager's scale to their advantage, and the biggest names in the management business are scaling up. Market leader V.Group has just been sold to a consortium of blue-chip private equity investors, who plan to help it expand. Cyprus-based Columbia Shipmanagement is growing internationally through regional partnerships like its recent agreement with American shipping giant Crowley. And Norwegian/Singaporean manager OSM Thome has completed a reorganization after its merger last year and is pursuing growth in the cruise sector through an agreement with SMG.

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PHOTO: BSM.

MANAGING CHANGE

Big-company advantages are even more attractive in an era of disruption and change.

Shipowners have new challenges to meet, from maritime security to climate action to staffing shortages. For a large manager with hundreds of ships, it's easier to build up technical and compliance expertise, and the upfront costs of new adaptations – like building high-tech operations centers or training seafarers on green fuels – are spread across a larger fleet.

“Smaller shipping companies and operators will have it more and more difficult to meet industry requirements as these challenges require a large infrastructure to be tackled,” says Ian Beveridge, CEO of Bernhard Schulte Shipmanagement (BSM). “A ship management partner with extensive know-how and the right network will be of vital importance.”

The Red Sea crisis is the most pressing issue on the list. Yemen's Houthi rebels have struck at least 30 ships near the Strait of Bab el-Mandeb, sinking two and killing four seafarers. The circumstances in the Red Sea leave owners with two choices: Either take security precautions and run the gauntlet or avoid the risk and go the long way around the Cape of Good Hope.

Every executive interviewed for this story recommended taking the safety of the Cape route if at all possible. But for vessels that have to go into the Red Sea, the ship management industry has adopted a set of best practices to control risk.

“The safety and security measures for those few vessels that transit have been significantly increased,” notes Olav Nortun, Chief Operating Officer at OSM Thome. “Industry-standard examples include tighter bridge security, safe mustering points in case of aerial

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threats, threat assessments by external experts, use of armed guards and use of satellite geofencing services for detection and reporting.”

The next challenge on the priority list is a long-term issue – crewing.

Ship managers see a persistent shortage of qualified seafarers, particularly officers. The war in Ukraine has reduced the availability of skilled Russian and Ukrainian mariners, and many senior officers from all seafaring nations retired during the pandemic. As the current generation departs the labor market, “knowledge bleed” and loss of institutional memory are growing concerns.

“It’s no secret that there’s an on-going shortage of well-trained crew, which we anticipate continuing until 2027/2028,” says René Kofod-Olsen, CEO at V.Group. “Fewer people want to spend their careers at sea, and as people retire from the industry we risk losing some of the skills that help to keep the engine room of global trade running.”

OSM Thome has responded to the manning challenge by bringing its crewing operations in-house, from recruitment to training to medical care to career-long development. This helps keep retention high, says Thome, and is part of the reason why the firm has one of the largest crew pools in the industry.

“What sets us apart from other ship managers is that we like to directly employ our seafarers and manage all the HR-related tasks,” explains OSM Thome’s Nortun. “We invest in our training centers and equip our personnel with the skills needed to navigate digital and new fuel technologies.”

Those new fuels come with a learning curve. V.Group’s Kofod-Olsen says that green energy sources will require seafarers to get new certifications and will bring more risk and more expensive equipment on board working vessels. The industry will also have



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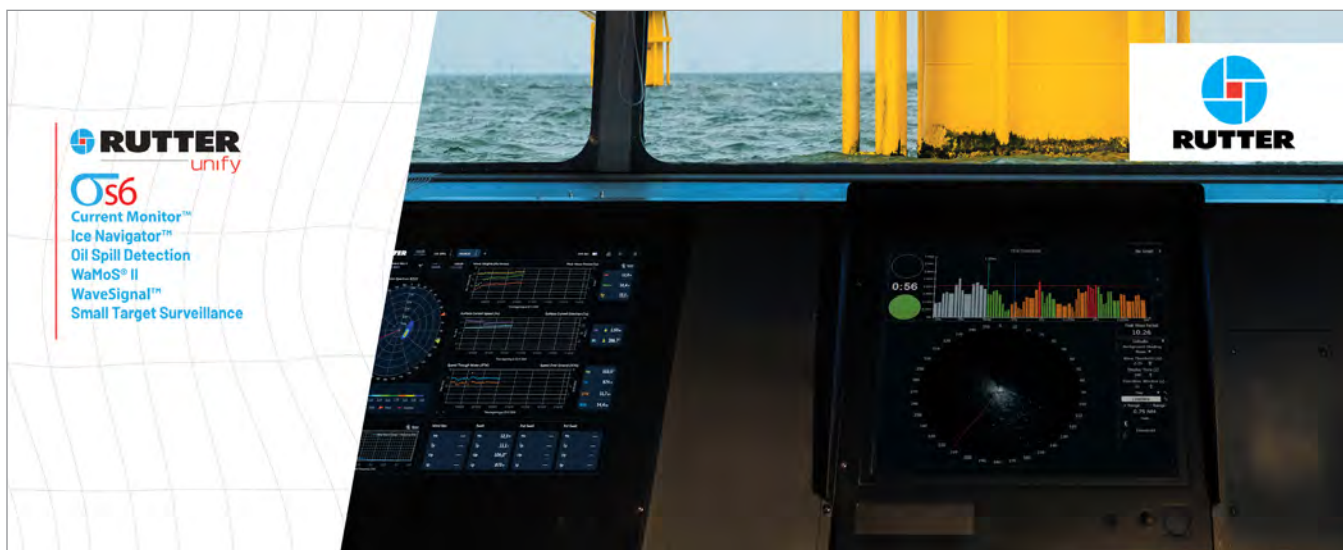


PHOTO V.GROUP.

to adapt to a patchwork of new fuels, engines and operating protocols, which will require a change in mindset after a century-long stretch of (relatively) predictable bunker fuel.

“Ship management will require building capabilities for handling vessels with vastly varying technologies,” says OSM’s Nortun. “While we see progress in the training of seafarers on LNG dual-fueled vessels, there remains a skills gap in emerging fuels such as ammonia, methanol and hydrogen.”

Hong Kong-based ship manager Wallem is already preparing for this future-fuel revolution. “We are training our seafarers and our shore-based team for dual-fuel vessels and looking into the added value that a company like Wallem brings,” says Wallem’s Ioannis Stefanou. “We always try to think of ourselves as the in-house technical team of the owner. We need to be ready to manage whatever fuels or vessels might come.”



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DIGITAL MONITORING

As the fuel landscape changes and decarbonization advances, compliance will become more costly.

Owners will need high-tech digital monitoring in order to keep their bottom line in the black, according to BSM. “Our goal is to digitize and streamline all compliance procedures,” says BSM’s Beveridge. “Low-emission fleets combined with efficient digital performance solutions and an intelligent strategy on how to comply with the latest regulations will be crucial to future competitiveness.”

Companies like V.Group, Wallem and BSM have integrated digital technology deep into their operations, and their teams can monitor vessel performance and provide shipowners’ staff with recommendations for improvement, often in real time. AI solutions are beginning to make their way into this space, and V.Group emphasizes the synergy between machine-learning techniques and ship management experience.

“Our Sentinel AI system uses a rich tapestry of data

Companies like V.Group, Wallem and BSM have integrated digital technology deep into their operations, and their teams can monitor vessel performance and provide shipowners’ staff with recommendations for improvement, often in real time. AI solutions are beginning to make their way into this space, and V.Group emphasizes the synergy between machine-learning techniques and ship management experience.

combined with machine learning to predict future events, saving costs and managing risks,” says Stephen MacFarlane, Chief Information Officer at V.Group. “It reduces the burden and risks associated with human data interpretation – and is based on V.’s extensive model of real-life vessel performance. This is not something you can do if you don’t have a wealth of digital heritage and historical data to call upon.”

