MARITIME LOGISTICS PROFESSIONAL

September/October | *Volume 8, Issue 5*
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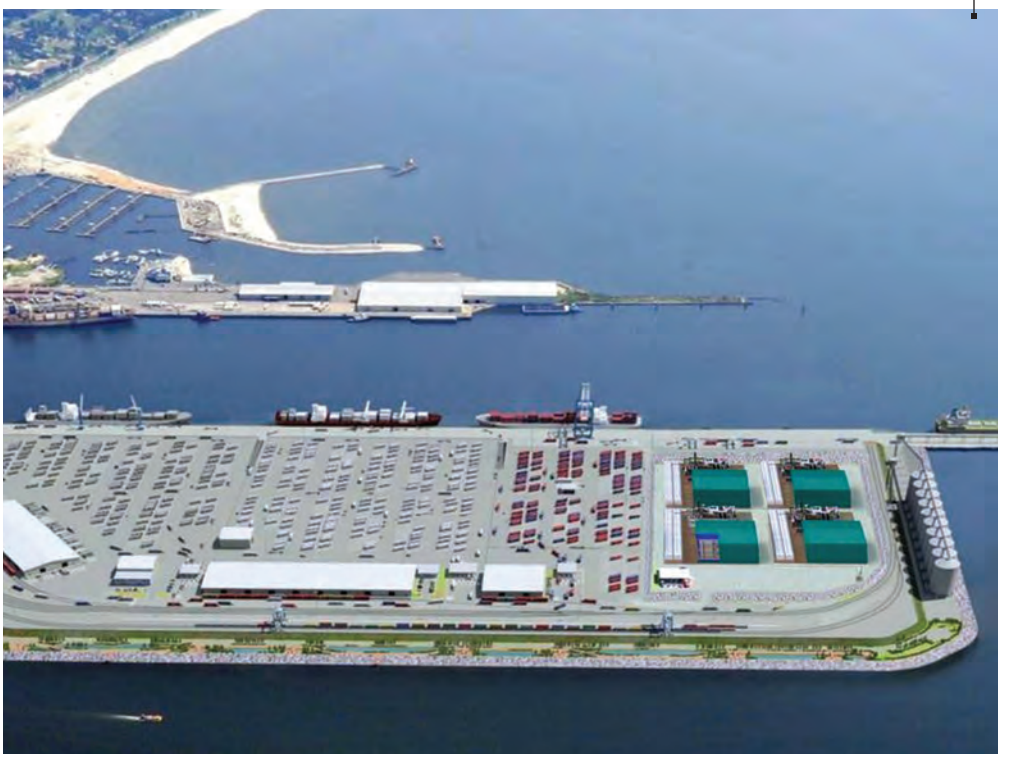
"I do think consolidation affords the remaining carriers an opportunity to invest more in advanced pricing capabilities. This is far more likely to be successful now as the industry is reaching maturity. Most of the remaining carriers today have the underlying capabilities to begin pricing dynamically based on actual market data, rather than taking arbitrary rate action which we have typically seen from some of the less sophisticated carriers."

– Gordon Downes,
the CEO of New York Shipping Exchange



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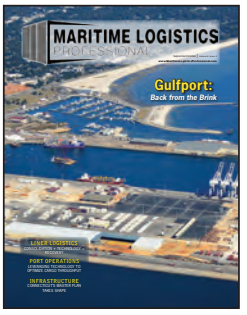

ON THE COVER

The Port of Gulfport, Mississippi, was, not too long ago, simply erased from the map by the combined misfortune of Hurricanes Katrina, Gustav and Isaac and then the BP oil spill. Today, an aerial image is a stark (and welcome) reminder that recovery is not only possible, but also that prosperity can follow.

Image: Mississippi State Port Authority

MARITIME LOGISTICS PROFESSIONAL

ISSN - 24739308
USPS # 005-893

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Maritime Logistics Professional (ISSN 24739308) is published bi-monthly (6 times per year) by New Wave Media, 118 E. 25th St., 2nd Floor, New York, NY 10010-1062. Periodicals postage paid at New York, NY and additional mailing offices.

POSTMASTER: Send all UAA to CFS. NON-POSTAL AND MILITARY FACILITIES send address corrections to Maritime Logistics Professional 850 Montauk Hwy, #867 Bayport, NY 11705.

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PORT CANAVERAL

Editor's Note

Imparting Intermodal INTEL

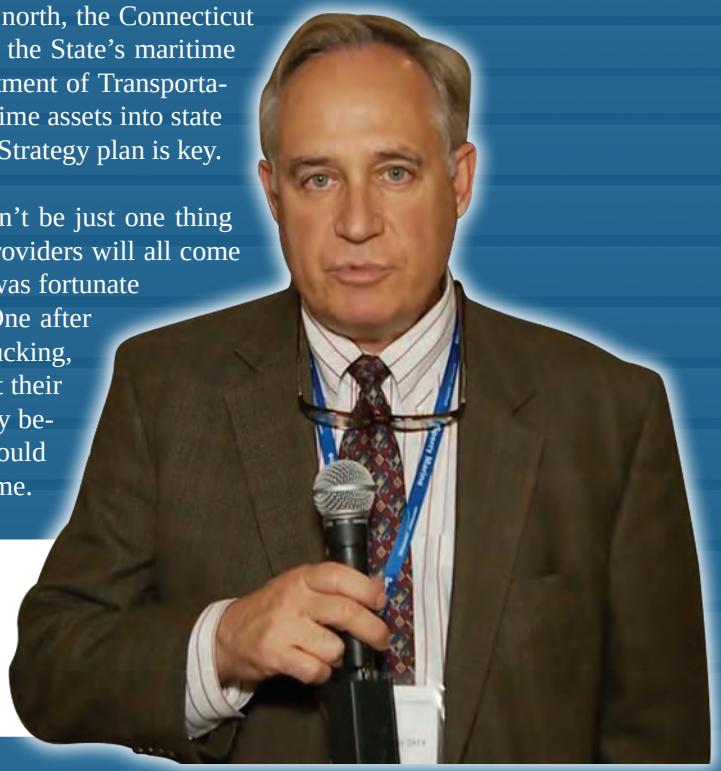
You don't need anyone to tell you that the business of maritime logistics is a difficult one. It's also incredibly complicated. If it wasn't, then an arguably robust global economy that evolved over the last 18 months, producing record box traffic in U.S. ports would have also resulted in markedly higher freight rates for liner companies. But it hasn't. And, if the answers to global supply chain issues were that simple, then we'd all be on easy street. By and large, we're not.

The confluence of the specter of a full blown trade war, tepid freight rates, the hangover of overcapacity and looming regulatory deadlines for the installation of equipment that will never produce a dollar of income all cast a pall over what might come next. To that end; UK shipping consultants Moore Stephens said just this month, "Nobody doubts shipping's essentially competitive nature, but the issue over viability is less clear-cut." They went on to reveal that operator's costs will rise at a rate of about 3% annually over the course of this year and next.

It isn't all gloom and doom. As liner firms battle for market share and better pricing, the solutions can be as different as the myriad markets that they serve. Within this edition, ***MLPro*** contributors Barry Parker and William Stoichevski both look at how the business of ocean shipping is changing, and more importantly, why. One solution involves an effort to organize regional shortsea shipping. The other? More consolidation for boxship operators, but this time involving the leveraging of technology and ancillary businesses to enhance core offerings.

Shippers can't do it without ports. As an example, two domestic ports; each battling back to create regional value for the local economy, are providing new options for shippers. The port of Gulfport, Mississippi has emerged from the tragic destruction wrought by hurricane Katrina as a stronger, more diversified and regionally viable deep draft port. Rick Eyerdam's analysis begins on page 32. Separately, and further north, the Connecticut Port Authority (CPA) has stood up a robust effort to revitalize the State's maritime capabilities. Finally out from under the yoke of the CT Department of Transportation, CPA is on point to coordinate the task of integrating maritime assets into state and regional transportation systems. A newly formed Maritime Strategy plan is key. Tom Ewing's report begins on page 40.

When the stars are finally aligned for ocean shipping, it won't be just one thing that turns the tide. Ports, shippers, operators and technology providers will all come together to provide the panacea that we crave. Not long ago, I was fortunate enough to attend a panel discussion on intermodal logistics. One after another – Canadian supply chain professionals representing trucking, rail, ports, shippers, operators, etc. – all got up and insisted that their mode of transport could only be as good as the one immediately behind and in front of it. That's good advice. And, something we could use a good deal more of as we navigate the challenges still to come.



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Power When You Need It:

By Ezra Finkin

The U.S. Maritime Transportation System, comprised in part of 361 ports across the country, is a critical part of American infrastructure. According to the U.S. Department of Homeland Security, the system extends to include the 95,000 miles of coastline, 25,000 miles of waterways and thousands of intermodal landside connections. Together, this system allows people and goods to move to and from the country's waterways, a vital connection which many secondary industries rely: according to the U.S. Department of Transportation Maritime Administration, in 2017 alone, more than 167 million metric tons of cargo was imported through America's ports.

Ports in the U.S. and around the world rely on diesel to move the tons of freight and much more. At the same time, the smooth operation of America's ports depends upon a continuous electrical supply – and yet, this supply remains one of the most fragile systems in the country. Outages owing to severe weather events – like hurricanes Michael and Florence that hit the southeast in October – are becoming more frequent, and severe. Outages can also be caused by acts of terrorism or vandalism, targeted at the electricity grid. Regardless of the cause, the economic impacts of any outage are becoming more expensive. According to the U.S. Department of Energy's 2013 Grid Resiliency Report, the average outage costs between $18 billion and $33 billion.

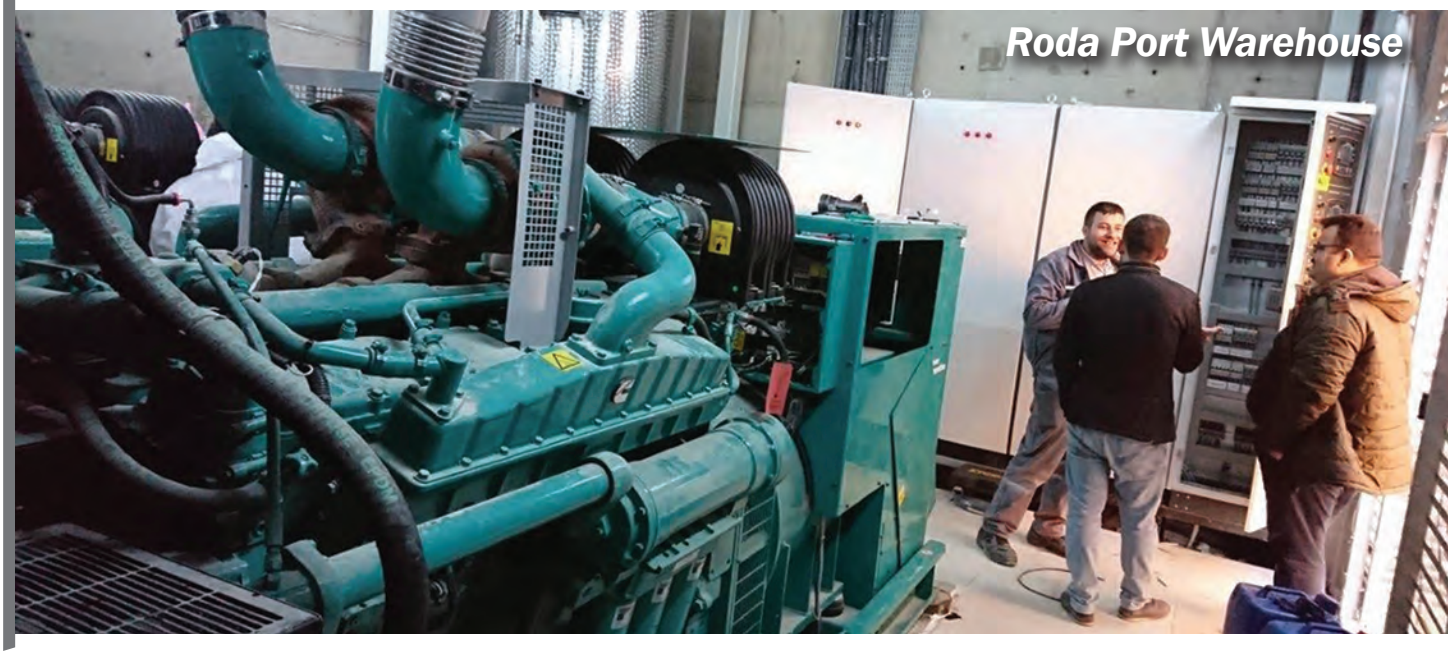
Reliable sources of emergency backup power, including diesel, can help mitigate the downtime and economic impacts of any outage. While many of America's ports already rely on backup generators and other sources of emergency power, an astonishing number have no physical backup measures for the loss of electric power.

In an April 2016 report, Argonne National Laboratory looked at representative samples of critical infrastructure facilities from across the United States to determine their onsite and electrical backup capabilities, analyzing data gathered by the Department of Homeland Security's Enhanced Critical Infrastructure Program Initiative between 2011 and 2014.

Argonne determined that 69 percent of America's ports maintain some type of alternate or backup power source – either a backup generator or an uninterruptable power system (UPS). Meanwhile, 3 percent maintain only an internal electric power source; 3 percent maintain both internal and backup power sources. (To compare, a UPS is an electrical device that provides short bursts of emergency power when main power is lost, typically for a very short duration. The average usage duration for a UPS is two hours, compared to 72 hours for a backup generator.)

Argonne found that 31 percent of America's ports do not maintain any physical backup measures for the loss of electric power, meaning they rely solely on external power sources. This presents an incredible, urgent opportunity. Port authorities across the country should prioritize upgrades and installations of reliable emergency backup power systems.

Fortunately, many of the ports that do maintain emergency backup power offer great examples of the best approach. According to Argonne's analysis, of the ports with a backup power source, 61



Roda Port Warehouse

Diesel-Powered Backup Generators are Essential for Port Operations. Not everyone has one.

"Argonne found that 31 percent of America's ports do not maintain any physical backup measures for the loss of electric power, meaning they rely solely on external power sources. This presents an incredible, urgent opportunity. Port authorities across the country should prioritize upgrades and installations of reliable emergency backup power systems."

percent maintain a backup generator, 31 percent maintain a UPS, and 22 percent maintain both. Of the ports that use a backup generator, 91 percent rely on diesel power; only 9 percent use natural gas.

The majority (55 percent) of ports use these backup generators support core functions in case of an outage, while 27 percent use them only to support life safety systems, 14 percent rely on them to take the facility's entire electrical load, and 5 percent depend on them to simply provide a 'graceful shutdown.'

In determining which technology to use, intention and reliability is key. That's why so many ports rely on diesel-powered generators for emergency backup power. While there are many technology and fuel-type options, none match diesel's unique capabilities. Diesel is one of the only technologies capable of providing full load within seconds of an outage. It takes 10 seconds or less for start-up and full load handling with a diesel-powered genset. Other fuel sources may take up to two minutes, which may be too long in many emergency situations, and out of compliance with state and federal laws. Fully transportable and accessible, diesel generators and fuel can also be delivered to almost any location, including the most remote. Diesel backstops for renewable microgrids can also provide necessary reliability when sources of renewable energy may be offline.

The Best Prepare for the Worst

Arguably, no port should be operating without backup power. And, it is instructive to see what some individual ports have done, once they recognize that reality:

The Port of Long Beach, California is the second-busiest port in the nation, handling more than $194 billion in cargo per year. The Port constantly seeks new methods of enhancing operations while reducing climate and air quality impacts. The most recent project involves the addition of microgrid technology to its emergency backup power systems. Under a contract approved in September 2018, the microgrid will include a 300 kilowatt (KW) array photovoltaic system for energy production, a 250 kW microgrid-extending mobile battery energy, and 330 kW and 670 kilowatt per hour (kWh) stationary battery energy storage. The entire microgrid system will be backed up by a 500 kW diesel generator, providing two-tier emergency backup power to the port's operations.

The U.S. Navy uses a pier at the Port of Bangor, Maine to house Seawolf submarines and other ships during maintenance. In 2015, the Navy decided to move additional ships to the Port of Bangor, requiring renovations at the service pier. In April 2018, the Navy received funding and moved forward with obtaining a permit for the project. Adjustments to the pier include adding a shoreside emergency generator, among other infrastructure.

Separately, and across the Big Pond, Gemlik Harbor, Turkey is also ready for what might come next. Roda Liman Depolama ve Lojistik İşletmeleri A.Ş., a company operating in Gemlik – an important harbor, near Istanbul, Turkey – recently constructed a new 32,000 m^2 port warehouse and required additional backup power so that warehouse operations and shipments can continue uninterrupted. The Roda Port Warehouse has a prime location in Turkey's logistics sector. The main services provided by Roda Liman are vessel loading/unloading, warehousing and logistics to local and global customers.

Installed and commissioned in late 2017 by Cummins with its authorized dealer AET, the power system consists of two C825 D5A generator sets.

The latest near-zero emissions diesel innovations offer port operators a way of ensuring resiliency, preparedness and recovery needs while minimizing environmental impact. Diesel-powered generators manufactured today achieve dramatic emissions reductions in nitrogen oxides (NOx) and fine particle emissions on the order of 88 and 95 percent compared to older models. These fourth-generation advanced diesels – "Tier 4" engines – are available and being deployed today to reduce emissions.

Because of these unbeatable characteristics, ports and marine operations around the world depend on diesel generators for their emergency power needs.

The Author **Ezra Finkin**

is the policy and outreach director for the Diesel Technology Forum. Finkin works to educate state, local and federal policymakers and NGOs about the importance of diesel technology and the clean air and economic benefits of continuing investments in clean diesel technologies. www.dieselforum.org

The Future of Class

Nick Brown, Lloyd's Register (LR) Marine & Offshore Director weighs in on the future of classification societies, addresses risk and the disruptive variables that will impact ship design – and much more – in the years to come.

Nick Brown is Lloyd's Register's Marine & Offshore Director. His primary focus involves leading LR to meet the technical and commercial challenges facing the marine and offshore industry, providing the support, services and innovation needed to meet ever increasing safety, environmental and efficiency goals. Roughly translated, that involves the ever-changing and disruptive nature of technology as it impacts the global waterfront.

This isn't Brown's first rodeo. He joined LR in 1996 and has since worked as a ship surveyor in Bahrain, Dubai, Finland and Germany and has extensive experience of ship repair and conversion projects. During 2005 he led LR's global tanker business at a time when IACS' Common Structural Rules (CSR) for Tankers were being finalized. Subsequent to that, he moved to China, initially in a business development role as the shipbuilding market took off and new ship owners entered the industry.

