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Volume 30 • Number 6

Marine News

JUNE 2019

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Combat & Patrol Craft Annual

Rapidly Evolving, Quickly Expanding

Outboard Engines
The Advent of the Diesel Option

Marine Cranes
Lifting Multiple Sectors to Prosperity

Marine Salvage
Reassessing the U.S. Salvage Situation

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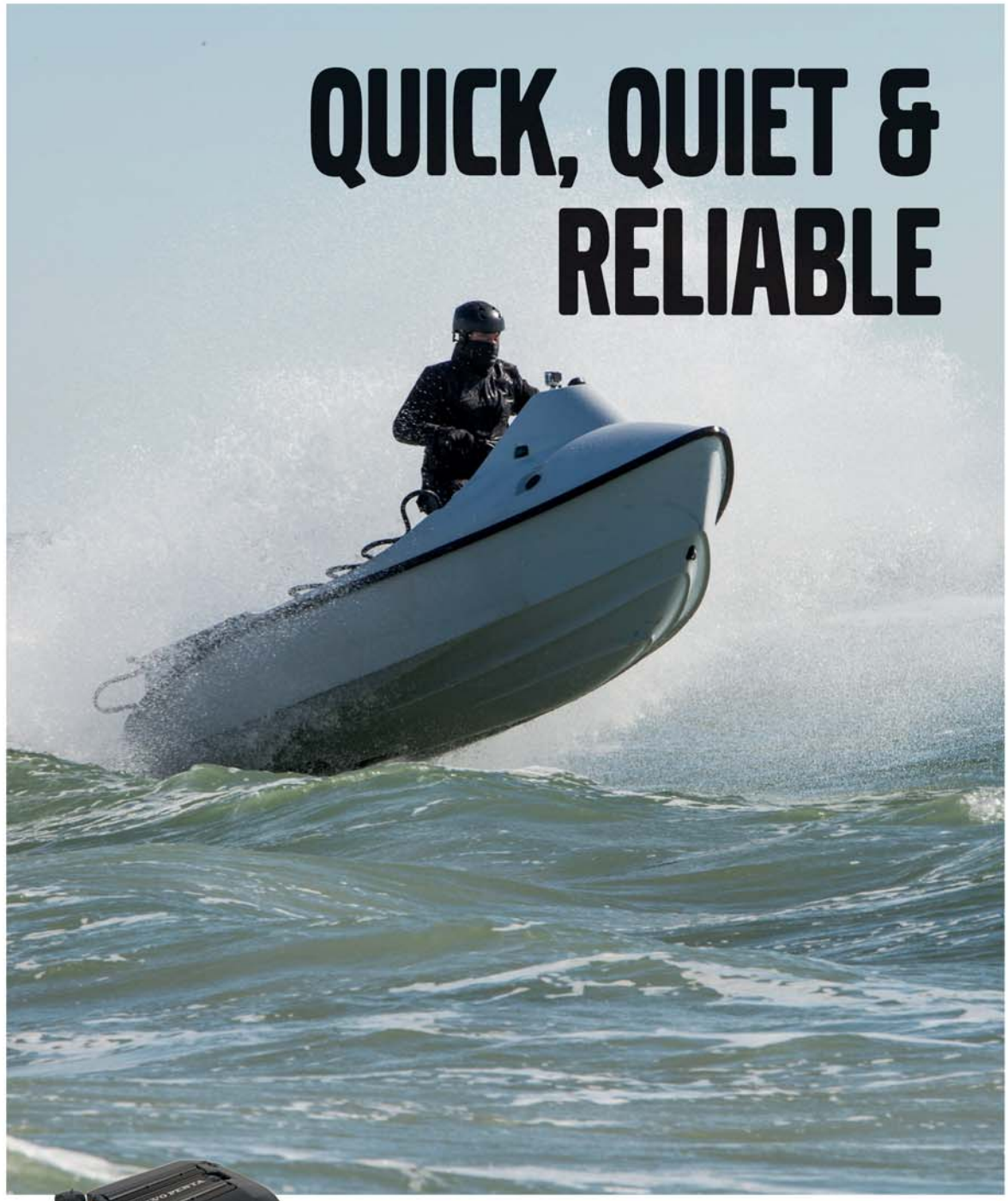

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By Joseph Keefe

ON THE COVER

As long time combat and patrol craft builder USMI celebrates 35 years of service to government and industry alike, the need for special mission littoral craft has never been greater. The story begins on page 38.