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PAUL BENECKI is the magazine’s News Editor.

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IS THE JUICE WORTH THE SQUEEZE?

As the maritime industry grapples with stringent regulations to reduce greenhouse gas emissions, ammonia emerges as a potential darling alternative fuel, offering a solution devoid of carbon emissions during combustion. However, it's highly toxic and corrosive and must be stored at below-zero temperatures. Given the massive pros and cons of the substance, the industry is asking, "Is the juice worth the squeeze?"

BY SEAN M. HOLT

Ammونيا plays a crucial role in various industries, primarily in producing fertilizers. About 80 percent of ammonia globally is used to make fertilizers such as urea, ammonium nitrate and ammonium sulfate, which are essential for modern agriculture. Ammonia is also a precursor to many chemicals including the production of nitric acid for explosives, plastics and dyes.

Most ammonia production today relies on the Haber-Bosch process, developed in the early 20th century, to synthesize ammonia from nitrogen and hydrogen gases. This process is highly carbon-intensive and contributes significantly to global CO₂ emissions.

However, there's growing interest in sustainable production methods such as green ammonia, which is produced using renewable energy sources like wind, solar power, nuclear and electrochemical synthesis, directly producing ammonia from nitrogen and water using electricity.

Ammonia as a marine fuel offers several advantages and disadvantages. On the positive side, it doesn't produce CO₂ during combustion, making it a potential zero-carbon fuel when produced from renewable sources. It also has a relatively high energy density compared to other alternative fuels, making it arguably suitable for

Ammonia as a marine fuel offers several advantages and disadvantages. On the positive side, it doesn't produce CO₂ during combustion, making it a potential zero-carbon fuel when produced from renewable sources. It also has a relatively high energy density compared to other alternative fuels, making it arguably suitable for long voyages.

SHIP FUELS: AMMONIA



long voyages.

However, it's also highly toxic and corrosive, requiring stringent safety measures for storage and handling. While it eliminates CO₂ emissions, ammonia combustion can produce NO_x and N₂O (nitrous oxide, aka laughing gas), which need effective management to prevent environmental harm.

Significant investments are also required to modify existing ammonia bunkering and storage infrastructure.

FUEL FOR THOUGHT

Recognizing that ammonia is one of the most traded global commodities, Liam Blackmore, Decarbonization Coordinator at Lloyd's Register, emphasizes the need for safety and regulatory frameworks for its adoption as a marine fuel.

"Current global ammonia production is around 180

million tons per year, mostly for fertilizers," he explains.

"However, forecasts indicate marine fuel demand could reach 688 million tons of ammonia annually by 2050.

It should also be noted there are currently no marine type-approved ammonia engines on the market. However, IMO interim guidelines will be developed this year at the 10th session of Carriage of Cargoes and Containers (CCC10)."

Addressing ammonia's toxicity and safety concerns, Blackmore advises, "Besides hazardous area zoning, we're implementing toxic area zoning. Mitigation of the hazards will be presented through design, best practices, the hierarchy of engineering controls, judgment and standardization. The inherently safer designs will be achieved by eliminating or reducing hazards with the greatest impact achieved during the initial design phase."

Blackmore notes the environmental impact of N₂O

“The IMO has not given official approval to ammonia as a maritime fuel yet, but the momentum is there,” says Lim. He explains that major engine manufacturers and shipping companies are developing and testing ammonia-powered engines and vessels with significant progress being made by engine manufacturers like Wärtsilä and MAN Energy Solutions.

(nitrous oxide) and ammonia emissions through slippage is another concern: “Other considerations will be how to inspect, maintain and survey safely. Survey procedures will require Risk Based Design (stage 5), corrosion, cracking, detection and alarm systems, increased ventilation rates, equipment allocation and transparent, approved change management.”

Kevin Lim, Principal of the Singapore-based strategic advisory firm Blunomey, highlights the current status and challenges of using ammonia as a marine fuel.

“The IMO has not given official approval to ammonia as a maritime fuel yet, but the momentum is there,” says Lim. He explains that major engine manufacturers and shipping companies are developing and testing ammonia-powered engines and vessels with significant progress being made by engine manufacturers like Wärtsilä and MAN Energy Solutions.

“We already have vessels that can carry ammonia,” Lim states. “The vessels that’ve been carrying LPG obviously can be refurbished to carry ammonia. The

main challenge is not new infrastructure requirements but scaling up the existing infrastructure. Safe-handling procedures and technologies are being developed to mitigate risks. However, there’s still some way to go for crew members to feel comfortable handling ammonia on board vessels.”

Lim points out several technical challenges including the requirement for cold storage conditions: “You need a lot more storage space onboard, so that means only certain vessels are suited to adopting ammonia. Also, it must be stored below zero with a boiling point of -33.4°C . Ammonia is not very flammable but it’s highly toxic, necessitating stringent safety measures.”

Regarding infrastructure, Lim emphasizes the need to scale up existing facilities: “Many ports globally cannot handle ammonia. The distribution of bunkering facilities will need to be more evenly spread across shipping routes due to ammonia’s lower energy density compared to traditional, carbon-based fuels.”



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The Global Centre for Maritime Decarbonisation (GCMD) is a collaborative initiative in Singapore focused on advancing maritime decarbonization through innovative projects, partnerships and scalable solutions, states Wee Meng Tan, Chief Projects Officer.

GLOBAL CENTRE FOR MARITIME DECARBONISATION

The Global Centre for Maritime Decarbonisation (GCMD) is a collaborative initiative in Singapore focused on advancing maritime decarbonization through innovative projects, partnerships and scalable solutions, states Wee Meng Tan, Chief Projects Officer.

“We’re focusing on closing the gap in ammonia bunkering safety and planning for phase two development in Singapore,” he adds. “We’re simulating ammonia bunkering by transferring cargo from chemical tanks to understand the intricacies involved.”

This focus on safety and simulation is crucial as the organization prepares for the first ship-to-ship (STS) transfer of ammonia in Singapore’s port waters. “We’re closely following the development of interim guidelines by the IMO for the use of ammonia as fuel,” says Tan. “These guidelines will support the International Code of Safety for Ships using Gases or other Low-flashpoint Fuels (IGF Code).”

Market supply and demand for ammonia are expected to evolve with technological advances and infrastructure development. Ensuring a reliable supply of green ammonia will be crucial for its widespread adoption.

GCMD has a clear vision for adopting ammonia as a marine fuel. “We anticipate fully designed vessels with ammonia engines could be operational by 2026 to 2027,” Tan predicts. “These vessels will be equipped with all the necessary safety and handling features to ensure safe operation.”

Nonetheless, the economic considerations of ammonia production still need to be improved. “The current economics of ammonia production are challenging,” says Tan. “However, with increased investment and technological advancements, we expect the cost of green ammonia to become more competitive with traditional marine fuels. Our long-term vision is to establish a sustainable and resilient supply chain for ammonia, enabling the maritime industry to transition to a zero-carbon future. By 2027, we aim to see significant progress in adopting ammonia as a marine fuel.”