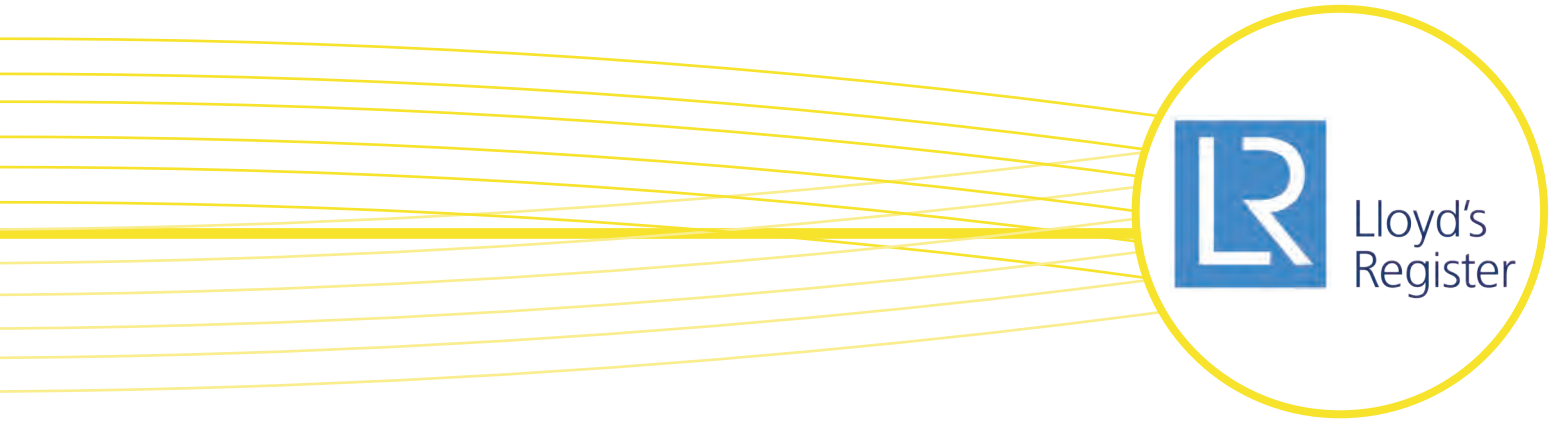
In October 2013, he was appointed Director for Business Development and Innovation and then, as LR's Marine business continued to grow, he was appointed Marine Chief Operating Officer. In January 2016, he was appointed Marine & Offshore Director, responsible for LR's entire marine and energy compliance businesses. Almost two year's into his current c-suite role, he sat down long enough to weigh in on the state of 'class,' where it is going, and why that's important.

What do you see as the defining trends today that are shaping the marine industry for coming generation(s)?

Technology and Industry 4.0 is advancing at an unprecedented speed, impacting the way we work and live. Our supply chains are becoming more connected, bringing positive benefits as well as new issues and challenges. In addition, we are all feeling the pressure to address urgent sustainability and environmental issues – while the 0.50% Sulphur fuel oil is a significant immediate challenge to the industry, there is a much more complex challenge at hand in relation to achieving the IMO GHG strategy. All this means that our clients face a number of competing priorities. The challenges they face are interlinked and decisions taken today will determine performance in the future. More than ever, our clients need a partner with the right experience and ability to listen, to cut through the noise and focus on what really matters to them and their customers. We expect to see a revolution in how we operate assets over the next few years and much of this will be driven by the change in the way we use data. LR's role is increasing in response to the new regulations coming into effect and complex landscape combined with increasing new technologies that need to be safely adopted and new sources of risk that need to be mitigated, like cyber security.

Looking solely at the digitalization trend and all that it encompasses, is this fundamentally changing ship design, and if so, how?

Digitalization shouldn't just replace traditional systems, it should improve the way vessels are designed and operated, the way crews interact with technology, the way ships connect with shore stations, ports, and the wider supply chain and we need to work together to a greater degree to achieve this. The traditional



lack of 'systems thinking' needs to be overcome to maximize the benefit from investments in digitization; and to ensure safe insertion of new technologies into ships' systems. More important than the development of 'individual' technologies, will be our ability to exploit innovative combinations of technology to drive new business models and applications and new ship designs. Automation, AI and autonomy are essential enablers of the complex ship system of the future and the combination of advanced energy storage and power conversion technologies required to safely support decarbonization may need a significant digital control component. The adoption of digital technologies provides us with the solutions needed to address transparency, information integration, and the collaboration that is required in order to increase the total value production in our industry, to help reduce failure risk, and increase uptime. There are efficiencies to be gained both at the asset level and the supply chain level – benefiting the owner and operator, as well as the shipyard, designer, equipment manufacturers, suppliers, port and end-customer. Data, its consolidation, useful analysis and application sits at the core.

Looking solely at emissions reduction trends, how is this fundamentally changing ship design?

Fossil fuels provide society in general, as well as shipping, with a high-density and low-cost energy source that is comparatively easy to store, handle and transport. We have had decades to optimize the design, maintenance and operation of the shipping system to suit the fossil 'paradigm'. But the world is changing. It is, therefore, unsurprising that when looking for a non-fossil, zero-emission and sustainable energy source, as we must urgently now do, it's difficult to see an obvious 'silver bullet' but it is easy to see that this challenge will shape the vessels of the future. Every effort should be made to identify and incentivize further improvements in energy efficiency. For example, we have witnessed increasing numbers of shipowners looking at Flettner rotors as retrofits because they generate significant energy savings and we have also been working with air lubrication companies as this is one of the few technologies where you can compare the direct impact on fuel consumption. But improvements alone cannot decarbonize shipping, zero-emission vessels will need to be entering the fleet in 2030 and form a significant proportion of new builds from then on if we are to meet the ambition set out by the IMO. It is hard to predict the future but we expect to see a diverse range of zero-carbon technologies / fuels deployed across the world's fleet. These include, batteries, hydrogen, ammonia, sustainable biofuels and sail. There are a range of innovative technologies already being piloted and deployed and we expect the curve of technological innovation to increase with the adoption of this strategy. Here is where the link between decarbonization and digitization is most apparent – digital techniques will not only enable the rapid, safe and effective implementation of new technologies, they will also create the additional value in the industry that will need to be invested to fund such changes.

How the maritime industry digests these changes is one thing, how they are changing CLASS is quite another. How, specifically, is this digital "4th industrial revolution" fundamentally changing how class conducts its business?

Back in February 2016, LR issued the first guidance on digitally-enabled ships: 'Deploying Information and Communications Technology in Shipping – Lloyd's Register's Approach to Assurance'. This identified the elements that constitute a digitally-enabled ship and the activities that need to take place to ensure that digital technology does not introduce a safety risk, effectively providing the industry with a route map to understanding the implications of digital technology. This was followed with the introduction of the industry's first Digital Ships ShipRight procedure, which details LR's framework for accepting digital technology. This has been recently revised and includes a series of class descriptive notes: Digital SAFE, Digital PERFORM, Digital MAINTAIN and Cyber SECURITY to provide a framework for understanding and addressing such risks.

Beyond this, LR has developed the marine and offshore industry's first digital assurance framework, 'Digital Compliance' in collaboration with leading industry partners and to respond to the growing interest within the industry. The framework is applied through a series of defined levels with the system provider and the operator. This builds confidence in a digital twin that is used within a digital health management (DHM) system. LR will assess and give recognition to, the capabilities of a system provider to create an asset-specific twin. This in turn provides confidence to the operator to trust the insight generated by the digital health management system through the physical asset's operational life-

time. Digital Compliance is the framework that sets the foundation for what we call 'Digital Class'. Digital Class is the vision we have, where advanced technology and data-driven techniques will allow our clients to demonstrate compliance with Class requirements in the future, remotely, periodically and/or continuously and we are actively engaging with flags to discuss how we can extend this to statutory aspects.

Looking ahead, what is "the future of class", and how is LR investing today to achieve this vision?

Our world is experiencing significant change and LR aims to not only maintain its relevance in this shifting world, but go beyond the traditional areas of class in order to have the vision and the tools to assist our clients in adapting and succeeding. By building capability in new geographies and sectors, and continuing to invest in innovative digital capabilities, collaborations, and understanding new energy technologies as they become relevant to the marine industry, we will meet our clients' needs today and in the future. The continued investment in technology and people remains a priority for LR. Given the pace of technology change, we must consider all options when assessing innovative ways to address the industry's challenges, enabling our clients to make their decisions based on the best technical insight and adopt solutions in a safe and sustainable manner. We think the most important change we need to see for our industry to succeed is collaboration. It is also more important than ever that we don't forget the people our industry relies upon and that we support and invest in them for this digital transition to be successful. Finding the balance between the adequate level of technology and the necessary level of human activity and the integration of these, will be the critical issue for the post-2020 maritime industry. It's likely that finding the sweet spot will drive higher levels of safety for people, business and the environment. We need to balance the investment in technology with our investment in people.

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PORTS: **La Spezia**

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By Greg Trauthwein

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Port of La Spezia

Oftentimes in the world of port logistics, talk immediately turns to big, bigger and biggest. Scale and economy certainly go hand-in-hand, as the wild growth in containership size over the last two decades attest.

But being efficient, productive and profitable is not solely dependent on size, as shown by the Italian Port of La Spezia, a modest sized port which continues to experience solid growth.

The second largest port in Italy, the Port of La Spezia counts geographic location as its first advantage, boasting a 48-foot depth and situated on the Mediterranean Sea, the crossroads between Europe, Africa and the Middle East. While Asia dominates trade to and from La Spezia with nearly 45% of its business, New York is the single biggest port of trade by tonnage, and cumulatively, the U.S. accounts for nearly 25% of trade from the port, according to Francesco Di Sarcina, Secretary General, Port of La Spezia. Annually, the port handles nearly 1.5 million TEU, 16 million tons of cargo and half a million cruise passengers.

Expanding: Target 2020

But the port and Contship Italia together are embarked on a $381 million investment program, a private-public investment partnership that will extend and build new docks, build and improve port infrastructure including road and rail, and dredge so that the revamped facility can accept the largest containerships if needed (currently it can accept ships up to 14,500 TEU). When completed, the port will be able to process two million TEU annually, a 33% increase over capacity today.

Contship Italia is a major driver in the port and region, and according to Daniele Testi, Marketing and Corporate Communications Director, Contship Italia – which celebrates its 50th anniversary in 2019, has been a 'Port-to-Door' logistics company since 1969. Contship Italia is unique in that it is a terminal operator that also owns and operates its own intermodal assets, from forklifts to trucks to trains. "We use trains like other companies use trucks," said Testi, a testament to the 35% of cargo that transits through the Port of La Spezia via rail.

Port of La Spezia: By the Numbers ...

The port of La Spezia is situated within a harbor of 150 acres, operating 24/7/365 with pilotage, towage and mooring services. The port sports more than 5 km of quays, 575,000 square meters of port area, 17 km of railway tracks and more than 15,000 square meters of covered warehouses. In total, 50 shipping lines link it to 200 ports globally.

LSCT, or La Spezia Container Terminal, is owned by Contship Italia Group, and is one of the key assets in the port's current and future success. The terminal currently handles 1.4 million TEU courtesy of 986m of dedicated, full-container quay, and 1,390m of general cargo and container quay. It sports a 14.5m water depth, 11 gantry cranes (up to 23 rows) and seven mobile cranes (up to 150 tons).

Any port is only as good as its non-aquatic, intermodal connections, and in this regard the Port of La Spezia stands out with 35% or its container traffic handled by rail, reportedly the top percentage in Europe, with the aim to reach 50% courtesy of investment in the rail infrastructure which allows trains up to 650m long.

According to Testi, a modern inland transshipment hub is a key differentiator for the port. In addition, a new company – La Spezia Railways Shunting – is being formed to make train operations in, out and around the port more seamless, providing additional efficiency gains. While containers are an obvious area of focus, the Port of La Spezia is multi-functional with multipurpose terminals, one for coal and refined products, one for petroleum products and one for liquid gas. Last but not least, the port boasts a relatively new, growing cruise port, with nearly 500,000 passengers accommodated in 2014.

Truly a versatile port with a wide and deep tenant base, cruise and passenger business also remains a focus, with a new cruise terminal, a dock for yachts as well as commercial, residential, hotel, convention and sports areas are all in the master plan. As 2019 looms large in the porthole, this port remains as the modest sized port with big ambitions. That's the ticket for La Spezia.

A P3 BOOST FOR BALTIC BOX SHIPS

By William Stoichevski

European Private-public partnerships, or P3's, can do great things. They spread local taxpayer risk; they afford new infrastructure, and they can help secure sufficient scale for the well-capitalized box ship company. For port authorities, public money — diverted by the European Union's or their own people — means playing landlord in a way that helps terminal operators make the most of prized property. For feeder lines and short-sea shippers using Baltic Sea and North Sea ports of call, P3 upgrades are becoming trade multipliers.

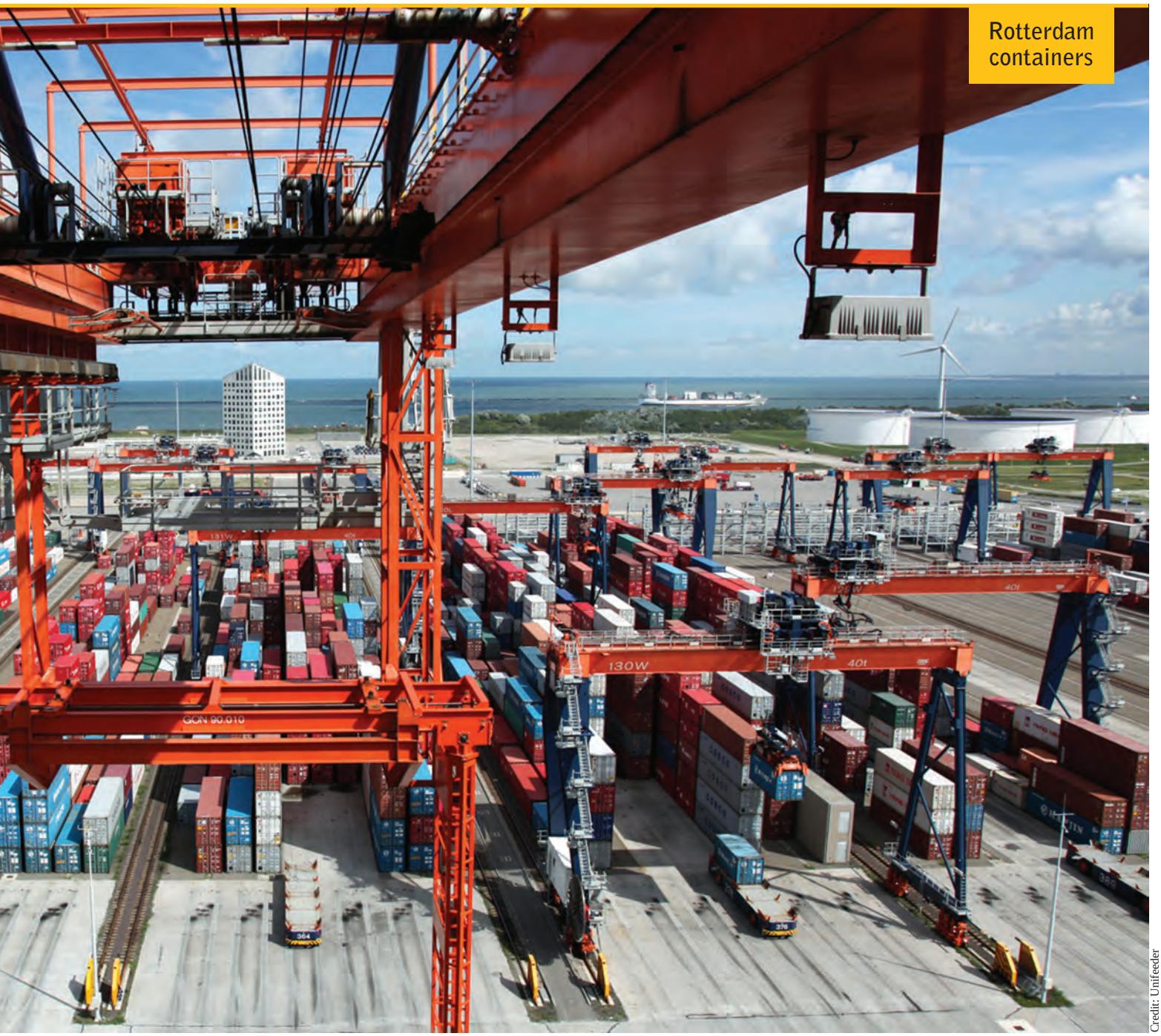
Bigger is Better in the Baltic

If you're planning to ship goods to Polish consumers directly from the US or from UK warehouses to Central Europe – and vice versa – then you'd be among an increasing number of customers for container lines in the Baltic Region.

Unifeeder, for example, has just doubled its frequency of cargo moves by sea between Polish ports Gdansk, Gdynia and Immingham in the UK. The three ports of call have recently benefited from P3 investments of various kinds, and now terminal operators aided by the public purse are gearing up for more business. Immingham — within a very short drive of several large UK cities — is undergoing beautification and quayside upgrades. Nearby roads and warehouses are being built, demolished and renewed in the name of more port activity.

At Baltic Container Terminal, Gdynia, new cranes — "to increase the potential of intermodal operations" — have been co-financed through the European Union's Cohesion Fund. Measure No. 7.4, Priority VII (Environment-friendly transport, Operational Program Infrastructure and the Environment) will see to it that BCT Gdynia's quays receive about PLN 16.3 million (USD 4.5 million) out of total project costs of PLN 67.3 million (USD 18.4 million). EU funds are also behind a plan to buy 80 trucks for the new 45-foot containers helping make shortsea shipping a success.

BCT Gdynia's public-relations nerve center is ICTI of the Philippines, and we failed to meet up. We do know that Gdynia is hoping to up its fortunes by switching from a feeder exchange with European transhipment ports to a new system of "oceanic connections" expected to bring feeder business to Gdynia from Western Europe's cross-ocean ports of call — at Antwerp, Bremerhaven, Rotterdam — to the Indian Ocean and beyond, including legs to Australia with the MSC Carolina. So, Gdynia could see more of the larger ships like the 330-meter MSC Paris that sailed into the Bay of Gdynia in April 2018.



Credit: Unifeeder

Unifeeder upside

One man watching developments closely is Unifeeder general manager for Eastern Europe Marek Wiese. He's the one to call if you want to tap the company's container services to over 50 European ports. Wiese has observed the changes P3 upgrades have made in Northern Europe's terminal infrastructure.

While Unifeeder ports of call Gdynia and Gdansk have received public money for upgrades, Wiese says Poland has another port increasingly in use after an injection of cash: "Szczecin has a little container terminal built with investment form the EU, so (upgrades are) visible. The funds have helped develop the area and the intra-port trade. Not just cranes, but roads and warehouses. I can confirm it is the case."

Unifeeder's new, second service from Poland to the UK boasts "an average door-to-door lead-time of only six days" for goods shipped. "As far as I'm aware, we're the only short sea operator with departures twice a week," Wiese says, although he's quick to point out that the competition is sure to follow. "Luckily, at Immingham Port in the UK, they have limited capacity, so they can't access similar lines with similar volume (not yet, anyway).

The competition, however, have other entry points in the UK." Indeed, the company's competitors tend to access the UK market from North and South with longer travel times to reach the same number of Britons.

Shortsea Strength

Gdynia and Immingham are more confined ports and, like Oslo, they're tightly bound to city administrations that act like partner-landlords. While port administrations faced with space challenges look to regional officials for funds and go-aheads, terminal operators benefit from any changes that assist the arrival and retrieval of shortsea cargoes.

"For our services, the smaller vessels and short-sea is something we use the advantage of Gdynia for. In the big terminals, they don't want to service smaller vessels. The smaller vessels are more preferred in smaller ports," Wiese says, adding that the company's main hub is Gdynia, a port doing better than it was two years ago but still lagging the growth seen at Gdansk and other elsewhere, including Immingham. Gdansk, however, is becoming a short-sea port of choice.

"When we consider Gdansk as Number One, it's because Gdansk is an open port much more accessible from the sea for the biggest ships. The approach conditions, the fairway is much better for the large ships. That's why the biggest lines choose Gdansk as last port for overseas (journeys). Gdynia can't accommodate the big ships due to the depth of the fairway."

Indeed, a quick look the port saw the 399-meter-long Majestic Maersk quayside at Gdansk, on its way eastward (though not before anchoring in the roomy Bay of Gdansk).

Smaller Ports

The new, EU-sponsored cranes at Gdynia and the port's new ocean-going connection strategy are partly aimed at competing with Gdansk, although Gdynia is "not just containers, but lots of different cargoes, including frozen, general freight and bulk."