*U.S. Navy photo by Chief Mass Communication Specialist Kathleen Whittenberger

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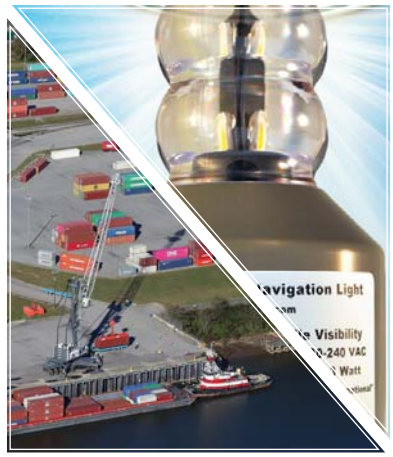

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Series 9100 Digital Communication System installed on the new 13M ZH-1300 OB Interceptor demo boat from Zodiac Hurricane

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Jeanne Metayer - Technical Project Manager, Zodiac Hurricane Technologies

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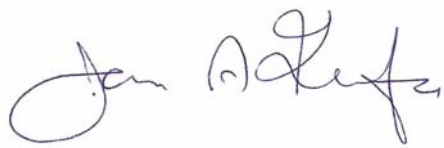
The end of one era typically signals the start of another. And, so it is with the business of building naval and municipal patrol boats, where the demand for smaller, more agile and versatile hulls has skyrocketed. At the same time, and as governments everywhere come to the realization that for the 600' warship, if it hasn't ended altogether, its utility in a rapidly changing geopolitical landscape is on the wane. If true, then that's good news indeed for scores of smaller North American shipyards.

Myriad hotspots worldwide, along with more sedate but equally important municipal and homeland security missions; have all kept the patrol craft markets – here and across the big pond – humming along in the past 18 months. As the use of autonomous, remote controlled attack craft threaten both commercial shipping and large naval vessels alike, the need for fast littoral craft has never been greater. This serious discussion also beckons to specific American builders, who, unlike their blue water, deep draft building cousins, have demonstrated the ability to compete (globally) in this sector; across the broad spectrum of price, quality, and after market service.

One such builder is United States Marine, Inc. (USMI), a firm which this year celebrates 35 years of continuous service. Along the way, they've delivered more than 750 craft, 270 alone for U.S. military and foreign navies. Some of these sales are highly classified, many emanating through the Foreign Military Sales (FMS) program, spanning dozens of nations. Along the way, USMI CEO and President Barry Dreyfus, Jr has always paid close attention to the three core values that brought them here: *Family, Integrity and Quality*. A fascinating look at this American success story begins on page 38.

This month, 'success' spans the gamut of the shallow draft, brown water sectors. Nowhere is that success more apparent than for the Port of Virginia and its rapidly growing inland intermodal hub, the Richmond Marine Terminal. Here, the local container-on-barge service has, over time, removed tens of thousands of trucks from the Commonwealth's heavily congested I-64 corridor. From a nadir of less than 150 boxes in 2008 to a projected throughput of more than 34,000 TEU's in 2019, this shortsea initiative is yielding fruit. None of that is possible without a reliable container crane and Richmond has certainly checked that 'box.' The story begins on page 42.

Turning back once again to our small, agile, shallow draft littoral patrol craft, perhaps the most significant development in this sector since the demise of the 600 foot warship is the advent of diesel outboard propulsion. The obvious advantage to this development – and arguably its most important – is the aspect of safety when it comes to the change in fuel. But, that alone won't make diesel suitable for the most demanding special missions. To that end, this month, we take a hard look at not one, but two entries in this market. What we found out is definitely a 'page turner.' That's your cue to do just that.



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Tom Mulligan is a maritime, science and technology writer based in Ireland.

The U.S. Coast Guard's 2018 Domestic Annual Report on Flag State Control

The U.S. Coast Guard's 2018 Domestic Annual Report contains statistics regarding inspections and enforcement of regulations on U.S. flagged vessels. The report includes deficiency and detention rates for each type of inspected vessel, as well as performance metrics for Recognized Organizations that perform work on the Coast Guard's behalf. The data contained in this report was compiled by the Office of Commercial Vessel Compliance (CG-CVC) using information from the Coast Guard's Marine Information Safety and Law Enforcement (MISLE) database system.