STRATEGIC INSIGHTS

Punit Oza, Founder of Maritime NXT and Director of



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Punit Oza, Founder of Maritime NXT and Director of Quarks Asia, highlights ammonia's potential. He emphasizes its geopolitical benefits, noting it can be produced globally, unlike fossil fuels concentrated in specific regions, thus reducing geopolitical tensions related to energy supply.

SHIP FUELS: AMMONIA

Quarks Asia, highlights ammonia's potential. He emphasizes its geopolitical benefits, noting it can be produced globally, unlike fossil fuels concentrated in specific regions, thus reducing geopolitical tensions related to energy supply.

"Ammonia allows the maritime industry to go beyond pure geopolitical aspects and diversify the sources of this fuel," explains Oza. "Green ammonia, produced from electrolyzing water and separating hydrogen and oxygen, can be built across the globe wherever required. This decentralizes production, making it more resilient and less dependent on specific regions."

Regarding infrastructure and handling, Oza points out that the existing ammonia infrastructure, widely used in the fertilizer industry, can be adapted for maritime use: "The traditional ammonia infrastructure, including storage and handling, is not an unknown commodity like hydrogen or methanol."

Reflecting on historic transitions, Oza remarks that shipping's past shift from coal to oil shows adaptability

to new fuels. He suggests the transition to ammonia and other alternative fuels will be faster due to more resources and smarter testing methods: "Shipowners who have earned substantial profits in recent years should invest in ammonia-combustible engines to break the chicken-and-egg situation. By committing to ammonia, they can drive demand and encourage further investment in production and infrastructure."

STAGED APPROACH

Oza explains that ammonia's demand in shipping will grow gradually, allowing the fertilizer industry to adapt and supply both sectors. "This staged approach will help balance demand and supply without causing significant disruptions," he notes. "Collaborating with stakeholders and aligning commercial and technological efforts are essential for the successful adoption of ammonia."

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Technology columnist **SEAN HOLT**
writes from Singapore.

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DELIVERING ON THE PROMISES

As the maritime world embraces everything from the cloud to AI, the promised benefits of maritime software are becoming reality.

BY ALLAN JORDAN

Maritime software solutions in recent years have shown results in fundamental applications such as navigation, weather predictions, and route and maintenance planning. More recently, the industry has seen advances in areas like digitalization, automation, integration, interoperability, data analytics and big data.

“Maritime software has gone from a passive monitoring role with simple functionality to being an integral component of fleet operations,” says Staci Satterwhite, CEO of ABS Wavesight, ABS’s “software as a service” (SaaS) company. She points out, however, that to reach the next level it must add value and create new opportunities, qualities that require greater sophistication balanced with ease-of-use.

In the first generation of maritime software, companies developed solutions in-house but found they no longer met today’s cost and performance requirements and were increasingly hard to maintain. One of the challenges in implementing technology, says Albrecht

Grell, Managing Director of OceanScore, a startup for data-driven solutions for maritime emissions and compliance, is the fragmented nature of the industry with many owners and managers being small- to medium-sized enterprises with limited resources.

In addition, the complexity and pace of maritime trade has risen exponentially. Eric Christofferson, Chief Product Officer of Veson Nautical, which offers a digital platform to propel maritime commerce, points to a dramatic increase in regulation, particularly around environmental issues, requiring more sophisticated tools to increase efficiency, sustainability and safety.

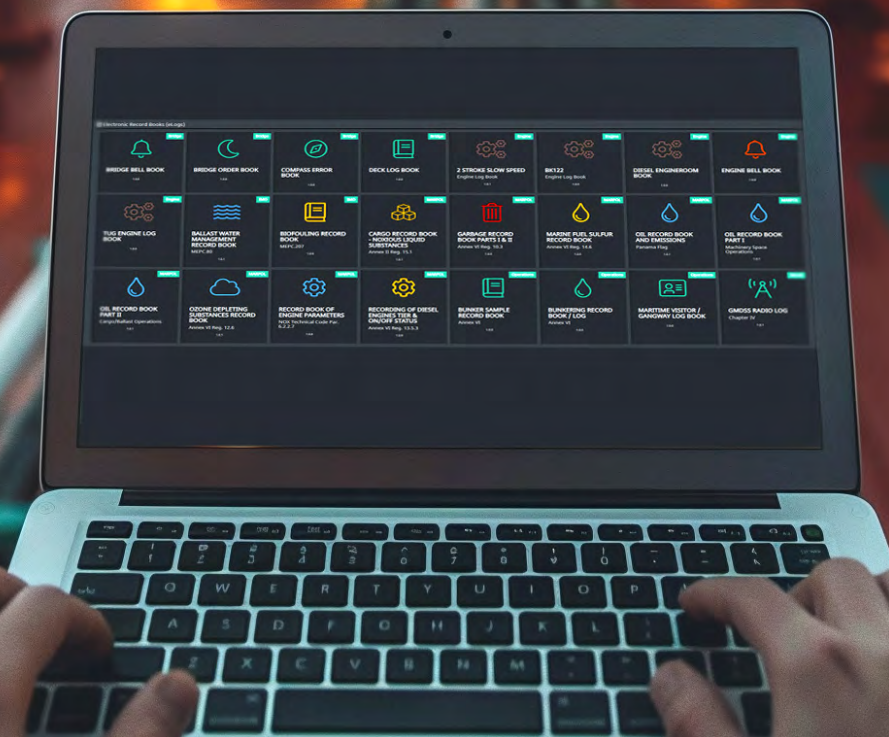
Against this backdrop, industry observers say software can play a big role through the increasing use of big data and analytics as well as AI and machine-learning. “Digital twin” technology offers a new level of predictive tools while blockchain applications help to manage the supply chain.

The challenge remains to find the right balance between automation and human oversight.

MANAGING DATA

The industry has a voracious appetite for data, which is proving critical for creating visibility on issues such as emissions and vessel performance.

“The way we see it, instead of confirming what you



“Creating higher value insights that support better decision-making is essential,” states Satterwhite. ABS Wavesight, for example, believes software needs to combine comprehensive operational data with environmental, class and regulatory insights to quantify risk and enable operators to make decisions with confidence.

Driving this newfound role of data in the decision-making process and shaping everything from commercial decisions to compliance are advances in connectivity. Even a few short years ago, ships were struggling to maintain links and have the necessary bandwidth, but Low Earth Orbit (LEO) satellite systems, particularly Starlink, have dramatically changed all that.

operations to move toward cloud computing. ABS WaveSight, for one, replaced traditional system architecture with the SaaS model.

“With increased connectivity and the growth of digitalization, the risk of cyber threats grows,” notes Torsten Kappe, Director of DNV Maritime Software. “Developing robust cybersecurity measures to protect data and communication channels is critical. Most importantly, all measures should be externally screened, tested, and certified, for example, through a specialized SOC 2 audit to ensure cybersecurity is effective in the real world, not just on paper.”

The industry is seeing how progress is possible using data and software tools. Veson's Christofferson says computers are ideally suited for examining complex, multi-variant problems like decarbonization and points to its own systems that permit users to test carbon pricing variables, one of the most complex and multi-factor challenges facing the industry today.



PHOTO: ABS.

Software makes it possible for operators to perform a new level of real-time analytics while in contact with their vessels around the globe. They can balance routing, time and speed and determine the optimal operating characteristics. Elements such as fuel mix can be factored in along with other variables while considering the impact on a vessel's performance and Carbon Intensity Index (CII) score.

With the introduction in 2024 of carbon pricing, OceanScore's Grell says high-quality emissions data can "become a question of commercial life and death for a shipping company," given the costs and eventual penalties prescribed by the emerging regulations. He says software can aid commercial processes around the new sustainability requirements, especially regarding the E.U.'s ETS and FuelEU regulations.