Overall, Wiese says, "the situation is favourable" for Baltic Sea ports that engage UK and overseas trade. It's so favourable, that Unifeeder's competitors have opened their own connection from Gdynia. Rather than compete, the company has chosen to cooperate on charter agreements.

"We book on their vessels, so the Gdynia connection still exists. The trade with Norway, (for one), is growing. Norway is high in the ranking of Poland's foreign (trade) partners," he says, pointing to the latest numbers. Also high in that ranking, is the UK, and as we wrote these lines, Unifeeder opened a new UK-Netherlands service.

Short-sea surge: the IDA Rambow in transhipment

Credit: Unifeeder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Custom-size: the truck-borne containers at the heart of short-sea shipping's surge

Credit: Unifeeder

P3 potential

The new Unifeeder service between the UK and Poland will make the most of 20, 40 and 45-foot containers at the heart of short-sea shipping and its "door-to-door" deliveries. With the UK anxious to secure trade ahead of Brexit, Unifeeder's service to Immingham has authorities anxious to provide as much road and rail transport as needed to make short-sea and feeder routes work. A wealth of P3, coastal-infrastructure projects are being screened, with much money allotted quickly to kick things off.

The Immingham port authority, Associated British Ports and the Lincolnshire Region have published documents showing that "further container handling requires very little (site) alteration, consisting as it does of mainly of open storage." Better surfacing, new fencing, lighting and signage but no repurposing of infrastructure is what ABP suggested would be need at Immingham to bring in another line or just more of Unifeeder.

Terminal Growth

But three new rubber-tired gantries and "smaller pieces of mobile plant and equipment" are said to constitute the better part of a "major overhaul" (including demolitions) planned to yield a multiplicity of effects for terminal operators at Immingham, the UK's largest port by tonnage, where 10 percent of the UK's seaborne trade is handled.

In a letter to regional authorities responsible for funding Immingham, an ABP man noted for the public that "the short-sea container market has performed well beyond our expectations."

"We have seen a 41 percent growth in volumes of shipping containers at our two container terminals in Immingham and Hull. Based on this and anticipated future growth we have in the last few months invested GBP 50 million on port service infrastructure with a view to expanding our offer for container shipping in the Humber (River area)."

Already, the South Humber Industrial Programme, or SHIP, has allotted GBP 26 million of investment to ready land and build the Humber Link Road between the ports of Grimsby and Immingham. By 2020, however, councillors are reportedly hoping to see the investments in ports "pay for themselves" with upwards of GPB 90 million in income over 20 years.

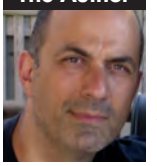
Trucks-in, Trucks-out

Despite the roads, there's some evidence that trucking companies of over 1,000 tractor-trailers (lorries) have pulled out of the UK market for a long list of reasons that include steep fines for being associated with stowaway migrants and driver shortages that make growth impossible. Then there's short-sea shipping, the success of which has meant fewer trucks crossing the English Channel by ferry or through the Eurotunnel.

Wiese cautions, however, that it takes more than cranes to generate container traffic.

"The UK is one of Poland's biggest trading partners. The number of loads is growing each year – huge growth – in that direction. From our side, we simply ship out of Gdynia, as we're a different company than the competition. Offering feeder and short-sea allows us to offer customers a more comprehensive network. We can create lines where they want them, with feeder legs all over Europe."

The Author



William Stoichevski arrived in Norway in 1999 to lead a media campaign for Norwegian green group Bellona. He later served as regional feature writer for the Associated Press in Oslo. In 2003, he left the AP to begin building, overseeing and writing for a number of print and electronic energy-industry publications in the Norwegian capital.

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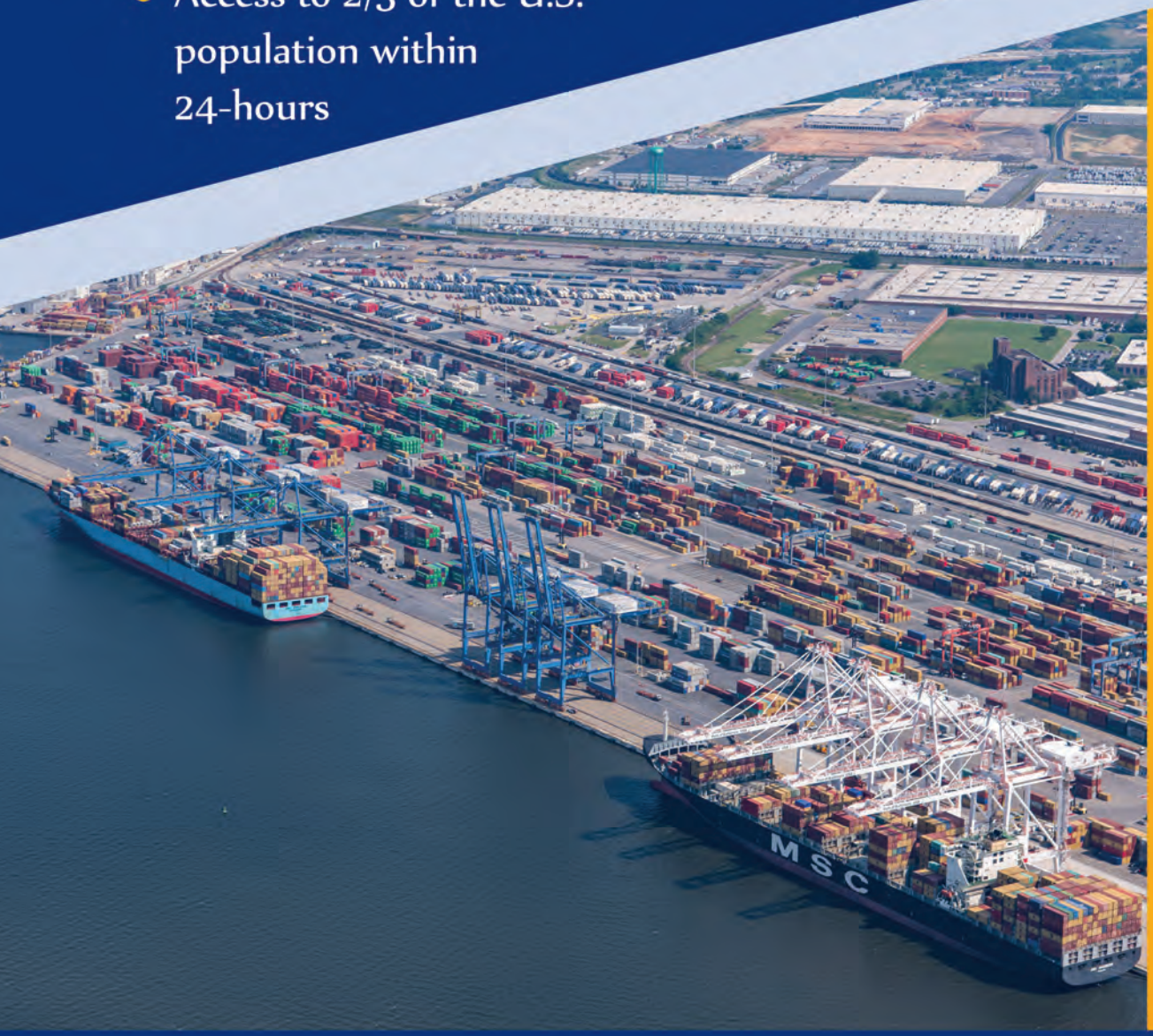

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MDOT Secretary Pete K. Rahn MDOT MPA Executive Director James J. White

Credit: DP World

Consolidation continues for liner shipping, but often in unexpected ways and places. And, pricing is only one part of the reasons why.

By Barry Parker

For the past decade, 'Consolidation' has been a reliable hallmark throughout the shipping and offshore businesses. While recent deals are being seen in drybulk (Starbulk buying various fleets), tankers (Euronav acquiring Gener8) and in the offshore sector (behemoth Transocean acquiring Ocean Rig and Ensco poised to take over Rowan), the liner sector, which saw a whole spate of combinations over the past three years, is now concentrating on optimizing the giant ecosystems that have been created in recent years. And, perhaps, it is the ocean liner sector which has generated the most interesting trends, something that promises to continue into the future.

AS 'TURNKEY' SERVICE EVOLVES

A TOUGH SELL

Some cynics have opined that the liner sector is a perennial money loser, continually oversupplied, with the lowest slot costs determining the 'winners' in the race to the bottom. A more tempered view suggests that recent mergers, and alliances, have brought business benefits. Gordon Downes, the CEO of New York Shipping Exchange, explained to ***MLPro***, "No doubt consolidation has allowed carriers to achieve more competitive unit costs through the greater economies of scale …" But, Downes was also quick to add, "With the top five carriers controlling roughly 65% of the market, and the top 10 controlling 85%, there just aren't too many suitable acquisition targets left out there."

On the liner side of the business, 2018 has seen the implementation of deals consummated previously, and not always with good results. The downward profit revision, from Ocean Network Express (ONE, where three Japanese carriers, M-OSK, K-Line, and NYK, teamed up beginning on April 1), reflect not uncommon difficulties with integration. In late October, ONE issued a projection of a likely $600 million loss in its first year of operation, due to the perfect storm of rising fuel prices, IT issues, and lower than expected utilization (possibly a consequence of the computer problems). Consolidation waves, aftershocks of the 2016 implosion at Hanjin are still reverberating. Also in late October, South Korean carrier SM Line (which acquired Hanjin routes in the Pacific) was reportedly in merger discussions with stalwart HMM; possibly an attempt to emulate ONE, where erstwhile competitors work from a common platform.

The ONE deal was predicated on a classic "consolidation" scenario, where market grasp is expanded, while internal economies are achieved. An important recent example comes from Copenhagen.

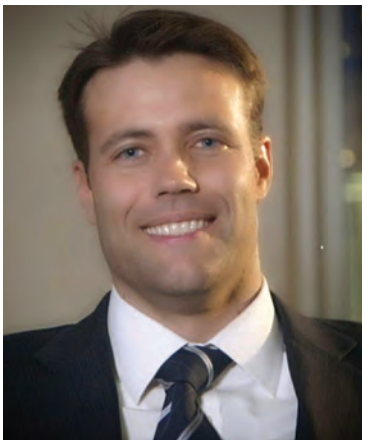
Maersk, the industry's bellwether, doubled down on liner shipping and logistics, splitting out its investments in non-core areas, notably in the energy sector which had been meant to perform as a hedge against volatile fuel prices (though, interestingly, pre 2020, it is taking the lead in fuel surcharges). The "classic" strategies are giving way to the sublime.

Several months after the ink dried on Maersk's all cash acquisition of Hamburg Süd (which worked back to just over $4 billion) the strategies had been translated into new action. Maersk, in its 2017 Annual Report, revealed that Hamburg Sud's proforma EBITDA (a measure of cash flow) for 2017 calculated back to $554 million (on overall revenues of $5.4 billion). This suggests that the price paid for HS equated to a healthy ~7.5x EBITDA. Financing came from a loan provided by a syndicate of banks; at mid 2018, with the financing in place, A.P. Moller Maersk borrowings totaled $17.35 billion, on an overall $61 billion balance sheet.

When business combinations are presented to shareholders, cost saving synergies are a prime motivation. Following the late 2017 closing of Maersk's HS acquisition, Soren Skou, A.P. Moller Maersk's CEO, said, "Combined, the two companies will be able to realize operational synergies in the region of USD 350-400 million annually as from 2019." But the payoff from the acquisition is more sublime, infused into the income statements but bringing synergies that are hard to quantify (as contrasted with actions such as headcount reductions designed to effect cost savings.

Separately, box rate specialist Xenata noted, "… In the newly-combined network, Maersk and Hamburg Süd's customers now have access to the thorough door-to-door services provided by Hamburg Süd in its North-South lanes as well as the flexibility and reach provided in Maersk's East-West and global network."

But recent developments show the rationale for deals to be far more nuanced than blunt market share gains, seen in Maersk-HS or the Japanese and Korean carriers' works in progress.



// I do think consolidation affords the remaining carriers an opportunity to invest more in advanced pricing capabilities. This is far more likely to be successful now as the industry is reaching maturity. Most of the remaining carriers today have the underlying capabilities to begin pricing dynamically based on actual market data, rather than taking arbitrary rate action which we have typically seen from some of the less sophisticated carriers.

– Gordon Downes, the CEO of New York Shipping Exchange

A DIFFERENT KIND OF CONSOLIDATION

Maersk, in its 2017 Report, echoed the observation about route coverage and also brought up a synergy with another Maersk business (terminals), commenting, "In general, the expectation is that the transaction will boost the combined company's presence on North-South shipping routes, which will also deliver growth to APM Terminal."

The bloggers at Xenata lauded this theme, saying: "Maersk's purchase is smart because they now control a larger container business, the reefer trade, carrying foods, vegetables, fruits, and pharmaceuticals, all of which in many circumstances are more time and reliability-sensitive rather than price-sensitive."

Another recently concluded deal saw terminal giant DP World acquiring the Danish container feeder company Unifeeder, from a Scandinavian investment fund, for a price equating to approximately $762 million (the Enterprise value of the target company, and roughly 3x the "EBIT" – a measure of pretax earnings). DP World, with 78 terminals across the world, explained the decision, saying, "The ever growing deployment of ultra large container vessels has made high quality connectivity from hub terminals crucial for our customers and Unifeeder is a best-in-class logistics provider in this space with a strong reputation in Europe." Financial investors, such as Nordic Capital (the seller of Unifeeder), provide new capital sources as traditional shipping bank lenders have pulled back. Indeed, Nordic Capital had acquired Unifeeder from a different private investor, in 2013. In contrast to "strategic" investors from the carrier or terminal world, financial investor decisions to sell may be driven by finite time constraints on fund life, rather than considerations as to business synergies.

Not everyone is sold on the concept. Consultants Drewry described the DP World-Unifeeder deal as "… a risky strategy," but nevertheless hinted that it could be the harbinger of a different sort of consolidation. They told their clients, "Buying Unifeeder fits DPW's trade enabler strategy but probably shouldn't be misconstrued as the first step towards supply chain dominance on a global scale. We also believe that DPW saw an opportunity to bolster its core business at a time when feedering is making something of a comeback. To be fully effective it needs to roll this out to other territories and we expect that Unifeeder will be at the forefront of short-sea/feeder consolidation around the world."

Logistics expert Chris Kosmala, General Manager for Asia at Quintiq – the supply chain software provider and part of the Dassault Group – took a cautious view of the deal, but opened up the possibility that (if things go well), that it could provide a model for other deals.

Cosco, another player in the consolidation game, has shown its changing visage. Overall, it ranks number 3 on the liner leaderboard. Alphaliner puts its market share at 12.4%, controlling 2.8 million TEU. Following the takeover and complicated integration with China Shipping Container Line (CSCL) in 2016, it has been working towards fine tuning its combination, valued at around $6.3 billion, with privately held Orient Overseas Container Line (OOCL). This deal was approved by Chinese regulators in late June, 2018, but unlike in other mega-mergers, OOCL will not be swallowed up and disappear.

OOCL's Director of Trades, Mr. Stephen Ng, explained to ***MLPro***, "Unlike many of the M&As in the industry over the last few years, the corporate arrangement for us is rather unique. China COSCO Shipping Corporation is a very large conglomerate with many businesses including bulk shipping, terminal operations, and tanker fleets. OOIL, COSCO Shipping Lines and COSCO Shipping Ports are all subsidiaries of the conglomerate's shipping arm. Instead of merging the organizations, OOIL will continue to be an independent entity listed on the HK Stock Exchange with our global headquarters remaining in Hong Kong. OOCL and our sister company, COSCO Shipping Lines, will also continue to operate under our respective brands as two independent companies in a dual-brand strategy approach. What this means is that OOCL will have our own independent pricing strategy to compete in the market, our own product development approach focused on meeting the requirements of OOCL customers, as well as our own marketing direction in showcasing OOCL's famous brand."

Also differing from other mergers is the treatment of back office functions. In contrast to the quest for "operational synergies" through reduced headcount, Mr. Ng, from OOCL explains:

"What we have been doing is working closely with our colleagues at COSCO Shipping Lines on a number of synergy areas such as network optimization, vessel deployment, joint procurement and equipment utilization by leveraging on the strengths and resources of both sides to improve our overall competitive positions in the market. Through the use of vessel slots from our sister company, OOCL will also be able to offer services in emerging markets such as Latin/South America and Africa.

– OOCL's Director of Trades, Mr. Stephen Ng

"What we have been doing is working closely with our colleagues at COSCO Shipping Lines on a number of synergy areas such as network optimization, vessel deployment, joint procurement and equipment utilization by leveraging on the strengths and resources of both sides to improve our overall competitive positions in the market. Through the use of vessel slots from our sister company, OOCL will also be able to offer services in emerging markets such as Latin/South America and Africa." The latter description mirrors the strategic dynamic of Maersk-Hamburg Süd.

Nevertheless, Cosco has also made a move into ancillary businesses. Late September reports indicated that Cosco was set to acquire the container manufacturer (and container depot operator) Singamas from its present owner, niche liner operator Philippine International Lines (PIL). Shares of Singamas, with its operations exclusively in China, had been pledged to support a complicated refinancing undertaken by PIL earlier in mid 2017. The clock is now ticking on the agreed timing for PIL to monetize its shares. Other aspects of privately owned PIL getting its financial house in order have also been in the news. In mid October, the carrier sold five vessels (in sizes ranging from 2800 to 4500 TEU) to the Chinese maritime lessor, Minsheng Leasing, with charters back.

TURNING TO 'TURNKEY': LINERS & LOGISTICS

CMA CGM has also been a financial newsmaker, as it seeks to acquire the "asset light" logistics specialist (and warehouse operator) CEVA Logistics AG, based in Baar, Switzerland (but operating around the world). In April, when the liner giant acquired 25% of the CEVA, Rodolphe Saadé, Chairman and CEO of CMA CGM, stated: "CEVA is a major player in the logistics business, which is closely related to the shipping industry. Together, the two companies will also explore possible cooperation allowing us to propose an ever more differentiated and qualitative offering while integrating services beyond maritime transport." At the end of October, CMA CGM- already the owner of 33% of CEVA shares, announced that it would be tendering for full control of the company.

As always, Maersk is in the center of industry trends; and likely the management in Copenhagen was closely watching developments in Paris and Switzerland. In late September, "Big Blue" announced that two separate units, Maersk Line and logistics specialist Damco will be joining forces, at the beginning of 2019 (building on steps announced earlier in the Summer). The language of the official announcement oozes with the language of customer contact, rather than lowered costs, with Maersk CEO Soren Skou explaining that the two entities "…will be integrated and their respective value-added services will be combined and sold as Maersk products and services. This will ensure an improved customer experience with fewer touchpoints and a more comprehensive service offering." Parts of Damco's freight forwarding activities, notably airfreight, will remain separate.