For the first time, the coast Guard is presenting information reflecting the entire U.S. Flag fleet, including barges, cargo vessels, passenger vessels, vessels operating on the Outer Continental Shelf, research and school ships, fishing vessels, and the newest members of the inspected fleet, towing vessels. With the addition of towing vessels, which started getting inspected under 46 CFR Subchapter M in July of 2018, the size of the U.S. inspected fleet grew by approximately 6,500 vessels to a total fleet size of nearly 20,000 vessels, an increase of 50%. *Unclear in all of that is why, if the U.S. commercial fleet numbers as many as 39,500 vessels, why ALL of these hulls aren't being inspected.*

In comparison to last year, which was the first year the Coast Guard published their annual report, the number of vessel inspections increased by 1,624 and the average number of deficiencies identified per inspection increased from 1.17 to 1.26, rising nearly 8%. *That may have something to do with the introduction of all those previously uninspected subM hulls. Or, not. 2019 will show a clearer trend.*

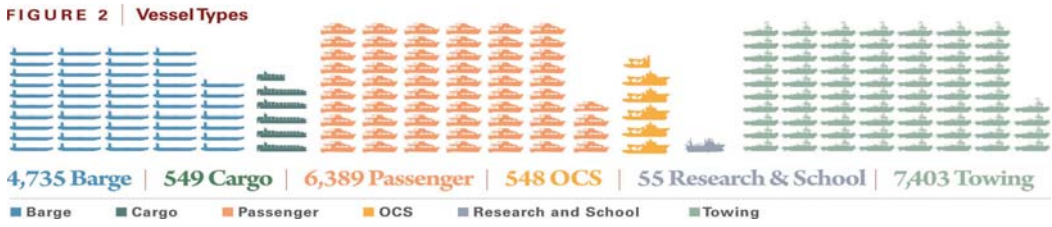
It is important to note that since this report covers the 2018 calendar year and the compliance date for implementation of towing vessels was July 20, 2018, only five months of data for inspected towing vessels is included in this report. *Hence, the numbers may actually be far worse on an annualized basis, looking ahead.* Interestingly enough, passenger vessels accounted for 72.3% of those deficiencies. However, based on vessel population, Cargo vessels received a higher ratio of deficiencies per vessel, with an average of 4.17. *To be fair, the passenger vessel sector is one of the most highly regulated and closely watched – as perhaps it should be, given the millions of lives at stake – in the U.S. flag fleet.*

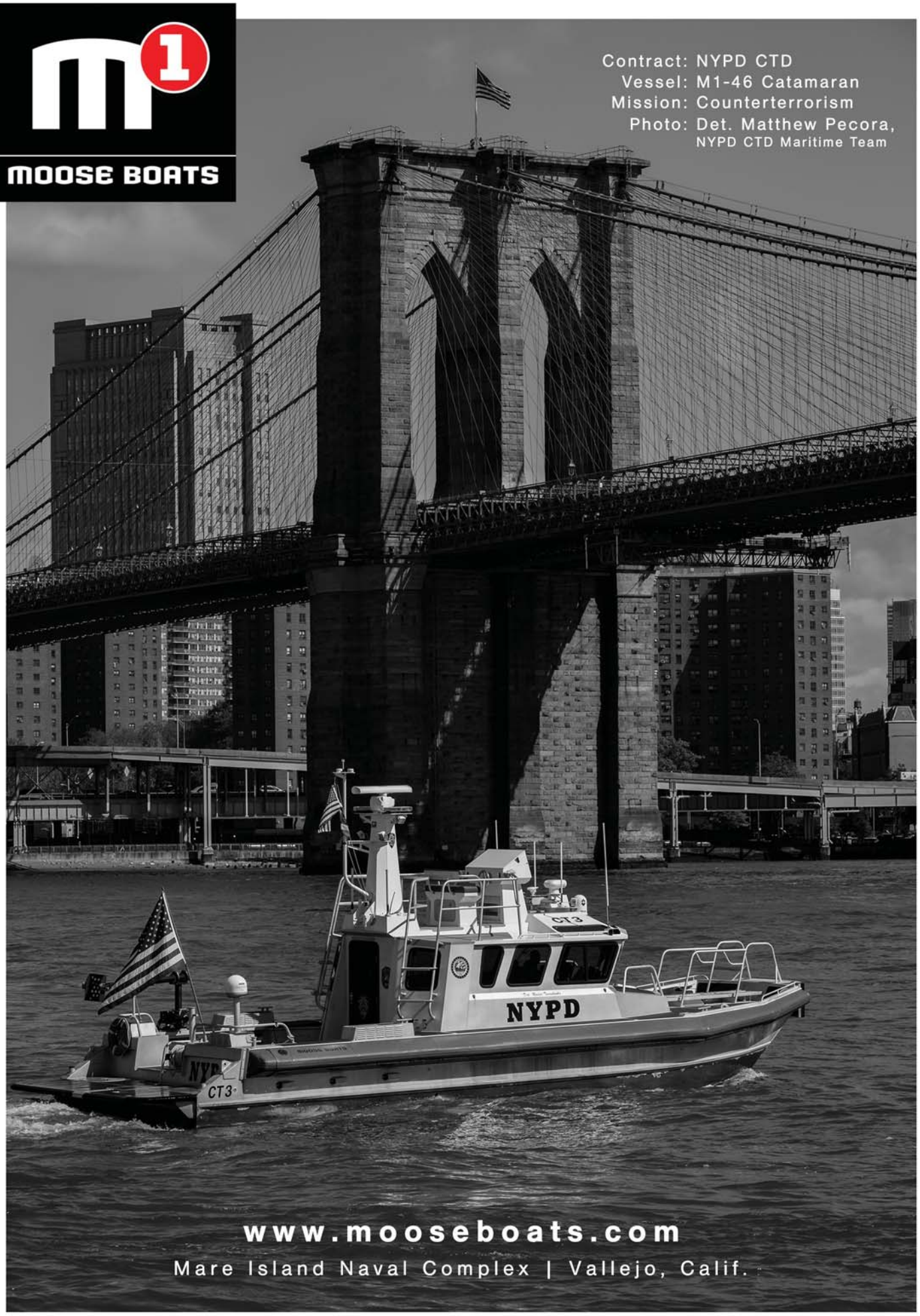
In 2018 there were 40 valid Flag State Detentions. A total of 43 Flag State Detentions were issued; however, upon administrative review, three detentions were downgraded. In addition to evaluating Coast Guard inspection data, the Flag State Control Division also considers data and information on U.S. flagged ships collected by the Paris Memorandum of Understanding (MOU) and Tokyo MOU Port State Control Regimes. The data from these sources provides some insights into the performance of the U.S. fleet abroad. For example, as per the Paris MOU 2017 Performance List, effective July 1, 2018, U.S. flag vessels are on the "Grey List", which indicates average performance. Encouragingly, the Tokyo MOU 2017 Annual Report placed U.S. flag vessels on the "White List" which represents flags with a consistently high performance record.