Digitalization, adds Grell, will also play a key role as existing regulations expand and new ones are introduced in a regulatory environment that remains dynamic.

THE SEARCH FOR STANDARDIZATION

"The challenge is to bring consistency and unification across the industry," says Julian Panter, a 20-year industry veteran at SITA, an info-tech company. Working with Columbia Shipmanagement, SITA announced in May the launch of SmartSea, an integrated maritime digital management platform, to leverage its expertise into maritime.

"Integration of technology will undoubtedly make shipping more efficient," says Panter, a view shared widely across the industry. However, there are hurdles in realizing this next level of the long-held promise of efficiency.

The industry needs a standardized approach to data, something it largely lacks today, adds ABS Wavesight. DNV agrees, saying that creating standardized protocols for data exchange will be crucial. One major development is IMO's Maritime Single Window (MSW), among

many other digital and smart port initiatives worldwide, with ports such as Singapore, Rotterdam and Hamburg among the leaders of these efforts.

"The next challenge for maritime software will involve ensuring interoperability between various systems, scaling software to handle growing complexities and ensuring accurate, reliable and 'safe data'," says OceanScore's Grell.

Companies have also begun looking for ways to unlock greater value for users from their data. One example comes from AXSMarine, which recently launched an integrated solution with NextVoyage to address workflow inefficiencies in the maritime industry. As the industry still suffers from disconnected systems and datasets, they believe they can help customers save time by reducing the need for manual inputs and improving workflow efficiency.

"It's critical," says Veson's Christofferson, that "industry participants and solution providers work together to evolve with trends and the shifting landscape."

WHAT WILL AI DO?

The wildcard for the future comes from Artificial Intelligence.

While software is tackling optimization for everything from routes to fuel consumption, the emergence and acceptance of AI has the potential to take advances in automation and efficiency far beyond what they are today.

"AI is a technology high on the hype curve right now," says Satterwhite. "That being said, AI's power to inform decision-making is very interesting for shipping companies looking to improve their analysis and operations."

Industry observers point to the potential of data analytics and the Internet of Things (IoT) to harness sensors and greatly advance predictive maintenance. From efficiency and voyage optimization to cargo management, autonomy and customer service, Veson's Christofferson says AI's ability to make highly sophisticated situational assessments based on enormous amounts of complicated

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and unstructured data will ensure an enduring presence.

"AI may still have some way to go to shake off its dystopian image and step into its more realistic role as a powerful tool to help humankind achieve its biggest goals," he cautions, but says it will eventually bring huge enhancements to efficiency, safety, sustainability, customer satisfaction and competitive advantages.

Among the early adopters of the broad application of AI, French shipping group CMA CGM recently announced a partnership with Google to accelerate the integration of the technology into all aspects of its operations. It emphasizes the opportunities to optimize vessel routes, container-handling and logistics offerings to enhance efficiency, responsiveness and adaptability to market fluctuations and disruptions.

DNV Maritime Software sees AI playing an increasingly pivotal role in transforming the shipping industry. "Digital twins and AI have become pivotal in optimizing operations," notes Kappel, highlighting that DNV's offerings support advanced simulations and operational enhancements for owners and operators. To accompany its customers on the digital evolution step-by-step and at different speeds, DNV launched Cloud Journey, a phased transition of its comprehensive fleet management software, ShipManager, to the cloud.

"AI, through its pattern recognition capabilities, can add real value," adds OceanScore's Grell, who sees it as a valuable tool. "We believe that in the field of maritime data, there is hardly a space where AI will not be able to add significant value."

DELIVERING THE FUTURE

No matter how maritime software evolves, it's clear the industry has become connected and far more data-driven than analysts would have predicted just a few years ago. The challenge remains to tap into that power and potential to meet the challenges that lie ahead.

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ALLAN JORDAN is the magazine's Associate Editor.



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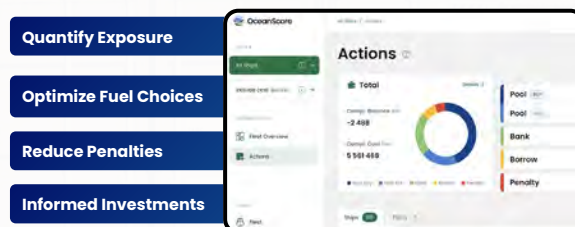
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CHOOSING THE RIGHT FLAG

There's something for everyone in the flag state business.

BY PAT ZEITLER

THE GLOBAL SUPPLY CHAIN IS DEPENDENT ON AN EFFICIENT MARITIME TRANSPORTATION SYSTEM, AND FLAG STATES ARE THE CATALYST FOR ENSURING THE INTEGRITY OF THIS SYSTEM.

Their role is complex and multi-layered. Registries simultaneously serve as regulatory enforcers and shipowner advocates while also competing against each other to attract business. In a world where shipowners face all kinds of challenges – ambitious IMO regulations demanding zero emissions by 2050, armed conflicts disrupting shipping routes and a labor shortage affecting every skilled position at sea – the best way to avoid headaches is to choose the right flag for their vessel.

ONE-STOP CONSULTANCY

Global Maritime Consultants Group (GMCG) can help. It's a one-stop consultancy with a deep appreciation of the variety of roles flag states perform in the global supply chain.

For over 35 years, shipowners have relied on GMCG for services such as marine surveys, counsel in matters of maritime law, engineering support and seafarer training. GMCG helps owners liaise with registries and port states and understands the relationship between owners, registries and the IMO.

"Beyond enforcement, a registry plays a crucial role in supporting the day-to-day operations of vessels," says Ranim Obeid, GMCG's Head of Legal Services. "Effective

registries provide the necessary framework for compliance and operational efficiency."

The company operates out of 19 global locations providing 24/7 customer support and has built a reputation for excellence. It works with every major registry and knows shipowners will seek registries that meet their own unique requirements. Registries that can provide technical assistance for retrofitting older vessels, offer financial incentives for compliance and support the adoption of alternative fuels are highly desirable as are those that host international forums and provide up-to-date guidance on evolving regulations.

There's something for everyone, and GMCG can help you find it.

ESTONIAN TRANSPORT ADMINISTRATION

One of the biggest challenges facing flag states and owners alike is how to retrofit currently active, seaworthy and capable older vessels to be compliant with future green IMO initiatives. In this regard, the Estonian Transport Administration (ETA) is taking a proactive approach by creating a retrofit hub in Estonia with state-assisted financing when utilizing top-tier contractors.