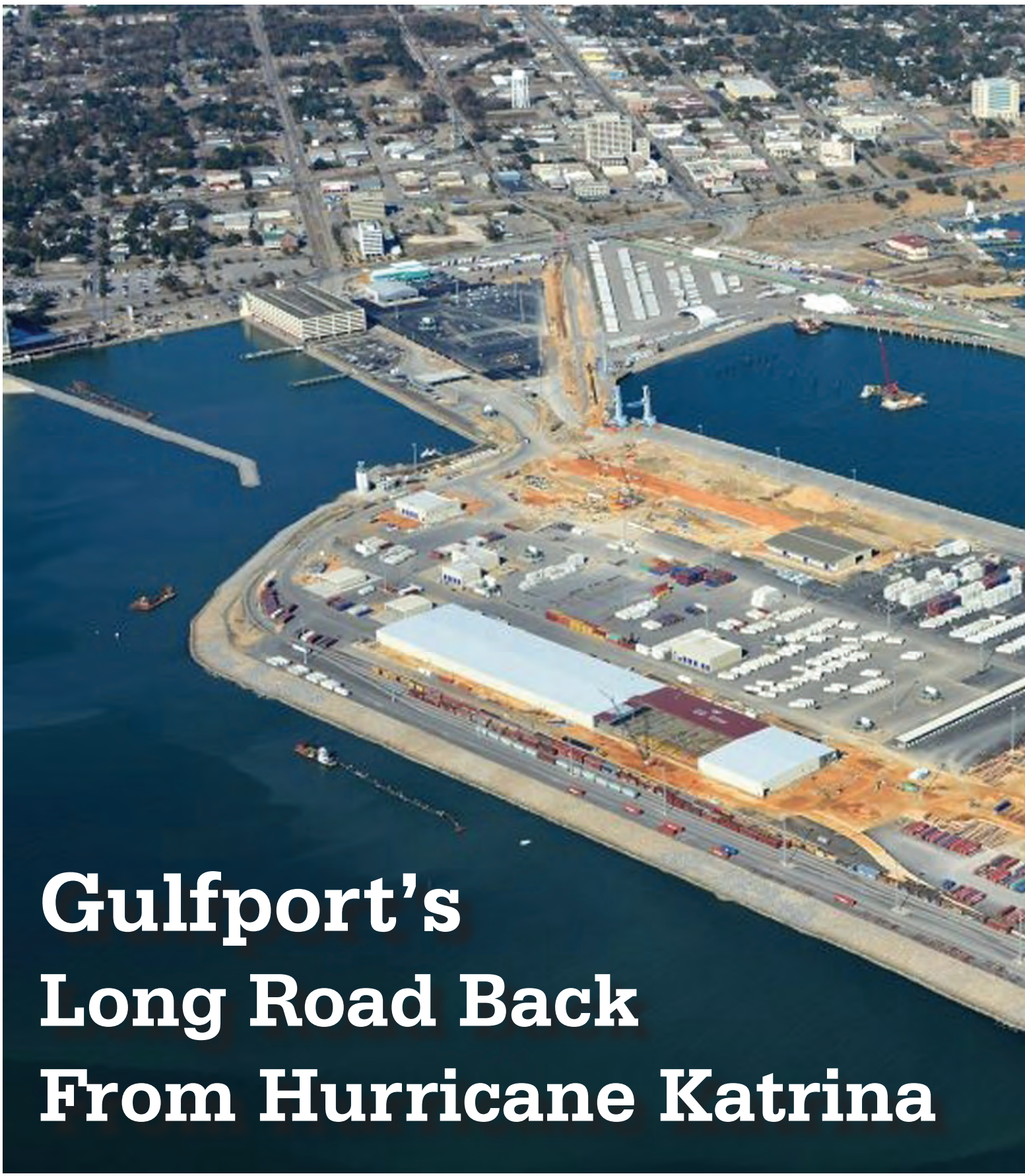
The optimization process has also benefited from the digitalization wave sweeping all parts of the transport business, including liner shipping. Gordon Downes weighed in, saying, "The question I often hear is; 'will consolidation give the remaining mega carriers better control over their top line through greater pricing power?' There will always be healthy competition among the main carriers, that's the nature of our industry and the regulators will of course always see to that."

But analogously to a big carrier fine-tuning its network through geographical synergies, or a tie-in with a box manufacturer, the ability of carriers to fine-tune the pricing of their service is an important complement to mergers or acquisitions bringing ancillary capabilities. Downes sums up that thought by saying, "I do think consolidation affords the remaining carriers an opportunity to invest more in advanced pricing capabilities. This is far more likely to be successful now as the industry is reaching maturity. Most of the remaining carriers today have the underlying capabilities to begin pricing dynamically based on actual market data, rather than taking arbitrary rate action which we have typically seen from some of the less sophisticated carriers."

The Author

Barry Parker

of bdp1 Consulting Ltd provides strategic and tactical support, including analytics and communications, to businesses across the maritime spectrum. The company can be found online at **www.conconnect.com**



Gulfport's Long Road Back From Hurricane Katrina

By Rick Eyerdam

Credit: Mississippi State Port Authority

When Jonathan Daniels, executive director of the Mississippi State Port Authority at Gulfport spoke to the audience at the annual state of the port luncheon July 27, 2018 at the newly rebuilt Island View Casino, he had a lot to offer in terms of jobs. And he had two aces in the hole: SeaOne, an untested compressed liquefied gas company and Yilport, a terminal company operated by an ambitious Turkish port developer. Both had letters of intent dating back two years with much to do.

As has been the case since before Daniels took over from Don Allee in 2013, the Port of Gulfport is under a federal mandate to create 1,300 low and middle-income jobs by 2021 in exchange for $570 million in HUD (Housing and Urban Development) grants that were shifted to port reconstruction from regional development after 2005's Hurricane Katrina.

Until Hurricane Katrina hit with 125 mph winds and the unimaginable force of a 25-foot storm surge in 2005, the Port of Gulfport, Mississippi was a dynamic force, importing Chiquita bananas and Dole fruit from Central America and exporting wood products, and Tyson frozen chicken parts to Russia.

Confronting 'Bad Luck'

Gulfport the town, with a population of about 72,000 people, had been crushed by bad luck that began with Katrina but cascaded with the subsequent arrival of Hurricanes Gustav and Isaac and the BP oil spill in 2010. The casino was leveled, the recreational and commercial ports were destroyed and most businesses near the coast were erased. The Port of Gulfport was in equally bad shape.

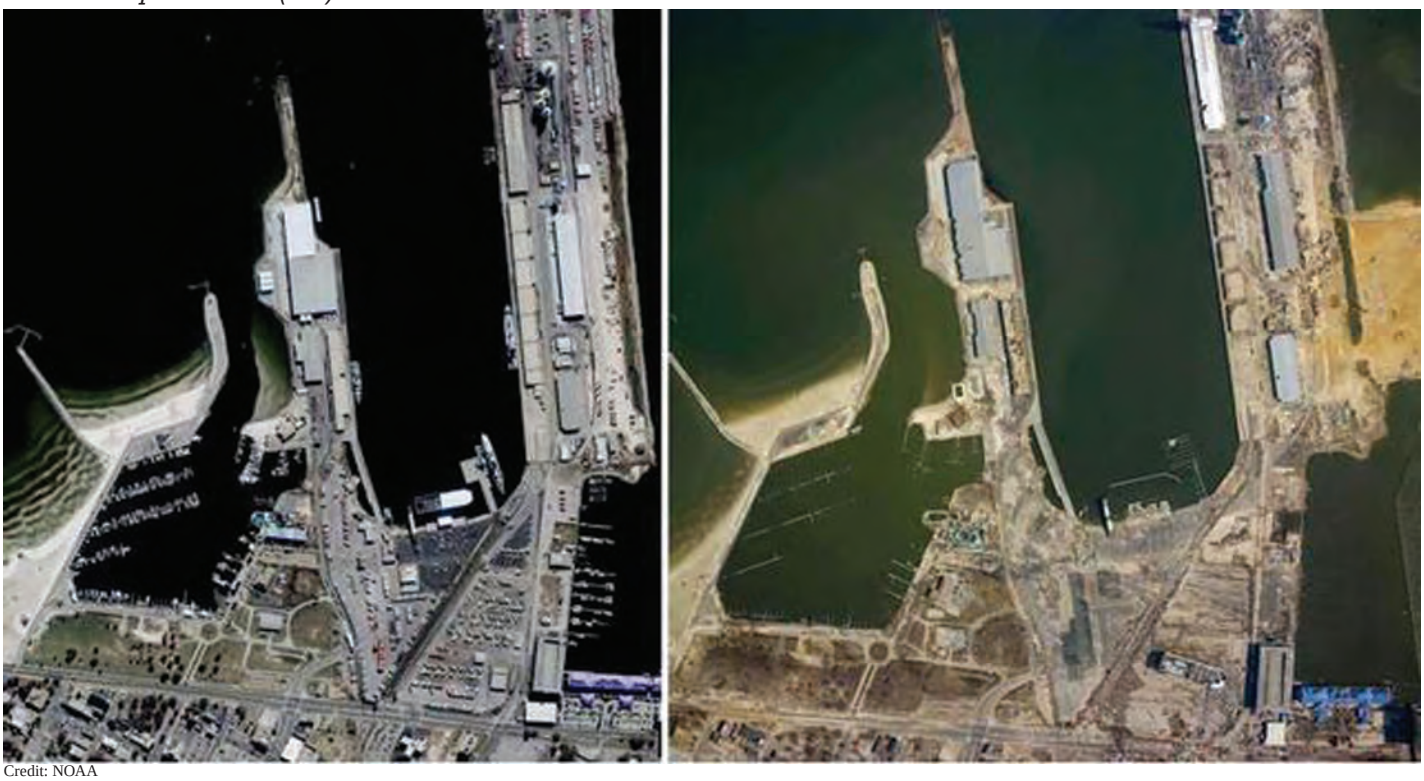
Approximately 430,000 square feet of waterfront warehouses and freezer facilities were completely destroyed by Hurricane Katrina. The one container gantry crane, the bulk vessel loader, banana conveyer system and support buildings were lost. The wharf area on the West Pier was severely damaged and unusable including approximately 2,100 linear feet of berthing area and 420,000 square feet of wharf deck.

In December 2007, almost two years later, the Mississippi Development Authority (MDA) finally requested funding from the U.S. Department of Housing and Urban Development (HUD) to provide financial assistance to support the restoration of the region as well as for the restoration and expansion of the Port of Gulfport. It was a mixed message that created painful conflict between those who sought restoration of the region, meaning housing and jobs mostly for the poor, and reconstruction of the port to create those jobs.

In 2007, then-Governor Gov. Haley Barbour pitched a "port of the future" with a 50-foot-deep channel to lure Super-Post-Panamax ships sailing through the soon-to-be-completed Panama Canal. To accomplish that goal, Barbour orchestrated the transfer of the $570 million in federal housing money to the Port of Gulfport, despite criticism that the money would have been better spent building and repairing houses destroyed by Katrina. In exchange, HUD demanded 1,300 new, permanent low and middle-income producing jobs at the port by 2021.

The American Civil Liberties Union (ACLU) and the Mississippi Center for Justice (MCJ) filed suit in 2008 against HUD and the State of Mississippi. It was settled in November 2010 with a $132

Port of Gulfport before (left) and after Hurricane Katrina.



Credit: NOAA

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>
> – ***Jonathan Daniels**, Executive Director of the Mississippi State Port Authority at Gulfport*

million settlement with the MCJ slated to be used for housing.

In October 2012 at a Port of Gulfport commission meeting long-time port director Don Allee announced he would leave the next month. He had been criticized when he disclosed that the $570 million in HUD grants did not include the cost of dredging the port to 50 feet.

Daniels Hired

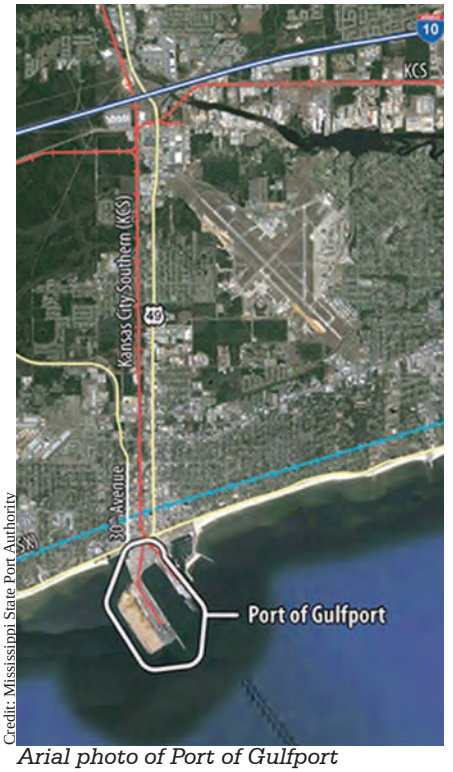
On April 29, 2013, the Mississippi State Port Authority board of commissioners hired Jonathan Daniels as the new executive director for the Port at Gulfport. He was recruited from the upstate New York, Port of Oswego in large part because of his background in economic development. Before taking the job in Oswego, Daniels was executive director of the Eastern Maine Development Corporation, which included a six county region in the state of Maine.

In November 2017, the Army Corps of Engineers finally released the Record of Decision (ROD) for the Port of Gulfport Expansion Project. That decision paves the way for a 282-acre dredge and fill program for further expansion of the port's operations. With the permit in-hand, the port is now evaluating options to complete that dredge and fill project.

By the end of 2017 Daniels had rebuilt the port and more. With the completion of a separate 84-acre addition, the Port of Gulfport now spans 300 acres. The comprehensive restoration program includes the construction of wharfs, terminals, container storage, three new ship-to-shore gantry cranes, and intermodal container transfer facilities. It offers a 36-foot-deep by 250-foot-wide channel and a 1,320-foot turning basin.

It offers nine berths totaling 5,800 linear feet of dock space and one Ro-Ro ramp. It offers two Gottwald mobile harbor cranes, a bulk unloader and more than 400,000 sq. ft. of covered storage, open container storage with reefer plug outlets; customs-secured boundaries with roving patrols and direct on-dock rail service provided by the Kansas City Southern Railway. The port is designated Foreign Trade Zone #92.

Where nothing was left standing after Katrina, the port one-by-one retained tenants and attracted others as it rebuilt. They include Chiquita, Dole Food Company, Crowley Maritime Corporation, Chemours, McDermott International, Inc., Topship, LLC,



Credit: Mississippi State Port Authority

Arial photo of Port of Gulfport after Hurricane Katrina.

Credit: Marty Bahamonde/FEMA

The results of the 25 foot storm surge, buildings destroyed and containers scattered, at the Port of Gulfport following Hurricane Katrina.

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and The University of Southern Mississippi. The Port also has one non-maritime tenant, the rebuilt Island View Casino Resort.

McDermott International is locating pipeline-finishing operations on the East Pier of the port. The new shipyard operated by Topship, a unit of Edison Chouest Offshore, builds service and supply vessels for the oil and gas industry.

Diversification

Since his arrival in April 2103, Daniels said that the Port has evolved from a shipping and cargo operation to a conversion port, where raw materials are being produced into finished products.

"We were that Banana Port on the Coast of Mississippi, which is still a cornerstone of what we do. We are the nation's second largest green fruit import facility, but you look at the diversification now," said Daniels. He then added, "Throw in there the fact that we are one of seventeen strategic ports in the U.S. to be able to handle military cargo, and this port now becomes as diverse as any large scale facility you see anywhere in the United States. So we're extremely proud of what we've been able to do."

Daniels is confident that a final site expansion engineering design will be complete within the year. That, he says, will open the doors to more employment opportunities for Gulf Coast residents as the project gets off the ground. The estimated cost of the expansion is three-quarters of a billion dollars.

"We're at 527 (jobs)" said port director Daniels, at the July state of the port session. "The majority of those, by 69 almost 70 percent, fall in the low to moderate income category." That may seem a long way away from the 1,300 jobs required by HUD in exchange for the $570 million grant for rebuilding and expansion. But Daniels stated that he has confidence new tenants would come online.

"The Topship facility at the inland port should open by the end of this year. And after that, the Port of Gulfport has three years to meet that job requirement." Daniels says he'll be able to meet that goal and beyond. "We've always looked at that as kind of the floor, and we want to be able to build upon that," Daniels added.

Rolls First Ace

Less than three weeks after the State of the Port, on August 16, 2018, Daniels rolled his first ace: SeaOne, a compressed gas liquids (CGL) start up from Houston, Texas, that two years earlier had signed a MOU and lease option agreement with Gulfport finally had secured federal approval and signed a contract with Samsung Heavy Industries Co. to build twelve Articulated Tug/Barge vessels.

SeaOne had already secured an Order of U.S. Department of Energy (DOE) Export Order for 30-years. With export permit in hand and pending a final investment decision, SeaOne completed its pre-project development work and front-end engineering and design for the project at Gulfport.

Now, according to Kimberly Aguillard, Port of Gulfport media and marketing manager, SeaOne has 180 days to prove it has the

funding or it loses its lease option. Assuming the financing is approved, SeaOne will build a first of its kind plant at Gulfport featuring SeaOne's patented CGL technology and systems that includes the CGL containment system. At Gulfport, SeaOne Phase 1 capital expenses are currently estimated to be $450 million and at Phase 4, an estimated $1.6 billion investment.

SeaOne's patented CGL process includes the manufacture of a solvated solution by chilling, pressurizing, and combining natural gas and NGLs. Ethane, propane, butane, isobutane, pentanes, and some heavier hydrocarbons are often referred to as natural gas liquids or NGLs. The liquids will be processed through a plant to separate the heavier hydrocarbon liquids from the natural gas stream. The final solvated CGL product is to be shipped by newly designed Articulated Tug and Barges (AT/B) to international markets in the Caribbean and Central America including the Dominican Republic, Panama, Costa Rica, Colombia, El Salvador, Guatemala, Honduras, Mexico and US Territories to include Puerto Rico, and the USVI.

The planned rich gas and natural gas liquids (NGLs) being exported will provide rich gas for power plants and also provide propane and Liquid Petroleum Gases (LPGs) for household and other uses. Approximately 92 percent of the current power gen-

Credit: SeaOne

Gulfport as it could appear with the SeaOne CGL plant installed on the West Pier.

eration in those markets relies upon oil-based fuels, while households generally use natural gas liquids for cooking and heating, according to SeaOne.

The 260-meter AT/B marine vessels will be the world's largest and most powerful AT/B's. The CGL Containment System is treated as an independent cargo and is not integral to the vessel design. The AT/B cargo holds will be kept at a temperature of minus 40ºF/C while the containment system is full resulting in no sloshing or boil off and no retention of a gas blanket after offloading of the cargo, SeaOne said.

The ABS-classed AT/B's, designed by Ocean Tug & Barge Engineering Corp., will fly the flag of the Republic of the Marshall Islands, according so SeaOne.

Better News

On Aug. 15, SeaOne Caribbean, LLC announced that CG/LA Infrastructure, an international infrastructure organization that offers strategic advisory and project development services to the private and public sector infrastructure community, had recognized SeaOne's project as the Caribbean region's Top Strategic Infrastructure Project for 2018 at its 16th Latin American & Caribbean Infrastructure Leadership Forum in Miami, Florida.

Forrest Hoglund, SeaOne's Chairman and CEO, stated, "The prosperity of many Caribbean, Central and South American countries is stymied by challenges related to expenditures on fuel and power generation that far outweigh other developed parts of the world. SeaOne's technology and know-how solves this challenge through the use of the company's patented technology that allows, for the first time, the importation of low-cost U.S. natural gas and NGLs in a single liquid cargo to regional customers who -- for economic, environmental and regulatory reasons – are compelled to reduce their dependence on oil. We are pleased in the strong customer interest from key Caribbean and Central American countries to date, and are especially gratified that CG/LA has recognized SeaOne as the top regional infrastructure project for 2018."

As for the Yilport letter of intent and negotiations regarding the potential location of a global terminal at Gulfport, Aguillard the port media spokesperson said, "Director Daniels is actively involved in those negotiations and expects an answer by the end of the year." She said the 280 acres of new dredge and fill to the south of the port, which has been approved by the federal government but not yet dredged, is central to those discussions.

"As we continue discussions with Yilport, the Port of Gulfport has a unique opportunity to evaluate a private-public partnership (P3) that could lead to a significant investment in additional infrastructure and provide both parties with increased global coverage," said Daniels in an earlier prepared statement.