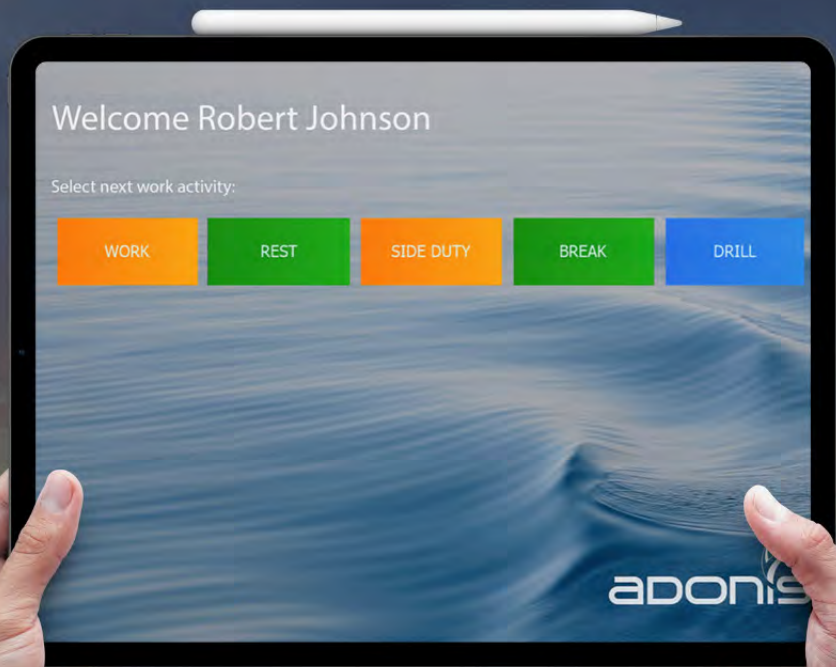
Helena Rattus, head of ETA's Maritime Development &

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The fourth key feature is the variety of high-quality shore services. Estonia has a long and proud maritime history and offers extensive ship repair and shipbuilding facilities. Owners who qualify sail under a flag that promotes green shipping, is highly digitalized, business-friendly and distinguished for its commitment to international standards. It's a flag of quality, not convenience.

Competitiveness Department, says, "We told shipowners 'We're listening, and we'd like to improve our service.' Shipowners told us it's all about service. They need 24/7 service, fast responses, constant cooperation and

support. They want a partnership between the ship and the flag state."

Estonia is taking what they hear from shipowners seriously. Its policy of "Bringing ships under Estonian Flag" promotes Estonia as a maritime country, and the best method for accomplishing this is to offer favorable conditions for owners.

These conditions include four key features. The first is a simple and transparent tax system along with state aid benefits. The second is digital solutions such as an automated system with 99 percent of government services available online 24/7. The third is a competitive and developing business environment that is welcoming to start-ups and offers opportunities for discussion with the Estonian Business & Innovation Agency for financial support.

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CAYMAN ISLANDS

The Cayman Islands Shipping Registry (CISR) is a key supporter of the global maritime economy. Evolving from the Cayman Islands' rich historic seafaring and shipbuilding industries, CISR recently celebrated its 120th anniversary.

It views the role of the flag state as being the primary interface between the IMO and owner/operators and being ultimately responsible to ensure that vessel operations

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Yacht owners find it very appealing to be a part of the Red Ensign Group, and why wouldn't they? Having their yacht registered under the protection of the British Royal Navy makes the sailing just a little bit smoother.

are conducted as safely and efficiently as possible.

Coming into full force in March 2024, the Merchant Shipping Act updated previous legislation, enabling the CISR fleet to stay current, if not ahead of international regulatory conventions. CISR supports its clients at the operational level by posting up-to-date guidance and coordinating appropriate responses, something all vessel operators can appreciate considering the recent conflicts and geopolitical turmoil that have negatively impacted maritime trade in the past two years.

Owners who register with CISR benefit from a flag state that is on the White List of the Paris and Tokyo MOUs and is a member of the U.S. Coast Guard's Qualship 21 program. Additionally, CISR is part of the Red Ensign Group and with a Category 1 status can register ships of unlimited tonnage.

Yacht owners find it very appealing to be a part of the

Red Ensign Group, and why wouldn't they? Having their yacht registered under the protection of the British Royal Navy makes the sailing just a little bit smoother.

PANAMA MARITIME AUTHORITY

With over 700,000 seafarers, a fleet of over 8,600 vessels and arguable the most geographically advantageous location in the Western Hemisphere, the Panama Maritime Authority (PMA) is the industry's largest registry.

Established in 1917, it joined the IMO in 1958 and has been a Category A (top 10 states with largest interest in international shipping) member since 2002. PMA sees two major challenges for shipowners. The first is decarbonization and the second is vessel performance.

For both issues, PMA is full ahead to advocate and support its clients as an active participant in all discussions with the IMO while aligning itself with IMO's 2050





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Established in 2010, the Palau International Ship Registry (PISR) is headquartered in Piraeus, enhancing its ability to make strategic decisions independently and resulting in a highly responsive management structure – something of great value to shipowners requiring immediate support.



agenda. It balances the role of vessel owner advocate with enforcing international regulations in a consistent and accurate manner to optimize the performance of each flagged vessel.

The registry boasts a network of 53 Merchant Marine Private Consulates and 14 Segumar International Technical Offices located across the globe.

MARITIME COOK ISLANDS

Shipowners looking to register under an open flag should consider Maritime Cook Islands (MCI).

Established in 2001, it's arguably the fastest growing open registry with a fleet that numbers over 900 vessels. Knowing that owners have choices with respect to selecting the optimal registry, MCI continues to expand its market share by prioritizing customer service and improving its Port State Control performance to achieve White List status on the Paris and Tokyo MOUs.

MCI's many advantages include electronic certification and forms, in-house technical experts, global 24/7 support, IMO representation and IMO STCW White List status. Registering under MCI offers owners an efficient and relatively quick process for incorporating an offshore company based on vessel ownership, a shrewd move that results in tax exemption benefits.

MCI has no restrictions on the nationality of seafarers employed on its flagged vessels, another huge advantage

for vessel owners struggling to crew their ships.

PALAU INTERNATIONAL SHIP REGISTRY

Established in 2010, the Palau International Ship Registry (PISR) is headquartered in Piraeus, enhancing its ability to make strategic decisions independently and resulting in a highly responsive management structure – something of great value to shipowners requiring immediate support.

PISR knows the maritime industry is at a critical crossroads and believes the two biggest concerns for vessel owners are the attacks on shipping in the Red Sea and increasingly stringent environmental regulations. With respect to the Red Sea, PISR keeps open communications and advises clients based on guidance from IMO, BIMCO,

Combined Maritime Forces and the "Guidance for Shipping Navigating the Southern Red Sea." Regarding the environment, it supports IMO initiatives and advocates for a more comprehensive and adaptable system.

PISR's fleet includes a variety of vessel types including bulk carriers, tankers, ro-ros, yachts, tugs and barges. The flag prides itself on customer service. From providing a globally top-tier digital ship registry to transparent fees, for PISR the real difference lies not only in its services but in how they deliver them.

SOMETHING FOR EVERYONE

While shipowners have many challenges, they also have many options when deciding on a flag state.

"As environmental regulations tighten, the importance of robust ship registration services becomes paramount," states Jaun Maltez, Regional Director of the Americas for Global Maritime Consultants Group. "At GMCG, our expertise ensures that our clients' vessels are not only compliant with international standards but also operate efficiently and sustainably. We are dedicated to guiding shipowners through the complexities of registration and compliance with confidence and ease."

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Frequent contributor **PAT ZEITLER** is Director of Business Development & Program Advancement at The Ocean Corporation in Houston.

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AI RISING

AI can help solve most of our problems.

BY SEAN HOGUE

FOR ALL ITS INNOVATION, THERE IS STILL ONE AREA WHERE THE SHIPPING INDUSTRY CLINGS TO THE PAST.

Paper.

Paper logs. Paper incident reports. Paper receipts.

This adds up to an estimated four billion pieces of paper in circulation onboard ships around the globe at this very moment.

Digital solutions rush to fill the gap, creating paperless platforms to better manage the maelstrom. Yet this does little to ease the ever-increasing reporting burden on the overworked officers of the watch, who more frequently find themselves driving a desk instead of a ship. And less than two percent of global trade is conducted digitally.

It's a system largely unchanged since the 19th century.