According to the Chairman of Yilport Holding, Robert Yuksel Yildirim, "We see a great potential to feed volume, particularly refrigerated goods, to Gulfport from YilPort terminals in Ecuador, Peru and Latin America to reach the USA Midwest. There is further potential in leveraging the company's trading subsidiary to handle containerized liquid and bulk products out of the US Gulf Coast region for small and medium-sized shippers." More than that, Gulfport has served notice that it is, in fact, back. But, this is just the beginning.

The Author

Rick Eyerdam
is a Miami-based, national award-winning journalist and editor. He is a former editor of Florida Shipper Magazine and has served as an adjunct professor of communications at Florida International University. Eyerdam graduated from Florida State University with a double major in English Literature and Government. His articles have appeared in myriad maritime publications.

– ready to move in 2019

With a focus on the state's three deepwater ports, Connecticut also looks to foster commerce that leverages offshore wind, shortsea opportunities and local entrepreneurs.

By Tom Ewing

The Connecticut Port Authority (CPA) has been in operation for almost three years, established by the governor and legislature to better coordinate efforts to improve upon Connecticut's maritime economy, including a major focus on the State's three deep water ports: New London, New Haven and Bridgeport. The CPA, though, has a big picture vision and its focus includes small harbor improvements, ferry and cruise opportunities and system maintenance, particularly dredging.

It wasn't always like this. Prior to CPA's establishment, port management decisions and development were housed in the state Department of Transportation. Importantly, however, the CPA is still linked to DOT; in fact, the DOT Commissioner – Jim Redeker – is on the Board of Directors.

Real Progress, More Work Ahead

Giving real emphasis to the state's considerable coastline assets, perhaps for the first time in decades, the CPA has, in a short period of time (a.) introduced a merit-based approach to maritime investment (b.) is overseeing a major redevelopment of State Pier in New London – the largest maritime/port asset within the PA's domain; new State Pier work which may include facilitating a growing Atlantic wind energy market and (c.) CPA established the type of updated management systems expected within a modern state port authority. From a policy perspective, Connecticut is investing to integrate its maritime assets into state and regional transportation systems.

In August, CPA released a Maritime Strategy document – "Connecticut Port Authority Local Waters. Gobal Solutions" – outlining big-picture ideas and eight "Strategic Objectives" to develop new maritime opportunities. Many are market-based opportunities, presenting economic advantage; representing low hanging fruit, waiting for action.

Consider, for example, highway congestion and level-of-service problems on I-95. The traditional roadway fix would expand right-of-way and add new lanes, increasingly difficult in urban areas. The Port writes that "congestion on I-95 is not sustainable," that trucking solutions are limited, and suppliers, reminded everyday that highways are way over capacity, are looking for transport beyond the almost total reliance on trucks.

One new alternative could include freight shipments along CT's coastline, on Long Island Sound, just a couple miles south of I-95. This is within very familiar territory and within a logistical operation that is timely, predictable, less costly and part of the well-established federal Marine Highway System.

In the Strategy document, CPA's first Objective is linked to managerial improvements, particularly at State Pier. CPA wants more bang-for-the-buck from port operations. Change is timely because State Pier's existing operating lease terminates on January 31, 2019. CPA officials call State Pier "an under-utilized state asset." They are seeking a new port operator ready to "think ambitiously" so that "State Pier can be redesigned to accommodate a wider range of opportunities, including the staging of wind turbine components and the introduction of new commodities like conventional cargo." A request for proposals for a new operator was issued in June; responses are being evaluated now.

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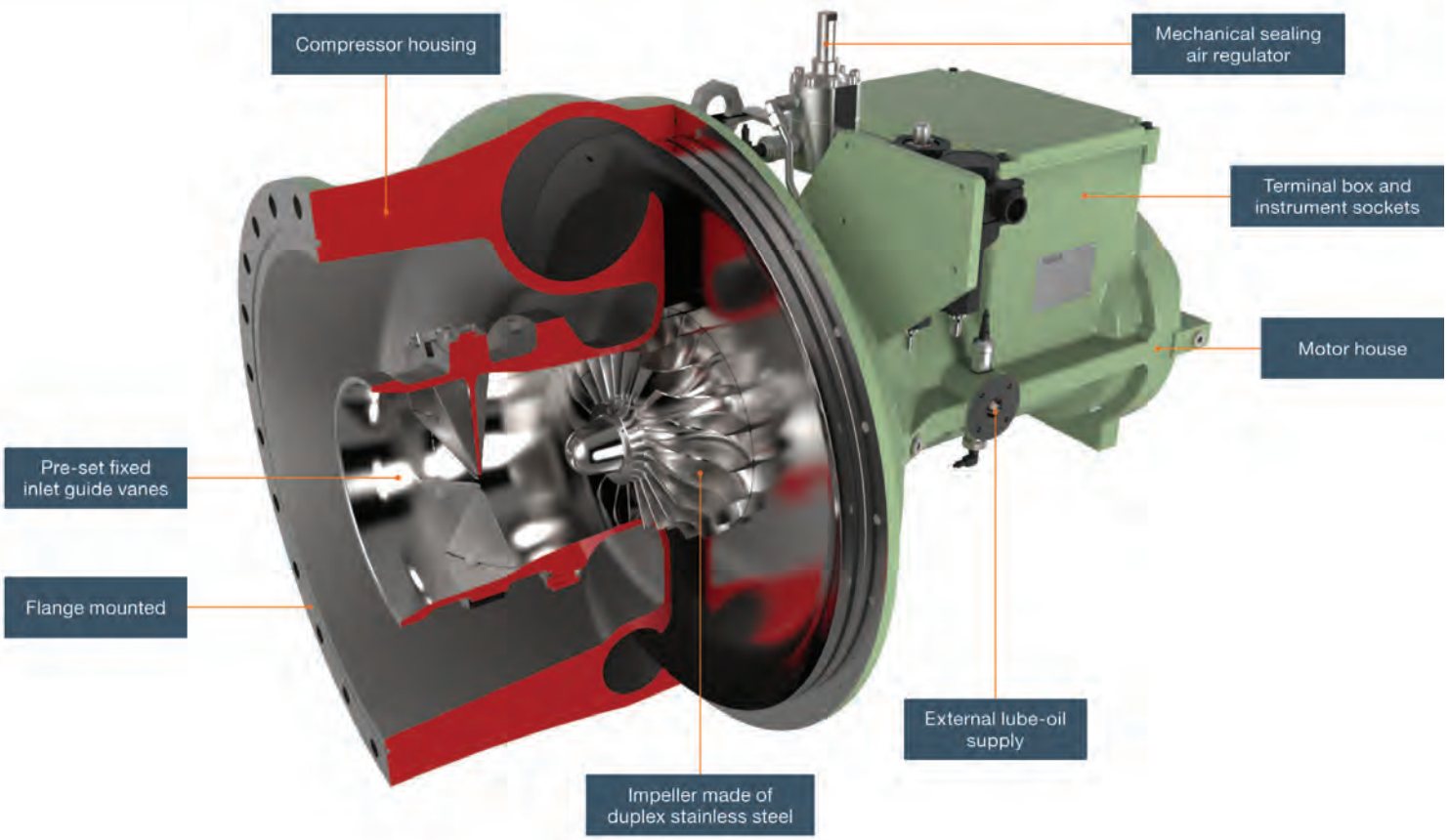

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"Our goal is to find an operator who can help us achieve the highest and best use for State Pier and we have no pre-conceived notions about what the highest and best use is. The marketplace is helping us answer that question."

– Evan Matthews, CPA's Executive Director

The Hammonasset Beach State Park beach restoration project. Dredge material taken from Housatonic River to restore beach at state park.

New Opportunities

Evan Matthews, CPA's Executive Director, if hopeful and at the same time, pragmatic. "Our goal is to find an operator who can help us achieve the highest and best use for State Pier and we have no pre-conceived notions about what the highest and best use is," he told ***MLPro***, adding, "The marketplace is helping us answer that question." A new contract will likely include performance incentives to encourage the kind of creative thinking required to maximize State Pier revenues, activities and the port's mix of cargo.

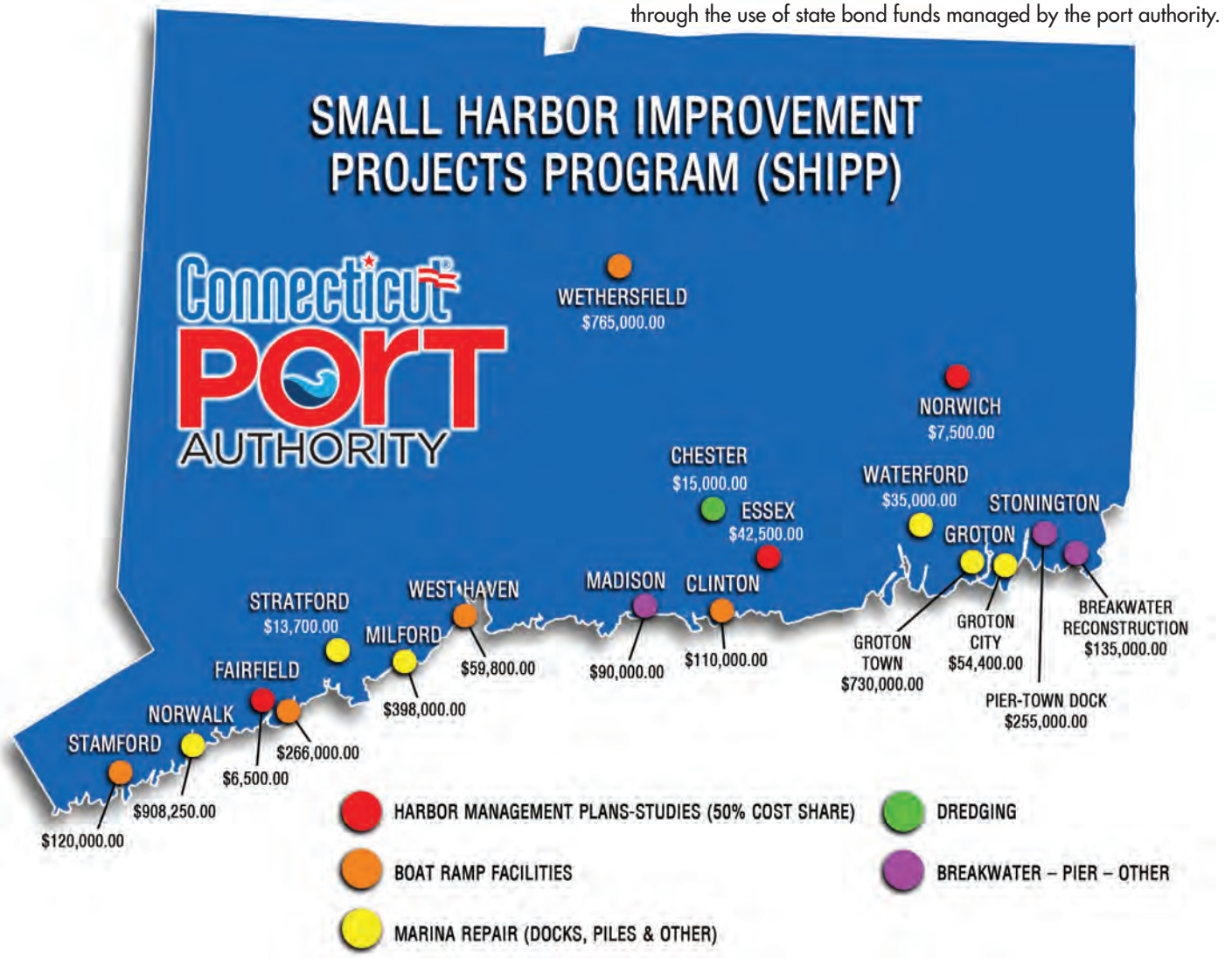
The wind turbine focus is a good example of new opportunities. Ocean-based wind energy offers State Pier the chance to be front-and-center for emerging projects linked to legislatively mandated energy generation priorities. CPA highlights the fact that New London is the only major port between New York and Maine that is free of vertical obstructions and offshore barriers – a necessity in the assembly of offshore wind turbines. Again, nothing is settled. Matthews commented that "we see the potential (with wind) but we have not reached any conclusions yet on the highest and best use of State Pier as it relates to wind development. The market will help us decide if that is the direction we head in."

Second, port staging is drawing planners' attention. Officials will evaluate how increased containerized business could be managed profitably in the state. Currently, break-bulk cargo (other than fuel) dominates CT's deep-water ports. CPA's Strategic Object #5 calls for "innovative solutions to enhance intermodal shipping options and identify complementary cargo flows." Again, containerized cargo could use water transport, moving freely along Connecticut's coastline compared to trucks stuck on I-95, just a few miles away. That beckons to shortsea shipping solutions fed by niche coastwise feeders.

A new focus on containerization will also include evaluating "inland ports," entities which could "capitalize on land available outside the port districts for both cargo and container storage." Currently, Connecticut's ports are not equipped to handle containers. CPA cites two main reasons: lack of available land for container storage prior to and after shipment and the physical needs of larger vessels in CT's ports and Long Island Sound.

The Strategy specifically cites new opportunities to move food

The graphic is a depiction of "small harbor improvement projects" statewide funded through the use of state bond funds managed by the port authority.



and perishables, for ports to reclaim a once-important service lost to competitive logistics. Referencing I-95 congestion, Port officials believe that CT's location, via its waterways, can provide an "alternative entry point for perishable and food products headed to the New England market." Port officials cite preferences and demands for local, organic and fresh foodstuffs, from apples to fish and meat, products for which brief – and predictable – transit is critical.

One company ready to move into this new/old space is Harbor Harvest, based in Norwalk, CT. HH is a full-service food company: it has a restaurant, a catering service, a brick-and-mortar grocery, it grows and sells herbs and is ready to start up – likely in March – one very unique additional service: maritime transport among farms and farmers in CT and Long Island.

Harbor Harvest Underway

Bob Kunkel is one of HH's principals and owners. His firm has contracted with Derecktor Shipyards to build a 65-foot all-aluminum catamaran vessel that will be used to pick up and deliver produce, meats and dairy products from local farms on both sides of Long Island Sound.

Kunkel explained that there are a number of logistical factors favoring his new venture. First, it's difficult for small, local farms to reach customers farther than 15-20 miles away, despite market demand, which is increasing in his region, Kunkel said. These local shipments are almost always below full truckload scale. "There's a big difference between local shipping and global shipping," Kunkel pointed out. Additionally, he said that local officials don't like 18-wheelers making deliveries in small city centers. The delays and unpredictability on major roadways are, for food, counter to notions of "fresh," at the heart of higher value.

Kunkel said many CT farms are near rivers and harbors. And, that's important because his catamaran draws just 3 feet. As cargo, most farm goods are shipped on pallets and moved by forklift or a jack-lift. His boat will have RO/RO capability with refrigerated storage. Capacity is about 28 pallets. His plan: a grower meets him at the dock, say, in Norwalk, and Kunkel ships it east to Bridgeport, or south, across the Sound to Huntington, Long Island. The buyer either picks up the pallets at

Harbor Harvest Under construction

Credit: Robert Kunkel

the dock or Kunkel can arrange for the "last mile" of ground transport. Quicker, predictable, fresher and competitive. Kunkel thinks customers will be drawn to the environmental pluses with his service – decreased ground-based transport impacts along with decreased CO2 emissions since his vessel will be a hybrid battery-diesel combination.

Kunkel was asked about the priorities he would emphasize considering CT's new Strategy. He said an operation like his looks for support in two ways: development that rebuilds a working waterfront, one that meets commercial needs and harbor access, again for commercial operations, not just, say, for recreational boaters who might need a marina.

For Kunkel, Connecticut's moves are timely. "Places are looking for this kind of service," he said, adding that "growth is out there." He is confident his market could eventually require 12 delivery boats providing service from New Jersey to Rhode Island.

On the Radar

One of the biggest challenges with moving from planning to actual projects is funding: establishing designated revenue streams to pay for large-scale investments in port infrastructure and equipment. It can be difficult to fund non-highway/non-road transportation projects that cannot draw from state/federal fuel tax accounts. Undoubtedly CPA will find some new revenue as CPA reworks expectations from State Pier's new management team. Money and expenses, and opportunities and challenges, will be clearer when CPA's 2019 budget is released in early February.

The Coalition for America's Gateways & Trade Corridors (CAGTC) is a Washington-based trade organization established to raise public and Congressional awareness of federal transportation funding for freight. One of the Coalition's core planks is "Give Freight a Fund," an advocacy effort to develop what CAGTC calls a "National Strategic Freight Mobility Program and Trust Fund (FTF)." CAGTC wants federal officials to "explore sustainable revenue sources across all modes." They write that this does not have to be "overly burdensome" and they note that capturing just a "small fraction of the value of the commodities moved would generate considerable revenue." That future value is expected to be strong. CATGC references Federal Highway's prediction a few years ago that freight shipments between 2010 and 2040 will grow to an estimated $39.5 trillion annually, with $10.3 trillion transported intermodally.

CAGTC suggests a policy goal in which the price of goods support and internalize a "portion of the cost of expanding related infrastructure, such that growth in demand for moving goods delivers proportional funding for related infrastructure improvement."

Without a doubt, the Connecticut Port authority plans to be active in freight advocacy. Executive Director Matthews explains, "We see it as part of our responsibility in meeting the core mission of the agency as outlined in the enabling legislation. The goal is to enhance Connecticut's maritime economy to create jobs. Being engaged on a regional basis and nationally is part of that effort."

The Author

Tom Ewing
is a freelance writer specializing in energy, environmental and related regulatory issues.

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THE PORT OF LIVERPOOL:

caring for seafarers

The British port of Liverpool works with a range of charitable organizations to provide visiting seafarers spiritual, health, welfare and recreational support, primarily through the facilities of Liverpool Seafarers Centre.

By Tom Mulligan

Image above: Liverpool Seafarers Centre's CEO, John Wilson, with MS Black Watch crew at Liverpool's cruise line terminal seafarer center.
(*) All photos: Polaris Media / Liverpool Seafarers Centre

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The Port of Liverpool on Merseyside in the UK represents a prime example of a major maritime hub where the welfare of seafarers has long been a top priority. In fact, Liverpool's seafarer outreach work dates back to the 19th century. The Anglican Mersey Mission to Seafarers was founded in 1856, and was later followed by the Catholic Apostleship of the Sea (Liverpool), founded in 1937. Liverpool Seafarers Centre (LSC) today is the result of a successful partnership between the two organizations.

The merger followed in the footsteps of Liverpool Bishops John Worlock and David Sheppard, who worked to overcome deep religious divisions between the Catholic and Anglican communities during the 1970s and 1980s. LSC initially began work in 2006 before it was officially formed on October 1, 2008. The Mersey Mission and Apostleship had previously worked in competition with one another, running small satellite centers, including operations in nearby Runcorn, Birkenhead and Salford. They worked independently with little to no communication between the parties, leading to much duplication of work and services. The formation of LSC, however, enabled the two organizations to dovetail and pool resources: this has essentially created a more efficient and coordinated seafarer outreach program for the city and the betterment of visiting seafarers.

Initial Activities

LSC's initial activity involved streamlining the entire operation, cutting waste and removing duplicate services existing between the Mersey Mission and the Apostleship, which in turn helped to free up resources. LSC set up one central headquarters at Colonsay House in Crosby, Merseyside in order to direct the seafarer welfare support program. Work centered around on-board visits and seafarers benefited immediately because the support process was simplified, having been previously approached by multiple organizations and volunteers offering similar services, which led to confusion and crossover. Seafarers lost track of who was who, and which organization did what. Liverpool Seafarers Centre has a much clearer identity. Crews now know exactly what the organization is and what it can do to help.

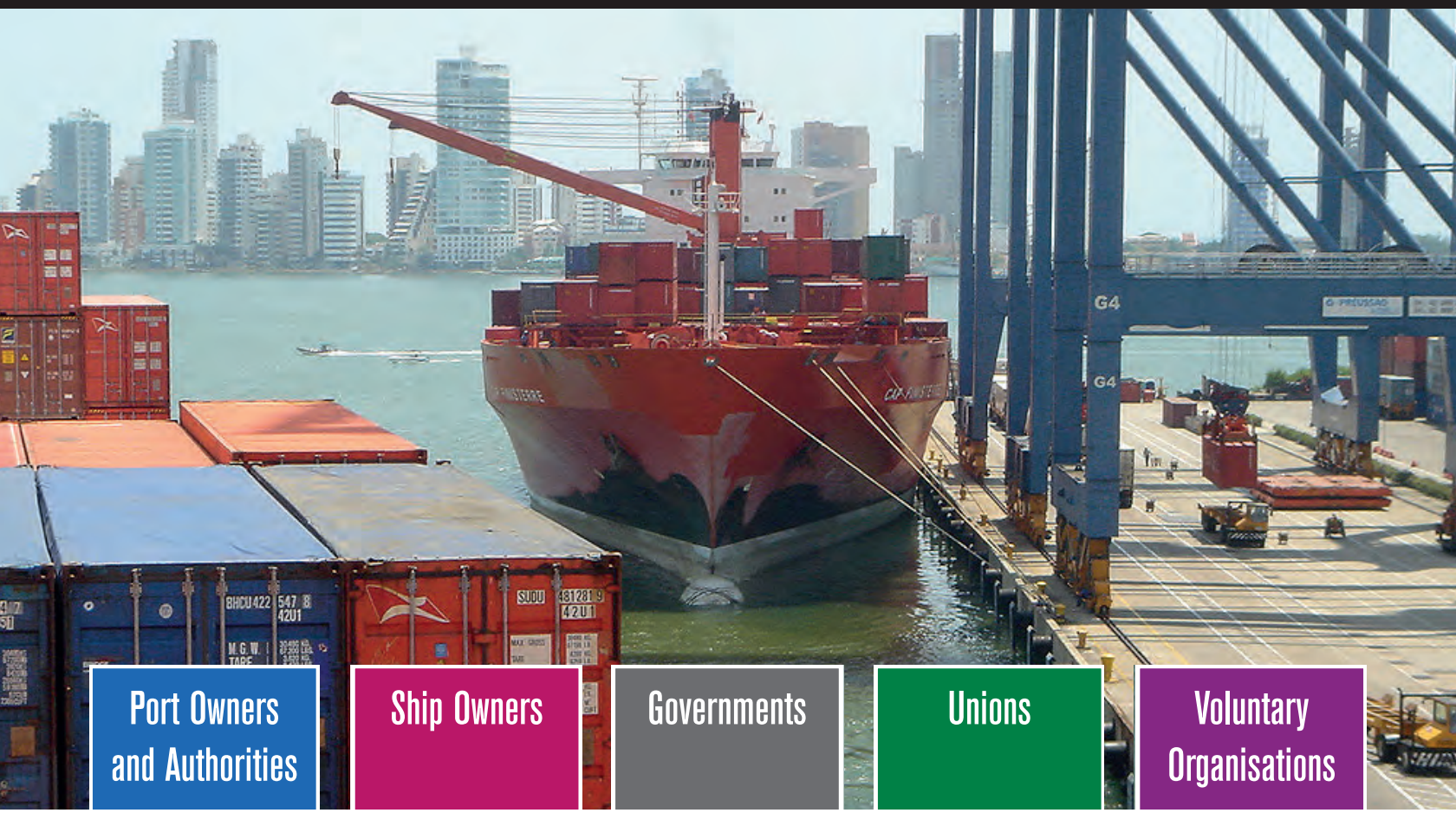
A Lifeline to Seafarers

LSC annually provides support to 50,000 seafarers passing through the Port of Liverpool each year. Two centers on Merseyside – Crosby and Eastham, also serve the Manchester Ship Canal – and its support system extends beyond the Liverpool dock estate. LSC's general offering has developed greatly over the years, as it has become more proactive and professional. Its mission, however,

LSC CEO John Wilson and MS Black Watch at the Liverpool cruise line terminal.

International Port Welfare Partnership

"SUPPORTING WELFARE FOR THE SEAFARER IN PORTS WORLDWIDE"



The International Port Welfare Partnership (IPWP) aims to encourage and support the establishment of welfare boards worldwide, in accordance with ILO MLC, 2006. Welfare Boards provide the forum for maritime organisations to regularly meet and support seafarers' port welfare services/facilities in order to improve seafarers' lives and services to global shipping.

If you are interested in becoming involved or supporting the project please visit:

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The IPWP is an International Seafarers' Welfare Assistance Network (ISWAN) programme that is funded by:

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LSC CEO John Wilson and a member of the crew of the Panama-registered general cargo vessel Seccadi at the Centre's new Eastham Hub.

has never changed and remains firmly focused on providing a 'lifeline' to seafarers, both active and retired, offering a safe and secure place to rest and also receive practical and emotional support.

LSC undertakes a wide variety of practical, emotional and spiritual work. For example, it often steps in when there are 'major life events' such as a family bereavement, trauma, marriage, divorce or the birth of a child. It acts as a go-between, and can talk to the ship management company in order to ensure that seafarers are being properly cared for. On a practical level, it provides a variety of support, including access to WIFI, money exchange, and a physical base on land where crew can take a break from the vessel.

Another key role involves ensuring that the Port of Liverpool and the maritime industry on Merseyside maintain its reputation as a friendly caring port. Liverpool is one of the few port cities to have a seafarer welfare center in a cruise terminal. This makes all the difference to the crew, who would otherwise struggle to find the time to travel to outreach centers.

Two major factors are impacting the modern seafarer and subsequently forcing an evolution in care and support. These are technology and mental health. While technology can be a power for good, it has also created an isolation effect in which seafarers withdraw from face-to-face human interaction during downtime in favor of technology. LSC increasingly encourages seafarers to leave living quarters, exit the vessels and go ashore to interact with other people. Another important factor is that seafarers are not necessarily together as friends but are together as work colleagues. It is very common to find mixed-nationality crews, and the feeling of isolation is heightened for those who are perhaps the only member of the crew from their country or region of the world. LSC now requests crew lists from all vessels so the organization can identify in advance the numbers and mix of crews.

Regarding the mental health aspect, LSC volunteers are redoubling their efforts to create lasting moments with the visiting seafarers by having meaningful conversations. This also allows them to open up: the LSC support staff may be the only people seafarers feel confident talking to in complete confidence. LSC can also secure the necessary support in the event of any issues.

LSC has worked to build relationships with all organizations within the Port of Liverpool 'family,' for example the pilots, who are the first to join and the last to leave the vessel when in port, and the stevedores, boatmen, the police and HM Revenue & Customs. This in turn expands LSC's network and reach.

The center has also developed in terms of staff and volunteer training. LSC is a member of the global International Christian Maritime Association (ICMA) and is bound by its Code of Conduct. All LSC support workers also receive training through a Ship Welfare Visiting Program. This provides instruction on protocol for accessing the port estate, boarding a vessel and managing crew. This training is essential and ensures that all support workers are better equipped for the job. LSC has also invested in official staff and volunteer uniforms, including personal protective equipment (PPE) to ensure that the team is clearly visible and professional.

Staff and volunteer numbers continue to rise in order to deliver LSC's expanding brief and there is now a total of 20 active volunteers. To fulfill its mission moving forward, LSC is also considering extending its seven-day service to 'round-the-clock' 24-hour care. The Centre believes this will be particularly important in line with the expansion of the Port of Liverpool, with the second phase of Peel Ports' Liverpool2 program due for completion in 2019.

Ambitious Plans

LSC plans to open three new support hubs across Merseyside and Cumbria. Although still at the planning stage, the organization's aim is to extend support to seafarers in the northern England ports of Garston, Silloth and Barrow, which are all operated by Associated British Ports (ABP). The charity is seeking a lease agreement for space at Garston Harbor Office to kick-start the initiative after securing internal funding. Garston, Silloth and Barrow each receive up to five vessels per week, with about eight crew members per vessel. The ports, however, are known for being more remote and have varying degrees of local infrastructure and amenities for visiting seafarers, and the purpose of opening specialized hubs in these locations is to maximize the support LSC can deliver.

Communication is vital to delivering effective seafarer support. LSC is preparing to launch a new VHF radio service to enable direct communication with vessels prior to docking and whilst in

Liverpool Seafarers Centre's CEO, John Wilson, with a member of the crew of MS Black Watch at Liverpool's cruise line terminal seafarer center.

port, thereby greatly improving service delivery. LSC will be able to connect with a ship's master or chief officer while the vessel is entering a port to introduce the welfare service and supply a bandwidth number for ongoing communication and support. This will require all LSC staff and volunteers to sit a national examination with the Royal Yachting Association before securing hardware and a license from the UK's communications regulator Ofcom.

Another key development involves LSC's port levy initiative with shipping lines to boost funds for seafarer support. In October 2017, LSC gained permission from Peel Ports to allow a voluntary levy to be applied to shipping lines coming into the Mersey Ports, in line with the recommendations of the Maritime Labor Convention, MLC 2006: the amount shipping lines pay is calculated by gross tonnage. Similar seafarers' centers operating in ports around the world have negotiated successful port levies. The idea of a levy is proving to be a successful one and shipping lines that currently agree to the contribution includes ACL, Seatruck Ferries, Stena Line and P&O.

In 2017, LSC launched a new £40,000 ($53,000) hub at Queen Elizabeth II Dock, Eastham, which was opened by The Lord Lieutenant of Merseyside, Dame Lorna Muirhead. It works in partnership with LSC headquarters in Crosby and has been supported by donations from Essar Group's Stanlow oil refinery in Ellesmere Port, Peel Ports, the Merchant Navy Welfare Board, proceeds from Mersey River Pilots raffle and the Mersey Maritime Industry Awards raffle, the Voluntary Aid Club Dinner and The Phoebe Wortley Charitable Trust. The new center enables LSC to maximize the support it gives to seafarers docking within the various berths on the Manchester Ship Canal and follows the model of the Liverpool base in offering seafarers practical and emotional support as well as a lounge, Internet, gaming facilities and transportation.

LSC is further stepping up its efforts to deliver church services on board vessels after reporting a rise in demand for spiritual support from crew members. It now offers a wide range of such support, including church services, sacrament and blessings directly on board vessels. Many seafarers on cruise vessels are only permitted up to two hours shore leave, making it difficult for them to attend church services and crew on merchant vessels are also precluded from attending church services, even when in port, due to operations on board. In the first few weeks of 2018, LSC delivered six services – an increase on the same period last year, in which it delivered a total of 12 services throughout the year. The Port of Liverpool welcomes seafarers from all over the world, including from countries such as Bangladesh, Indonesia, India and the Philippines. This increased activity has ensured that LSC can provide spiritual support aligned to whichever Christian denomination a crew member may follow – Roman Catholic, Anglican or Methodist, for example. The important point is that LSC is able to support crews' spiritual and emotional needs in equal measure in addition to the more physical and more practical requirements of seafarers.

LSC has its greatest connection with the Northern Irish and Irish ports of Belfast and Dublin. It works with The Mission to Seafarers in both Belfast and Dublin, as well as with Dublin's Apostleship of the Sea representative. It is also in constant contact with the chaplains in both cities, sharing information about vessels and crew members in need of support. LSC also belongs to The Mission to Seafarers, which has about 280 centers around the world. ICMA members operate a referral system whereby they can communicate about on-going situations and flag seafarers at risk anywhere in the world.

Vision for the Future

The working life of a seafarer is hard and at times dangerous. Seafaring can be a lonely and isolating job, and crew frequently do not have people to talk to. LSC aims to exercise core Christian values of love, care and respect through its outreach work. It also aims to show seafarers from around the world that Merseyside cares and understands the challenges they face. About 95 percent of everything consumed in the UK is transported by sea and the country relies on the silent and invisible army of brave men and women who crew ships to support its economy and way of life. As a sign of its gratitude, LSC is planning to extend its network across the north-west UK region, throughout Merseyside and Cumbria, so that it can serve on average 10 to 20 percent more seafarers each year and is looking to expand its entire operation with more volunteers and salaried staff in order to achieve that goal. www.liverpoolseafarerscentre.org

Credit: POLB

GE Transportation's Digital Solutions Port Optimizer

Already a success in the neighboring Port of Los Angeles, a pilot project utilizing GE's Port Optimizer could be a logistics game changer for busy intermodal gateways everywhere.

By Joseph Keefe

In late summer, a pilot project between GE Transportation and the Port of Long Beach got underway. Intended to enhance advance planning at the busiest port complex in North America, stakeholders across the Port will use GE's Port Optimizer software to access data that will allow them to move cargo containers more efficiently.

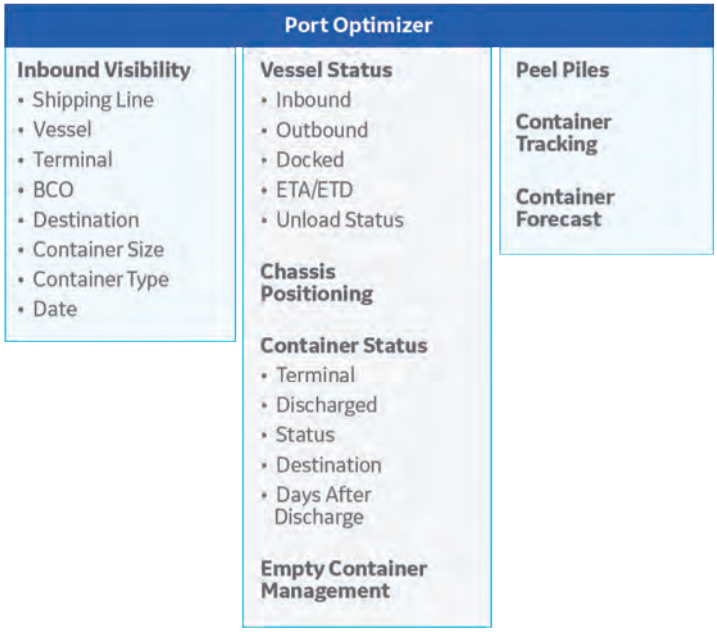
Three of the Port's six container terminals are involved – Long Beach Container Terminal, Total Terminals International and International Transportation Service. The system debuted at the Port of Los Angeles last year, with considerable reported success. The Port of Long Beach is one of the world's largest seaports, and alongside the Port of Los Angeles, it represents the nation's busiest intermodal gateway. Long Beach, served by 175 shipping lines with connections to 217 seaports, was looking for a way to further streamline its massive cargo operations footprint. This year, they turned to GE as their newest efforts kicked off.

Traditionally, supply chain operations consisted of multiple systems, each designed to measure and monitor singular aspects, for example ocean transit. Until now, there has not been the ability to consolidate and provide that "single pane of glass" that supply chains need to see how cargo is moving — holistically. But, that's where GE's Port Optimizer comes in.

GE'S PORT OPTIMIZER

Port Optimizer is a cloud-based software solution that enhances supply chain performance and predictability by delivering real time data driven insights through a single portal to partners across the supply chain. Integrating data from across the port ecosystem,

Credit: GE



combining machine learning and deep domain expertise, it helps the supply chain monitor and respond to dynamic conditions, align people and resources, and proactively communicate across functions – enabling maximum port throughput and delivery performance. These capabilities serve many stakeholders across the port complex, including but not limited to marine terminal operators, ocean and motor carriers, railroads and beneficial cargo owners.

In a nutshell, Port Optimizer allows users to extend the window of visibility of inbound cargo for proactive equipment and resource planning. At the same time, it allows collaboration between supply chain partners through a single portal. Potential problems are identified in advance, thus reducing supply chain dislocations. All of this translates to greater productivity achieved from existing assets, while increasing cargo velocity and improving service delivery.

A scalable, asset-centric data foundation is critical to the success of industrial applications. Port Optimizer is built on a comprehensive and secure application platform to run, scale, and extend digital industrial solutions. The platform delivers shared capabilities that industrial applications require: asset connectivity, analytics and machine learning, and big data processing.

In Long Beach, GE will not just be piloting its core capabilities. It is also launching Long Beach-centric functionality – marine terminal operator and landside transportation integrations for better planning and gate transactions, including MatchBack Systems for dual transactions, and advanced/predictive analytics addressing truck congestion using GeoStamp's IOT platform.

CASE STUDY: PORT OF LOS ANGELES

At the port of Los Angeles, another project started about two years ago, emanating out of labor and congestion issues that the port was then experiencing. An RFP process kicked off, and ultimately, GE won the competition. By November of 2016, the Port of Los Angeles had finalized the deal and in early 2017, they were off and running with GE's Port Optimizer.

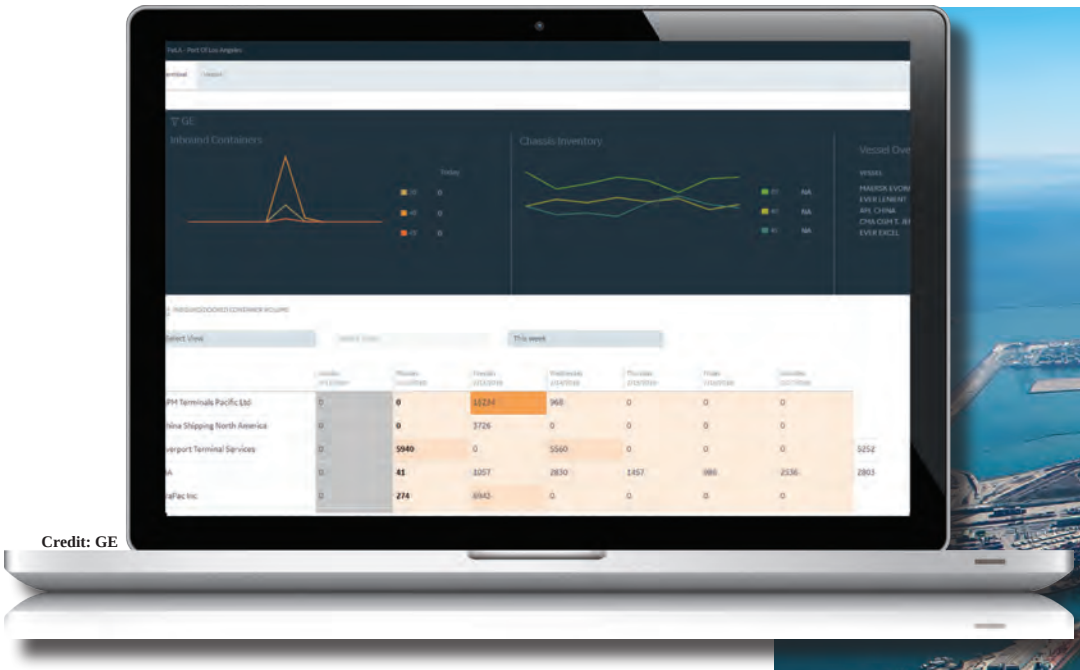
Chris Chase, the port's Marketing Manager explains, "The pilot project initially started with one terminal. And we have been adding terminals. We've got 3 out of our 6 are fully up and running at this point and we're making our progress on the balance. A lot of this has not been done in this way before, so we're breaking some new ground. The devil's always in the details."

But, the port and GE got buy-in from shipping lines and terminal operators at their highest levels and that put the project on firm ground. Perhaps the most time consuming part of the implementation involved exchanging data and technology that GE and the other parties had to come to an agreement on.