PAPER, PAPER EVERYWHERE AND NOT A MOMENT TO THINK

Part of the issue is that in global trade everyone does things, well, differently.

Depending on the charterer, contract, cargo, port or terminal, there are different requirements for timeliness and for the specific information requested. Some agents or port authorities respond quickly. Some do not. There are local forms, regional forms and flag state forms.

Charter parties. Bills of Lading. Statements of Fact. All unique as snowflakes.

When it comes to paper documentation, there's a total lack of standardization.

MANY HANDS, MANY ERRORS

Then there is the processing time.

A McKinsey study found that a standard Bill of Lading – a paper-based document required for the transport of goods – takes 16.4 hours of processing for every single shipment. Most of this is performed manually: by Mas-



ters at their desks, agents running between ships, banks, buyers, and insurers. And most of the documents have a total lack of standardization.

But if you can't standardize the paperwork generated by the approximately 60,000 cargo ships sailing around the world, what if you used AI to standardize and digitize their output instead?

That's the mission that Burmester & Vogel has been working on since new management took over the business in 2019.

SOLVING THE DEMURRAGE PROBLEM

Founded in Hamburg in 1983, Boston-based B&V is best known for laytime and demurrage management in the dry bulk and oil & gas industries. In 2022, the company began developing Artificial Intelligence and Machine Learning models to automate laytime and launched its AI-powered demurrage platform in 2024.

Demurrage is a penalty or freight cost charged to the charterer if their cargo operation exceeds the agreed amount of time to load or discharge cargo – also known

as “lay time.” This compensates the ship owner for the delay and potential loss of earnings.

Evidence of delays, interruptions or exceptions to laytime is provided in a Statement of Facts (“SOF”), a notoriously non-standardized document often handwritten in chicken scratch. For tankers, there are often three for every operation: one from the ship, one from the shore and even one from the terminal or the surveyor. Comparing them is incredibly time-intensive. Differences often lead to lengthy disputes between the charterer and shipowner on the amount of demurrage owed.

So why not let AI do the work?

When you upload SOFs into B&V's Demurrage AI Copilot platform, within seconds the system:

- Processes, digitizes and standardizes the documents,

- Compares each SOF against a demurrage claim or the charter party, and

- Delivers a side-by-side comparison, enabling fast analysis and accuracy in the settlement of disputes.

Thanks to the company's long history in this space, B&V's customers have shared thousands of documents



to train its machine-learning algorithms, transforming non-standardized paperwork into automated laytime and freeing-up human capital to spot-check the results. Solving the demurrage problem not only impacts those

involved in global trade but will lower time in port, reduce emissions and ultimately increase overall efficiency.

SIMPLIFYING RFPs

What did the last Request for Proposal (RFP) that came across your desk look like?

Likely the scope was unclear, the technical specifications immense, and the standards that the request needed to comply with (ABS, Lloyds, etc.) would take days to decipher.

This becomes an issue for both sides of the deal. The issuer doesn't have time to write a clear RFP, and the vendors don't have time to respond in full – or respond at all. This results in bids that cannot be easily compared, time delays, and just a boatload of extra paperwork in general.

Attender.ai, led by CEO Kevin Humphries, has developed a system to tackle this head-on and a marketplace



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Tanker, Dry Cargo and
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that puts approved vendors and procurement teams next to each other to provide streamlined services' acquisition.

The platform starts by using its AI engines to dig out the exact technical specifications, regulatory requirements and industry standards, then packages them up in an easily accessible scope of work. This gives vendors a clear understanding of the requirements and provides a firm baseline from which to begin the proposal process.

It then takes the next logical step and places prequalified vendors next to the issuer through its marketplace. Now they can easily bid on well-defined scopes through the platform, and the issuer can receive qualified bids that can easily be compared due to the standardization the platform provides. Plus, advanced analytics can advise on regional pricing trends, historical vendor performance and more.

Ultimately, this reduces overhead costs, is simple to use and provides a market for end-to-end service.

Everyone wins.

MANAGING RISK

It's apparent that AI can reduce the paperwork burden at sea.

The next question then is: Can it help reduce high-impact shipping incidents?

That's the question HiLo Maritime Risk Management has begun to answer. And the results are staggering.

Started as a project between a handful of shipping companies and a division of Lloyds Register, HiLo became an independent company in 2018 after the technology was proven. It now boasts more than 50 companies as customers.

The concept is simple: Take all of the incident reports, safety observations and related HSE data and plug them into the system. The core module, known as Pinpoint, maps the data, considers causal links, summarizes the data (kind of like what Amazon reviews is doing these days) and generates themes around leading indicators upon which the vessel operator can focus to improve safety.

In other words, it creates a network of cause-and-



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effect that is statistically significant and *actionable*. It draws a link between high-impact events and their drivers and has been demonstrated to be *98% accurate*.

The catch is that the data provided by a single ship is not enough to draw these conclusions. It requires hundreds of thousands of data points from across thousands of vessels to pick out the weak signals. It only works if enough people share freely (and anonymously!), and the amazing thing is that HiLo has been able to create a culture that does just that – with over 50 companies freely sharing ALL of their incident data, totally unsanitized.

Again, using AI and statistical analysis to manage the mountains of paperwork previously processed by weary human hands and to summarize the resulting data into actionable insights is providing leverage on a scale we're just beginning to grasp.

THE FUTURE IS DATA

Your company already has the data.

Tucked away in logbooks. Filed in cabinets. Or hidden in folders inside dumb digital documents.

Processing that data into something manageable and summarizing it into something we can use is incredibly human capital-intensive. Which is why it doesn't get done very well.

Who has the time?

And THIS is the advantage AI gives us. It isn't going to "take our jobs." It's going to free up the massive resource that is our human capital for more important things than shuffling paper. Things like creative problem-solving, strategic planning, relationship-building, ethical and moral reasoning, and creative work.


The AI tide is rising, and it's raising the performance of all companies, ships and maritime personnel that choose to embrace it.

MarEx

Master mariner **SEAN HOGUE** is Senior Vice President of Operations at Baker Marine Solutions.








INNOVATION AT WORK

*One-of-a-kind projects help drive
the breakbulk business.*

BY TOM PETERS

PORT GALVESTON.



The Port of Galveston is reaping the rewards of expanding its foreign trade zone (FTZ) with the importation of hundreds of enormous wind turbine pieces. The growth was spurred by the port's move to authorize additional cargo acreage for its FTZ to accommodate its expanding wind turbine import business. Since April, it's imported approximately 528 blades and tower pieces with several hundred expected from Europe in the coming months.