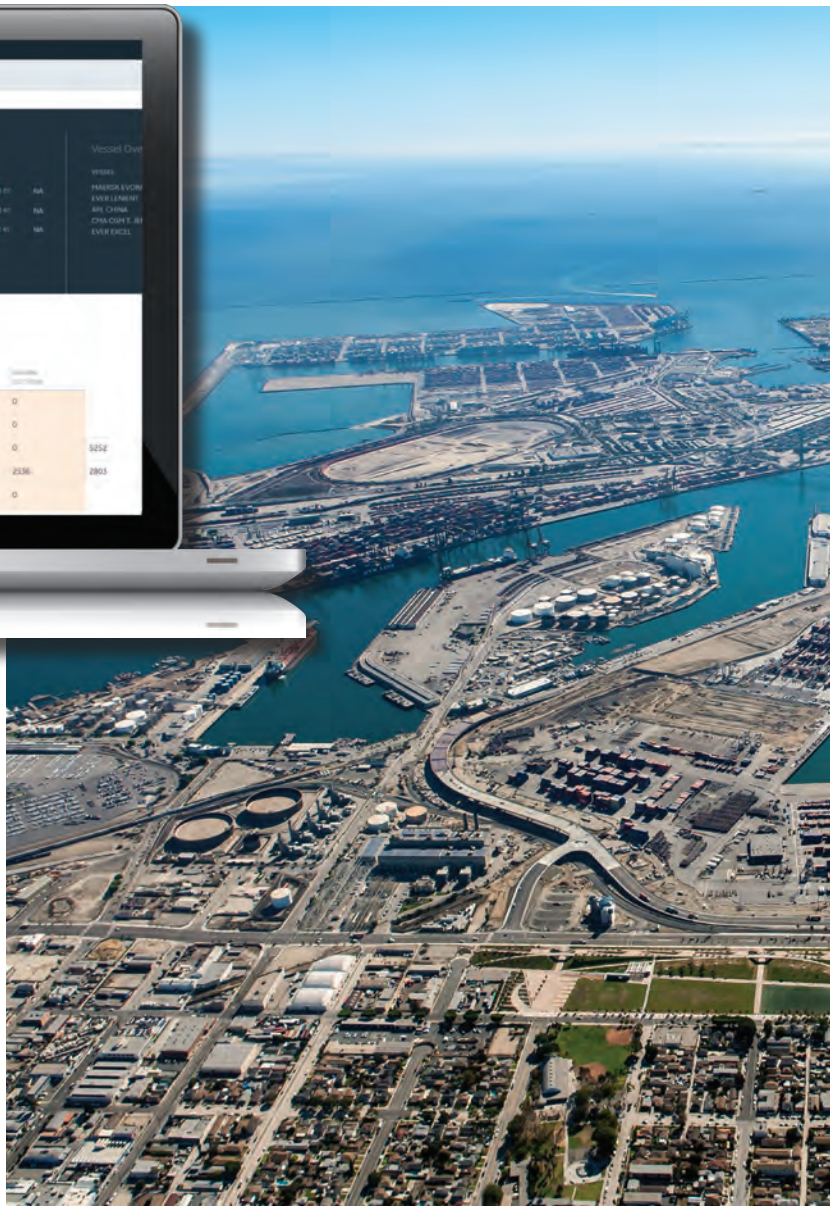
Like the all-important (but little appreciated) aspect of chas-

Port Optimizer Features, Challenges & Solutions: at a glance ...

Intermodal Challenge	GE Feature	Optimized Solution
Siloed data	Unified Information Portal	Digitizes disparate supply chain data, eliminates stovepipes.
Multiple web sites	Cloud-Based Platform	Automated data, SaaS enables rapid deployment, seamless ops
Inaccurate data	Flexibility	API-driven architecture integrates into existing IT systems.
Data Protection	Persona-Based Visualization	Flexible, modern user interface. Users only see their data.
Unknown cargo status	Predictive Analytics	Real-time intermodal planning, & MT box returns



Credit: GE



sis logistics within the greater supply chain, where terminals and ports complain that a little bit more notice from liners might give them a competitive edge and move that cargo just a little faster, GE's Port Optimizer touches upon this aspect of terminal operations – and many more.

"That's why we are trying to get all the shipping lines and all the terminals to help us share the appropriate information, to the appropriate party, at the appropriate time, so people like the chassis providers can make these decisions and, not on the fly, but with visibility down the road, so it's not happening at the last minute. And that's a big part of what we're trying to get to." Along the way, though, parties are still concerned about the security of their proprietary data.

At the Port of Los Angeles, progress has been steady, but at the same time, methodical. Most waterfront intermodal stakeholders agree that centralized access to macro-level information would be very helpful to many people. That said; it's when you get down into the detailed customer data that things get a little more difficult. Chase adds, "We're trying to utilize all those different pieces at the same time, which is why this is not an overnight project."

The port of Los Angeles is so pleased with what they've accomplished so far that they've extended their agreements for another five years, agreements worth nearly 12 million dollars. "We saw from our pilot that there are definitely some opportunities for significant improvements in our ability to handle cargo. Obviously, if you have the right piece of equipment at the right place, at the right time, inherently that says things are going to operate more smoothly than if you don't," said Chase.

And, it is going considerable smoother in the port since the pilot project began. The key component, insists Chase, involves "getting everybody on board and getting the data in the right place so we can see it, so that the users can make better decisions. A lot of this is up to the end users. They've asked for visibility and the port and GE will give it to them, but what are they going to do with it? And that's the next step in the game. But until they have all the data, it's harder to say exactly. I can't give you a definite number just yet, but we've got some pretty good estimates."

LOOKING BACK TO PLAN AHEAD

As Los Angeles implements the GE software program into its remaining terminals, Long Beach is just getting started. As that all plays out, there have been lessons learned that Long Beach would dearly like to take advantage of. And, that's just fine with Chris Chase.

For example, the two ports pride themselves in engaging in healthy competition, but at the same time, leveraging coopera-

Credit: Port of Los Angeles

> *That's why we are trying to get all the shipping lines and all the terminals to help us share the appropriate information, to the appropriate party, at the appropriate time, so people like the chassis providers can make these decisions and, not on the fly, but with visibility down the road, so it's not happening at the last minute. And that's a big part of what we're trying to get to.*

tion for the greater good. They coined the phrase 'coopatition' to describe their myriad interactions.

'Coopatition' involves, for example, understanding that environmental efforts in one port that aren't mirrored next door, are probably a waste of time. GE's Port Optimizer falls neatly into this discussion. Chase explains, "When we did this project we were doing it for cargo efficiency and if it [environmental improvements from reducing delay times to idling trucks] is an ancillary benefit, that's even better. Again, until we get everything rolled out, it's going to be hard to give an answer in that realm. But again, I think our environmental folks are definitely working with us on this to see if there is a benefit that we can find from doing this."

In the end, the relationship just makes sense. "We probably do more projects to support the Ports of LA and Long Beach together than we do apart. It's really just on the business side where I work where there is the competition because, you know, we have the same customer base," Chase says, adding quickly, "We want Long Beach to work with GE on this project as well because if there's a separate system for LA and Long Beach, it defeats the whole purpose."

Perhaps the most important part of the GE optimization story is that it isn't being installed to replace anything. Chris Chase explains it best, "When we did talk to Long Beach, the fear was that 'you're gonna take away the system that I spent all these years on!' The answer is, no, we're not. We're just trying to do an over-arching thing that will hopefully help the whole supply chain do their jobs better. And it's not that your system is better or worse than others; it's just different, and we're just trying to make that common interface. All the back of the house stuff remains the same. We're just trying to give a common user interface and allow them save lots of time, which in turn allows them to better spend that time doing something else."

Finally, says Chase, the commonly used terminology of 'disruption' has no place within the GE Port Optimizer solution. "We are trying to do exactly 180 degrees of that. We're trying to get away from disruption. The whole idea behind this is to smooth things out, to make the process and the chain work better."

As ***MLPro*** went to press, Chase and the Port of Los Angeles couldn't provide any hard data on the pilot so far, but he characterized the implementation as a success. And, he adds, "When we have a full rollout for the entire Port of LA, in the next 3 to 6 months, we should have everybody up and running, hopefully sooner than that. We'll need a little time to process that, so I'm optimistically saying within the next year we should get a real good view of what those analytics look like." ***MLPro*** will be there when they do. www.getransportation.com/portoptimizer

Credit: Adobestock / ©momentscatcher

Autonomous Operations & the Future Mariner

The second annual global Maritime Training Insights Database survey examines the impact of the autonomy trend in maritime operations on the training of future "seafarers."

The Maritime Training Insights Database (MarTID) steering group has announced the upcoming launch of the 2019 MarTID survey, which this year focuses on the trend toward autonomous vessel operations and its impact on training current and future mariners.

MarTID is a non-commercial, joint initiative of the World Maritime University, New Wave Media and Marine Learning Systems. Its core principles include ethical integrity, objectivity and confidentiality. It was launched in 2018 with the completion of the inaugural survey and publication of the 2018 Training Practices Report (which can be found at www.MarTID.org). The steering group takes this opportunity to thank again the many respondents to the first survey.

This MarTID initiative is an important one, the first of its kind in the world. There is broad agreement that roughly 80% of maritime accidents involve human factors causes. As such, vessel operators and maritime training centers are pouring significant resources into creating best practice and innovative training programs. The MarTID database, which will grow in breadth and depth annually, shines a bright light on the training approaches and successes of global vessel operators and training centers. For example:

- ***What are the global trends in training budgets?***
- ***What is the average training amount spent per seafarer?***
- ***What training technologies are considered effective and which training models are growing in their adoption?***
- ***How confident are vessel operators and training centers in the training methods they employ?***

All of these and much more are answered in the 2018 Training Practices Report. With the information in the annual MarTID reports, training leaders are able to benchmark their own results, learning from the successes and failures of others, rather than independently inventing and designing their own training approach in isolation.

Without the ability to monitor and measure past efforts – to learn from the approaches others have tried – trainers cannot continually improve. The annual MarTID survey and report is designed to enable this continual improvement in maritime training.

The 2019 MarTID Survey

The 2019 survey, to be launched in the fall of 2018 and closed early in 2019, is designed to further the mission of MarTID: to provide a global picture of maritime training that is not currently available. While last year's survey was designed to collect a broad set of foundational training data, this year's survey will be shorter and consist of two foci.

The first section of the survey will focus on collecting benchmark data tracked annually, revealing trends in core training issues. These include training budgets, training models, training staffing, the use of technology, major training initiatives, and seafarer demographics.

The second section will focus on this year's special topic: the impact of autonomous vessel operations on maritime training. It would be hard to identify a maritime industry topic which is

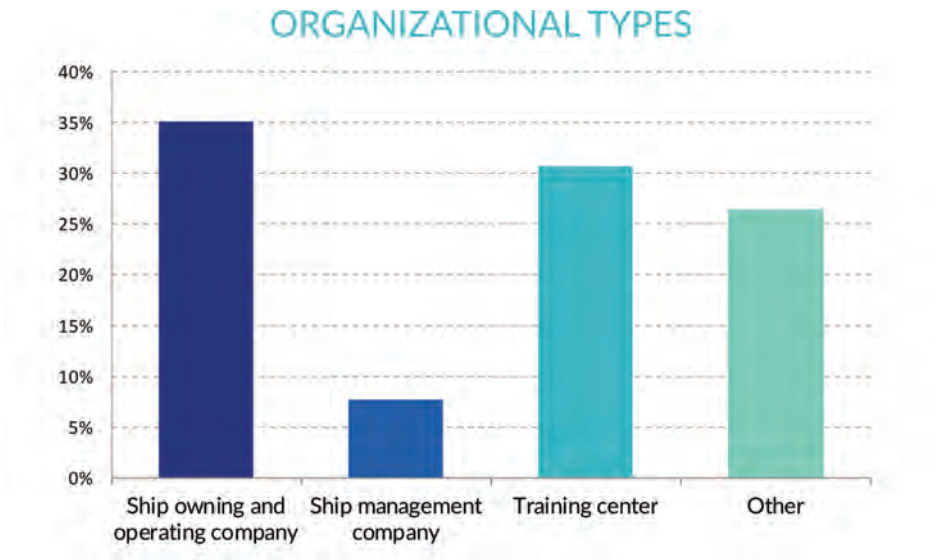
receiving more attention than the move toward an increasing level of autonomous operations. Differences in data collection, decision support, bridge manning levels, and human involvement in navigation will all greatly impact the need for and the type of training required. This trend has already begun to impact operations and the need for training. If the automobile industry is any predictor of how quickly this might move, then it is incumbent upon maritime training professionals to consider the emerging needs deeply and without delay. The 2019 MarTID survey will enable this process with data upon which decisions can be made and will explore the perspectives of vessel operators/managers, maritime administrators, maritime training experts and seafarers.

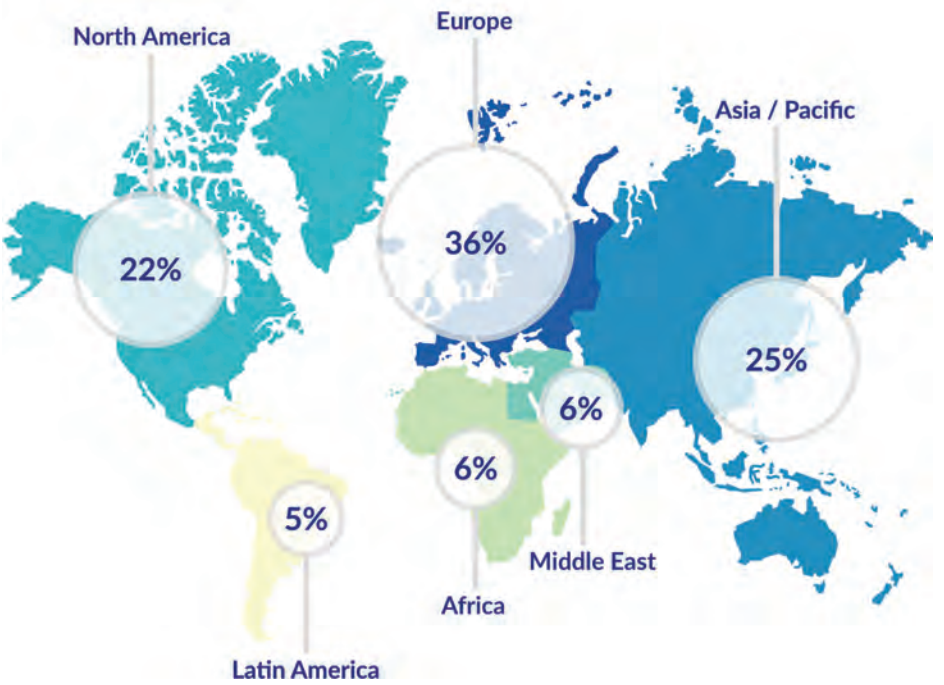
As was the case in 2018, the 2019 survey will be followed by a series of publicly-available reports, broadly published. These reports will provide both high-level and deep-dive information covering both broad trends as well as deep coverage of the 2019 special topic. We believe that these reports will grow to be a highly anticipated source of information, this year, and beyond.

Your Opinion Matters

Although this initiative has been founded and run by the three partner organizations, it requires community involvement to succeed. You will be hearing more about the 2019 MarTID survey in the coming weeks and months, but right now, we need your help. Specifically:

- ***If you work at a vessel operator/manager or maritime training facility, please make your senior training administrator aware of this important survey by sharing this article with them.***
- ***If you are a senior training administrator of a vessel operator/manager or training facility, a maritime administrator, or a seafarer, we need you to complete a survey on behalf of your organization. Please send your contact information to info@MarTID.org and we will reach out to you early in November once the 2019 survey is launched.***





The respondents from the first annual MARTID report hail from all over the globe.

We believe that the annual collection and analyses of training data will help the global maritime community gain insights that can lead to enhanced policy-setting, decision-making, benchmarking and operational optimization by industry operators and regulatory authorities at all levels. We hope that the survey data and its analyses will become an important and authoritative source of knowledge for the global maritime community. Therefore, we thank you in advance for contributing to this important body of knowledge.

ENC's Evolve for the Greater Good

Big data set to transform digital navigation in the world's busiest waterways

By Chris Berkley

Recent developments in big data technologies have changed the way we use marine data. Experts can now manage much larger data sets and use innovative technology to help us find new ways to understand and benefit from the ocean environment.

These new insights are already informing infrastructure development, the sustainable use of marine resources and helping to unlock the potential of navigational tools. Electronic Navigational Charts (ENCs), for example, are advancing thanks to big data technologies, giving ships access to more detailed, highly accurate information that can support safe passage.

The Sea Passage: from paper to digital

When nautical charts were transferred from paper to digital displays, many of the industry standards for creating clear, demarcated visual guides were adopted 'as is'. At the time, this was an obvious transition – giving mariners certainty and familiarity while learning new passage planning processes.

One such standard was marking depth contours, in the most part, at five-meter intervals. When information is entered into the system by mariners, an ECDIS sets a safety contour at a level that corresponds to these depth contours – generating a clear boundary between what is deemed to be safe water and areas that are too shallow to guarantee safe passage for that ship. The ECDIS will then alarm if a ship is approaching this line to help prevent groundings and ensure safe navigation.

Marking depth contours at five-meter intervals made sense in the context of physical charts, which were drawn by hand and read by eye. With current standards, however, issues can arise when mariners want to set a safety contour depth that falls between two five-meter intervals. Currently lacking 'granularity' in information to be able to undertake such a process, an ECDIS will default to the next deepest contour if the value entered by the mariner is not available on the ENC.

For vessels, this means that a clear route – that is, a route that can be safely navigated given the characteristics of a particular vessel – could be displayed as very narrow on the ECDIS when

Credit: UKHO

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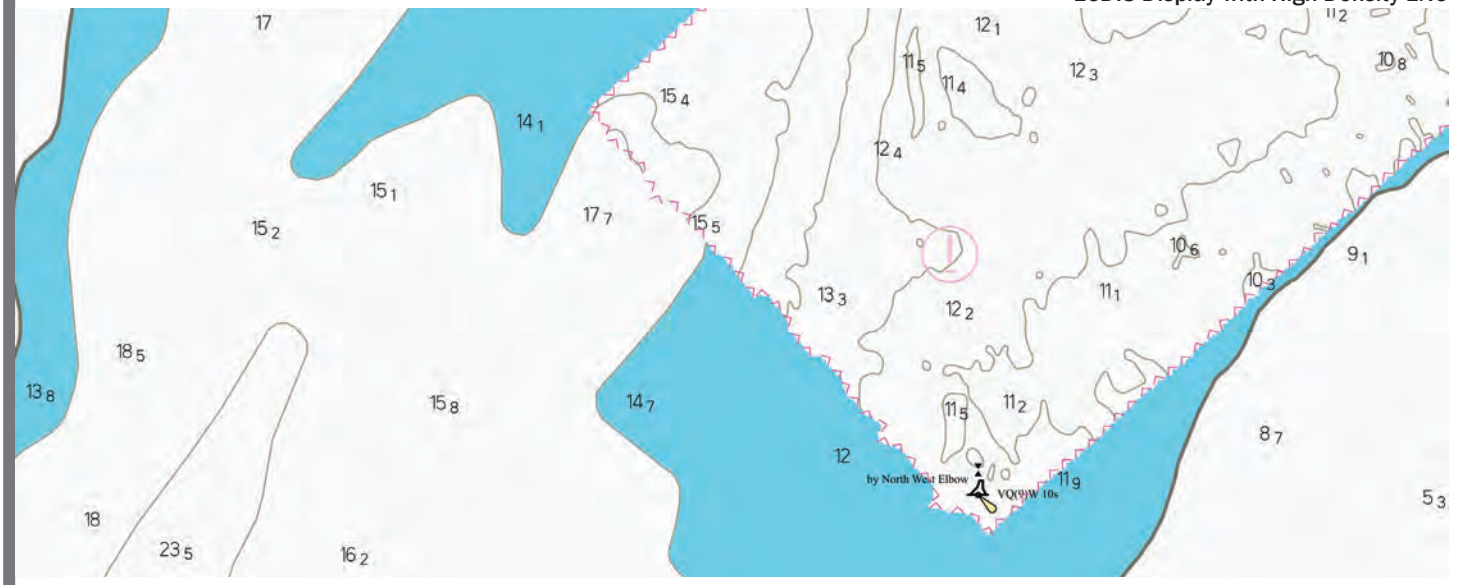
ECDIS Display with High Density ENC



mariners could safely navigate through a much wider stretch of space. Even more challenging is that this could lead to mariners knowingly crossing safety contours to reach their destination.