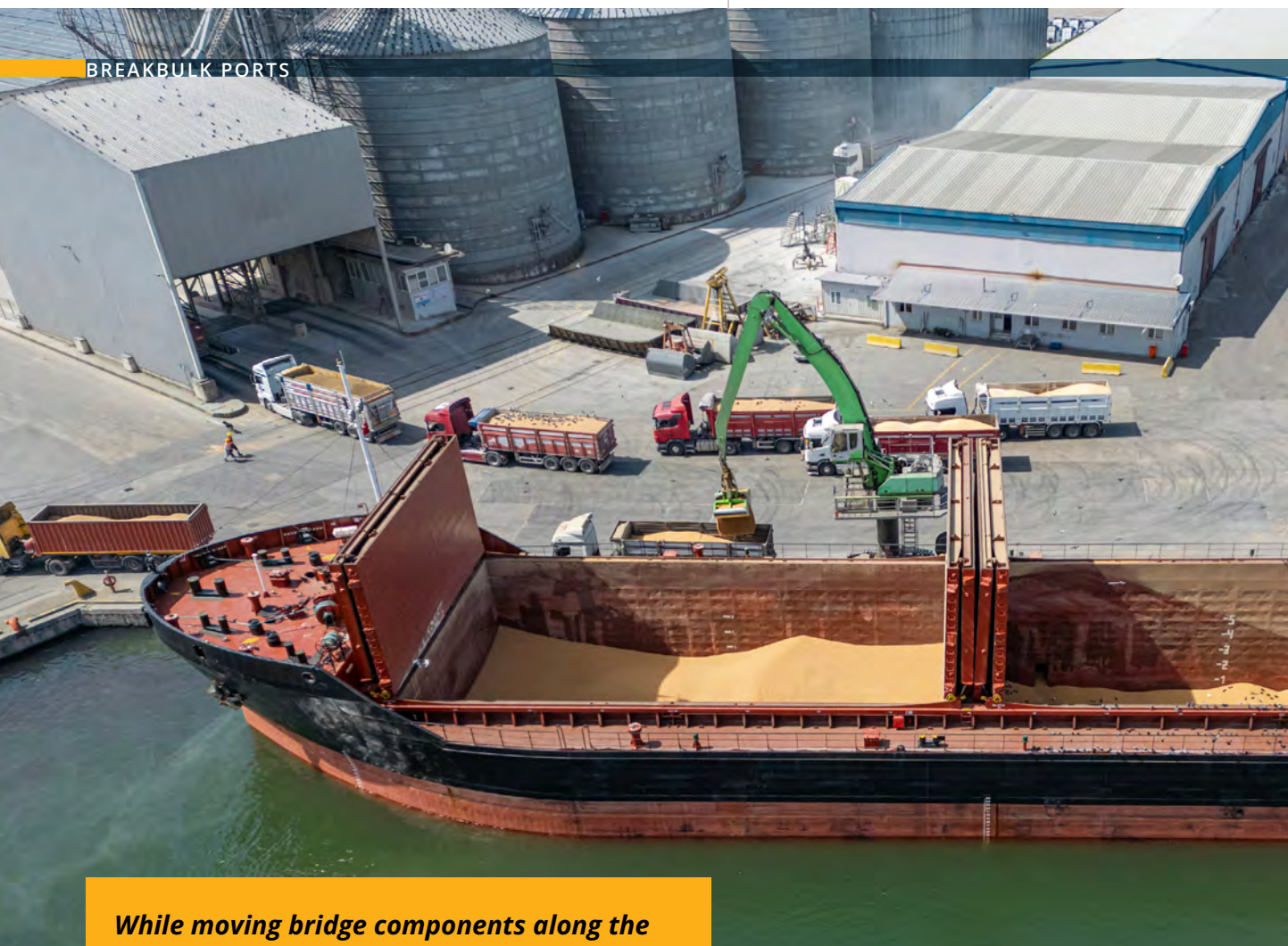
A SPECIAL, HEAVY PROJECT MOVE FOR A HISTORIC PROJECT. IT COULDN'T HAVE BEEN SCRIPTED ANY BETTER.

The marine towing division of Carver Companies of Coeymans, New York, which owns and operates the maritime terminal located about 10 miles south of Albany on the Hudson River, recently completed the barge transport through the Erie Canal of large bridge components that will form a new entrance span to Buffalo's Ralph Wilson Park, a massive community-driven redevelopment

ment project transforming a 100-plus-acre city waterfront park into a world-class recreational destination.

Tug-and-barge transport along the entirety of the canal, once commonplace, has become a rarity. The complex, 374-nautical mile journey requires traversing 34 locks.

The bridge components departed from Italy in June, crossed through New York Harbor and up the Hudson to the Port of Coeymans, where Carver offloaded the sections onto two 195-foot-long barges. Once assembled and installed, the 266-foot bridge will connect the Lower West Side of Buffalo to the park, which is scheduled to



While moving bridge components along the Erie Canal is not an everyday undertaking, moving components for offshore and onshore wind energy projects is becoming an everyday event.

start opening in phases in 2026.

“This project is a significant undertaking, utilizing a vital piece of American history to transport a modern marvel,” stated Carver Laraway, President & CEO of Carver Companies and the Port of Coeymans. “It’s a testament to both innovation and tradition.”

WIND ENERGY COMPONENTS

While moving bridge components along the Erie Canal is not an everyday undertaking, moving components for offshore and onshore wind energy projects is becoming an everyday event.

The Port of Galveston is reaping the rewards of expanding its foreign trade zone (FTZ) with the importation of hundreds of enormous wind turbine pieces. The growth was spurred by the port’s move to authorize additional cargo acreage for its FTZ to accommodate its expanding wind turbine import business. Since April,

it’s imported approximately 528 blades and tower pieces with several hundred expected from Europe in the coming months.

Galveston’s ro/ro cargo business is also expanding. Through April 2024, new car imports were up 14 percent compared to the same period last year to more than 13,000 tons. Other types of ro/ro cargo, including large agriculture and construction equipment exports, totaled 170,000 tons.

The West Port cargo complex is being enlarged to accommodate ro/ro, breakbulk and other cargoes with an estimated \$90-million capital improvement project. The port is demolishing an old grain elevator to add about 30 acres of waterfront cargo laydown area. The phased work includes filling two slips and building a 1,426-foot-long berth. Port staff are working closely with stevedores and tenants during construction to minimize impacts on various ongoing cargo operations.

Farther south, at the Port of Virginia, the Portsmouth Marine Terminal is being repurposed into a U.S. East Coast offshore wind logistics hub. Work is 75 percent



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Richard Scher, spokesman for the Port of Baltimore, provided an update on the situation there: “We are currently seeing a steady return of all of our cargoes as we rebound from the Key Bridge incident.” He added that on the breakbulk and project cargo side, Baltimore has a lot happening.

complete, says spokesman Joe Harris. The \$220-million project is tracking for completion in January 2025. The terminal is already receiving regular shipments of components such as monopiles and pin piles that will be used