An example of this in practice is 'The Bridge', in the UK's Bristol Channel. In this area, silt collects on the seabed to form an area that is markedly shallower than the rest of the Channel. All manner of vessels must pass over this shallower ground to get to the Port of Bristol – one of South West England's most important trading ports – or to continue on to Gloucester.

Despite being safe to transit, this area falls beyond the safety contour for most ships. This means that mariners entering the Port of Bristol have to knowingly cross the contour, which sets off multiple alarms, causes major disruption, and creates significant paperwork that the master must subsequently explain.

Supporting Safety Through high-density ENCs

This gap between the 'black-and-white' approach of the digital interface poses an important challenge. To help overcome this, the UK Hydrographic Office (UKHO) has used a new data processing tool to create charts for this area containing one-meter contours.

Developed by the manufacturer of their cartography software with support from the UKHO, this new tool uses a unique algorithm to draw one-meter contours using high-resolution survey data. The charts are then confirmed within the software to ensure compliance with strict international standards for all ECDIS systems and are then manually checked by a cartographer to confirm accuracy.

With a greater variety of depth contours within the ENC, the ECDIS can set safety contours at one-meter intervals. This overcomes the safety, alarm and paperwork challenges encountered in this area previously. It reduces stress on the bridge and can give crews more confidence on the approach for the safety of cargo and ship.

This change also means that data collected from this area by the Port of Bristol Authority via multibeam sonar can now be more quickly processed to deliver up-to-date charts to ships navigating the channel.

Bringing high-density ENCs to the Dover Strait

Following the success of its work in the Bristol Channel, the UKHO is now developing a unique ENC to improve situational awareness and safety for ships transiting the Dover Strait – one of the world's busiest waterways.

Using data gathered from routine surveys conducted as part of the Civil Hydrography Program, the ENC will cover areas of the Dover Strait within the UK's Territorial Waters, where traffic safety is a critical issue. This area of the seabed is notoriously narrow and complex, with constantly moving sand waves forcing ships to take part in a traffic separation scheme to ensure that they transit safely through the strait.

To create this high density ENC, the UKHO is applying similar techniques to those used for the Bristol Channel, working with billions of bathymetric data points to draw one-meter contours. Once finalized, the ENCs will be tested for usability on simulators at maritime colleges before release.

The Future of Digital Navigation

This work demonstrates the exciting ways in which big data can be used to drive continuous improvement throughout the maritime industry. Taken as a proof of concept, the UKHO's work on high density ENCs opens up the opportunity to create similar charts for other areas in UK waters and beyond. Not only does will this help vessels to transit with greater certainty, but crucially, it supports the safety of their crew and cargoes.

The Author **Chris Berkley**

is a Master Mariner and now serves as the Product Manager, UK Hydrographic Office. Before joining UKHO in 2008, Chris spent 16 years at sea as a Deck Officer including five years in command. He served mainly in dry bulk carriers, tramping worldwide, which took him to places well off the beaten track. At UKHO, Chris has been an Editor of Sailing Directions and Marine Advisor to the Product Management team. As Product Manager, he has been associated with the launch and development of ADMIRALTY e-Navigator and other software applications for more than seven years and is the Product Manager for AVCS.

EDITORIAL CALENDAR

JANUARY/FEBRUARY
Cruise Ports Annual

- Carriers: Cruise Shipping
- Ports: Global Cruise Port Logistics
- IT: Breakbulk Tech Feature Load and Stress Measurement Instrumentation
- Tech: Port Security Training
- Product: Passenger and Cargo Gantries

EVENT DISTRIBUTION
Seatrade Cruise Global
CMA Shipping 2019
Breakbulk China 2019
TOC Asia

MARCH/ APRIL
Container Ports

- Carriers: Top 25 Container Ports
- Energy Ports: The Logistics of Fuel 2020
- IT: Container Terminal Automation
- Tech: Simulation Vessel Loading and Unloading Training
- Product: Container Handling Equipment Forklifts & Trucks

EVENT DISTRIBUTION
TOC Europe
Intermodal Asia 2019
Norshipping
Breakbulk Europe

MAY/JUNE
US and International Navy Ports

- Carriers: Shortsea Shipping
- Ports: Ports Expansion Dredging Reports
- IT: SATCOM Solutions, Pricing and Trends
- Tech: Port Security Technology
- Product: Terminal Operating Software

EVENT DISTRIBUTION
Sea-Air-Space

JULY/AUGUST
Breakbulk Issue

- Carriers: Breakbulk Shipping
- Ports: RORO Operations
- IT: Port Planning - Design/Development
- Tech: Port's & Emerging Offshore U.S. Wind
- Product: Cargo & Container Cranes

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Breakbulk Americas
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Interferry 2019

SEPTEMBER/OCTOBER
Energy Ports Oil-Gas-LNG

- Carriers: Bulk Carrier Sector Report
- Ports: LNG Bunkers / Infrastructure
- IT: Labor Management Software
- Tech: The Zero Emissions Port
- Product: Storage Tank Cleaning & Maintenance Equipment

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TOC Americas
TOC Africa
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Shipping Insight
Workboat Show

NOVEMBER/DECEMBER
Short Sea Shipping Ports

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Moore Stephens: Vessel Operating

In a report released in mid-October, International accountant and shipping consultant Moore Stephens says total vessel operating costs in the shipping industry are expected to rise by 2.7% in 2018 and by 3.1% in 2019. Responses to the firm's latest annual ***Future Operating Costs Survey*** revealed that drydocking is the cost category likely to increase most significantly in both 2018 and 2019, accompanied in the latter case by repairs and maintenance.

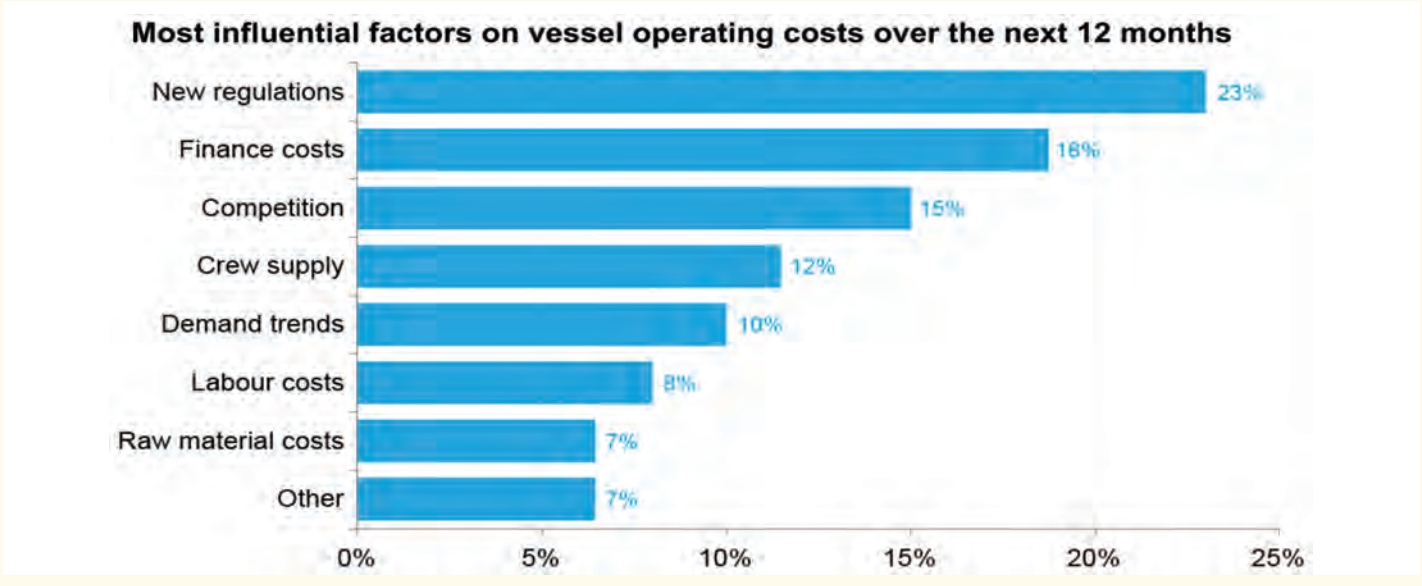
Moore Stephens contacted key players in the shipping market internationally over a 28 day period in September 2018, asking them to complete a short web-based questionnaire, also providing information on their business type, headquarters' location and sector most relevant to their operations to help sharpen the analysis. According to Moore Stephens, the survey represents a broad cross section of industry and that their analysis is representative of the shipping industry as a whole.

Significantly, the predicted overall cost increases were once again highest in the offshore sector (which is arguably the sector least able to absorb these added costs), where they averaged 4.1% and 4.2% respectively for 2018 and 2019. By way of contrast, predicted cost increases in the bulk carrier sector were 1.8% and 2.6% for the corresponding years. Operating costs for tankers, meanwhile, are expected to rise by 2.4% in 2018, and by 2.9% the following year, while the corresponding figures for container ships are 4.2% and 3.8%.

Overall, the cost of new regulation was identified as the most influential factor likely to affect operating costs over the next 12 months, at 23%, up from equal third place at 15% last year. 18% of respondents identified finance costs in second place, down from 20% and first place last year. Competition ranked in third place at 15% as it had last year. Meanwhile crew supply fell to 12% compared to 19% and second place in last year's survey.

Richard Greiner, Moore Stephens partner, Shipping and Transport, says, "The predicted 2.7% and 3.1% increases in operating costs for 2018 and 2019 respectively compare to an average fall in actual operating costs in 2017 of 1.3% across all main ship types recorded in the recent Moore Stephens OpCost study." Greiner continues, "One year ago, expectations of operating cost increases in 2018 averaged 2.4%, so the increase now in that expectation to 2.7% must be regarded as sobering – if not unexpected –news. Projected increases in operating expenditure are part and parcel of the workings of any industry, and must be factored into budget projections. But these latest predicted increases, whilst a cause for concern, should not unduly surprise or concern shipping, an industry which has seen – and in many cases endured – much larger increases during the past decade."

New regulations were included this year for only the second time in the life of the survey among the list of factors which respondents could cite as most likely to influence the level of operating costs over the next 12 months. This has proved to be a timely addition, with respondents ranking it [regulations] in first place. The Ballast Water Management Convention (BWM) and Sulphur 2020 are the major items on the list of incipient shipping legislation, but the industry is becoming more tightly regulated generally in terms of both safety and environmental responsibility, so compliance with evolving national and international regulation is likely to remain a significant item in operating cost analyses and projections for the foreseeable future.



Costs Will Increase Substantially

The fact that drydocking emerged as the cost category likely to increase most significantly in both 2018 and 2019 is unsurprising, given the need to comply with the existing and emerging regulatory framework within which the industry is being obliged to operate. The same may be said of repairs and maintenance, where any previous delay in attending to items of a non-critical nature will need to be addressed.

Estimates relating to the likely increase in the cost of lubricants over the two-year period, meanwhile, are towards the higher end of the survey scale, which is in line with a predicted rise in oil prices this year and next.

Expected increases in the price of hull and machinery insurance are up on estimates made 12 months ago but, due to the highly competitive nature of the market, cannot be regarded as an entirely reliable bellwether. Estimates of protection and indemnity cost increases are also up, perhaps reflecting increased management costs and the possibility that the market's recent benign large-claims experience may not be repeated over the next couple of years.

One could argue that the level of predicted operating cost increases for 2018 and 2019 ought to be manageable in a competitive, viable industry environment. Nobody doubts shipping's essentially competitive nature, but the issue over viability is less clear-cut.

Shipping has held up well during a ten-year economic downturn, and investors continue to express confidence in the industry's potential for profit. Sadly, some good companies have gone to the wall over the past decade but, overall, the industry has become leaner by virtue of having let market forces function as they should. Yet market intelligence and common sense suggest that freight rates still need to improve significantly in order for shipping to start making the sort of money it should command in light of the vital role it plays in international trade and commerce.

Moore Stephens sums up their analysis by saying that the more money that shipping makes, the more comfortably it can meet its operating expenses. Increases in operating costs must be expected, and budgeted for. Those costs may change in nature, because new technology is already helping to reduce outgoings in some areas, while on the other side of the coin there is the evident need for technological investment to combat the likes of cyber-crime.

There are more ***Ifs*** involved in the shipping industry than there are in Kipling's poem. Shipping in the coming years will require good management, good judgment, good research, good advice and good luck. And it will require good husbandry. The Moore Stephens survey adds as cautionary footnote: "As Benjamin Franklin said, "*Beware little expenses, a small leak will sink a great ship.*" www.moorestephens.co.uk

Cost changes expressed as a function of shipping sector ...

Expected percentage cost increases for year ending 31 December 2018					
Mean (PCT Increases)	Bulkers	Tankers	Boxships	Offshore	Total
Crew Wages	1.2	1.4	1.2	1.8	1.3
Other Crew	1.4	1.4	1.9	1.8	1.5
Lubricants	1.9	1.5	3.1	2.2	1.6
Stores	1.6	1.2	2.2	2.2	1.6
Spares	2.2	1.4	2.5	2.1	1.9
Repairs/ Maintenance	2.0	1.5	2.7	2.9	2.0
H&M Insurance	1.5	0.9	0.5	2.4	1.3
P&I Insurance	1.1	1.0	0.0	2.5	1.2
Management fees	1.0	0.9	0.5	1.9	1.0
Dry docking	1.7	2.1	2.6	2.6	2.1
Total Costs	1.8	2.4	4.2	4.1	2.7

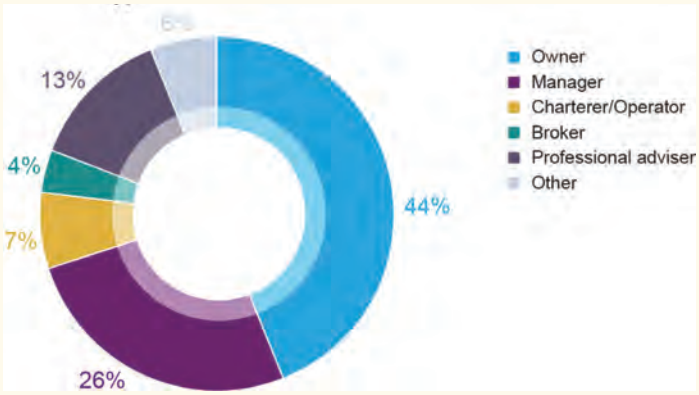
Source: Moore Stephens

Expected Costs Increases for Global Shipping (all sectors / 2018 & 2019)

Mean / Line Item	2018 (%)	2019 (%)
Crew Wages	1.3	1.9
Other Crew	1.5	1.8
Lubricants	1.6	2.1
Stores	1.6	1.9
Spares	1.9	2.2
Repairs/Maintenance	2.0	2.3
H&M Insurance	1.3	1.6
P&I Insurance	1.2	1.4
Management fees	1.0	1.2
Dry docking	2.1	2.3
Total Costs	2.7	3.1

Source: Moore Stephens

Respondents to the Survey: type of business



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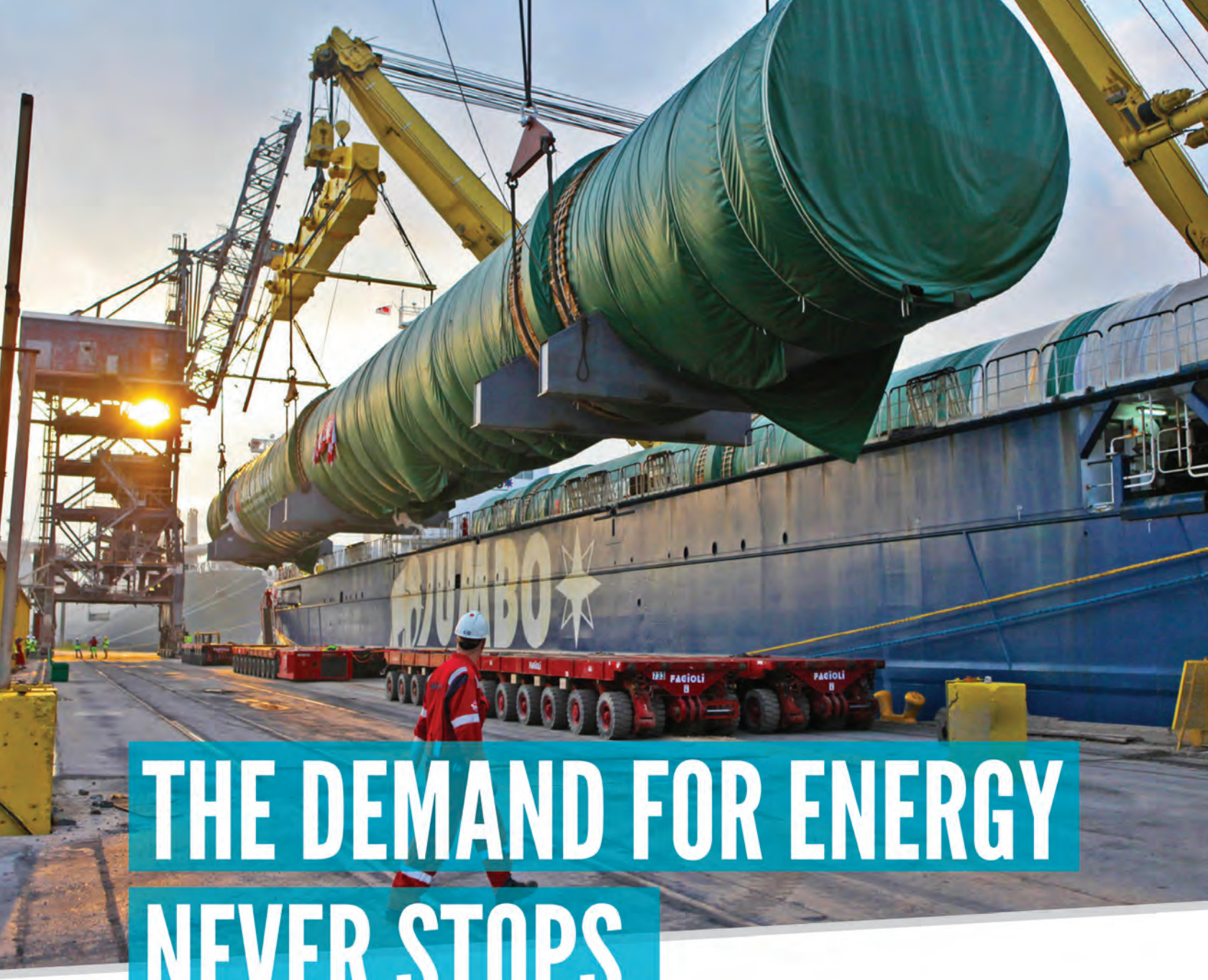

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