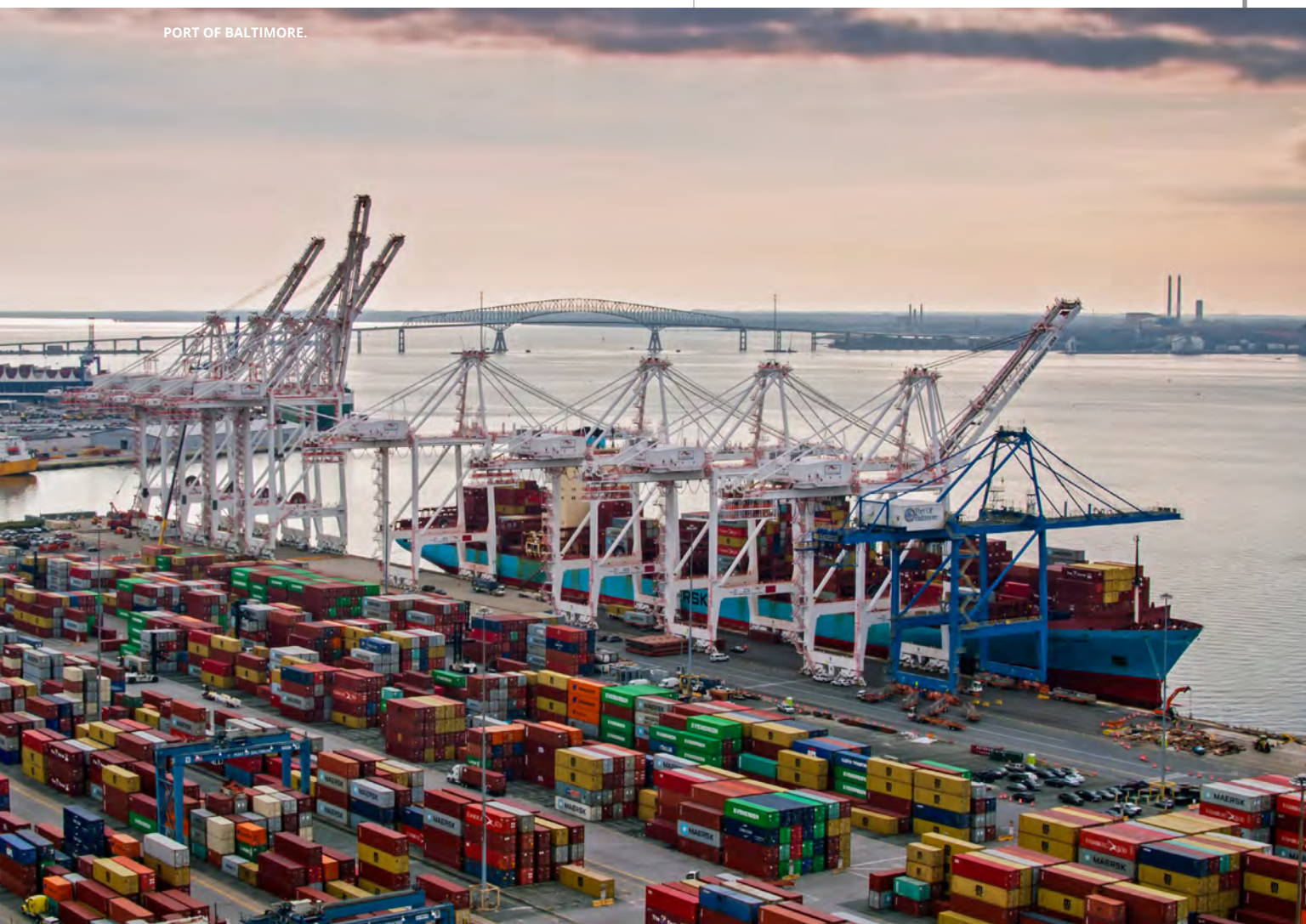
in the massive Coastal Virginia Offshore Wind Project.

Harris noted the port recently completed its fiscal year 2024 and processed 284,000 tons of breakbulk cargo, more than double the previous year. He attributed the increase to the “growing amount of offshore wind-related components we are handling and part of the increase comes as a result of the 11-week closure of the Port of Baltimore. We handled several diverted ro/ro and breakbulk vessels during Baltimore’s closure.”

MORE INNOVATION

Richard Scher, spokesman for the Port of Baltimore, provided an update on the situation there: “We are currently seeing a steady return of all of our cargoes as we rebound from the Key Bridge incident.” He added that

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- Foreign Trade Zone #36 on Galveston and Pelican islands

We're growing! The deepwater Port of Galveston is investing \$90 million to expand its cargo acreage to handle more cargo, including ro-ro, breakbulk and wind turbine pieces. We're a top Texas port on Galveston Harbor, which is ranked 38th for cargo among 150 U.S. cargo ports and waterways.





on the breakbulk and project cargo side, Baltimore has a lot happening.

“We recently handled a significant Heat Steam Recovery Generator (HSRG) project direct to rail and direct to truck that included turbines,” he explained. “In July, we handled a shipment destined for Ohio consisting of MAFI cargo (roller platform trailers), over-dimensional and heavy-lift components. Baltimore is the closest East Coast port to the Midwest, and this is a project that will continue through 2026,” adding the port also handled inbound steel mill machinery, compressors, transformers, military project cargo, airplane components and other power generation projects.

The Georgia Ports Authority (GPA) is investing \$262

million in its Colonel’s Island autoport and Mayor’s Point breakbulk terminal in Brunswick. Improvements to support the increasing breakbulk trade at Mayor’s Point include a new, 100,000-square-foot warehouse with up-to-date life-safety components and flooring upgrades to handle heavy loads.

According to GPA spokesman Ed Fulford, Georgia Ports’ customers are helping boost the manufacture of high-and-heavy machinery from India, leading to an expected increase in imports of finished machinery arriving from India as ro/ro cargo.

GPA handled two million tons of bulk cargo in FY 2024 (July 2023-June 2024), an increase of 25 percent or nearly 411,000 tons compared to the previous year. The

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Colonel's Island Terminal handled 876,000 units of ro/ro cargo in FY 2024, up 21 percent.

At the Port of San Diego, a new microgrid at the Tenth Avenue Marine Terminal (TAMT) – part of a number of electrification initiatives – is helping support the eight plug-in sites for the new, all-electric mobile harbor cranes operating out of the TAMT. The cranes are replac-

ing diesel-powered ones.

“Not only do these cranes eliminate a major source of diesel emissions,” noted Greg Borossay, Principal, Maritime Business Development, “they also increase productivity and cargo business for us. With their combined 400-metric tons of lift capacity, they represent the heaviest lift capability of any crane system currently in place on the West Coast.” Most of the heavy-lift cargoes destined for the region weigh more than 200 metric tons.

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STEADY GROWTH

Port Tampa Bay, on Florida's west coast, reports some impressive cargo growth for the first six months of FY 2024 with cement up by 11 percent to 640,000 tons, limestone up 20 percent to 953,000 tons, phosphate fertilizer up 151 percent to 221,000 tons and grain more than doubling to 75,000 tons. General cargo showed an impressive 45 percent bump for steel and a big jump in vehicles.

“Much of the growth is a result of the expansion of the Florida market, including the construction and building sectors, fueled by continued strong population growth,” says Wade Elliott, Port Tampa Bay's Senior Vice President, Marketing and Business Development.

Two recent developments are also expected to have an impact on Port Tampa Bay's bulk, breakbulk and special cargo sections. The port has approved lease agreements with Agunsa (AGS) for facilities at its Eastport and Hookers Point locations. AGS provides ocean transportation and logistics solutions including port terminal services, ship operations, vessel agency, warehousing, trucking and airport services. AGS will operate 18 acres at Eastport plus lease 15 acres at Hookers Point with plans to develop a transload warehouse distribution facility.

In addition, Overseas Shiphold-



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TERMINAL 6 AT THE PORT OF PORTLAND. PHOTO: PORT OF PORTLAND.

ing Group Inc., a provider of energy transportation services with a fleet of crude oil and product tankers, has been awarded a federal grant to design a new articulated tug-and-barge unit to be used to transport CO₂ captured by emitters in the state to sequestration sites in the Gulf of Mexico.

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Across the country at the Port of Portland, Oregon, a major infrastructure project is getting underway this summer at Terminal 6 that will benefit future breakbulk and project cargo operations. The roughly \$40-million project will renew asphalt over 10 acres for heavy cargo use and replace yard lighting with energy-efficient LED lighting. It also includes additional pavement upgrades throughout the terminal, a new storm water system and new emergency generators.

Terminal 6 Manager Fred Myer says, "The Port of Portland remains well-positioned for breakbulk and project cargo shipping with ample storage, equipment and capacity along with direct Class 1 railroad access and links to the major north/south and east interstate freeway systems."

Look for more growth to come!

MarEx

TOM PETERS is the magazine's ports columnist.

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