Finally, the Coast Guard estimates *(?)* that there are nearly 58,000 commercial fishing vessels in domestic service. As the Coast Guard only maintains totals for vessels which are enrolled in the decal examination program, these numbers are based on a combination of state and federal sources. Included in the Commercial Fishing Vessel population are Fishing Vessels, Fish Processing Vessels, and Fish Tender Vessels. Fishing vessels clearly represent an afloat sector that needs closer scrutiny. It's been a few years since a USCG Administrative Law Judge penned a study on the implications of drug and alcohol testing on board domestic passenger vessels and fishing vessels. The study sought to define if the use of random drug testing had any impact of post-accident 'positive' tests. It turns out that it does. *That much was easy to see since one group of mariners (passenger vessels) participates in the random testing program and the other (fishing) does not.*

What's the bottom line? This impressive report will no doubt develop into an excellent statistical tool in the years to come. 2019 and beyond, measurable benchmarks and/or trends will emerge through which the USCG can better assess the areas where improvements are being made, where increased oversight might be needed and – *for example, the subchapter M rules immediately come to mind* – if new regulations are having the desired impact.

FIGURE 2 | Vessel Types

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Contract: NYPD CTD
Vessel: M1-46 Catamaran
Mission: Counterterrorism
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NYPD CTD Maritime Team
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By the Numbers, the 2018 inspection data looks something like this in 2018:

40 (*):	*Number of U.S. flagged vessels were detained by USCG (8 months data only)*
75:	*PCT reportable marine casualties involving barges defined as collision, allision or grounding*
1,812:	*Number of vessels involved with reportable marine casualty investigations in 2018*
1,946:	*Number of reportable marine casualty investigations in 2018*
2,061:	*Number of inspected barges (43.5%) participating in Streamlined Inspection Program (SIP)*
4,735:	*U.S. flag 2018 barge fleet, representing 24% of the overall U.S. inspected domestic fleet*
19,679:	*Number of U.S. flag vessels subject to inspection*
20,048:	*the number of inspections (US flag) conducted by USCG personnel*
25,324:	*the number of deficiencies found during those 20,048 inspections*

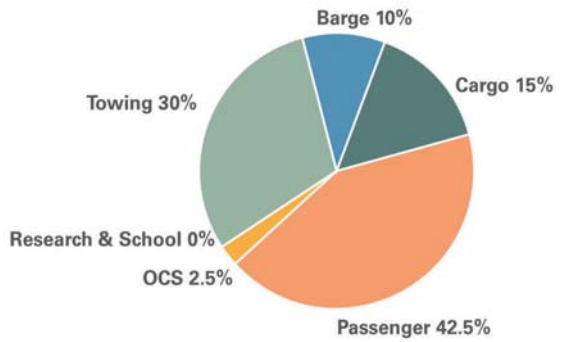
2018 Fleet Performance / By the Numbers (#)

TYPE / # US Flag	Inspections (#)	Deficiencies (#)	Deficiencies (ratio)/vessel	PCT of All Inspections	PCT of All Deficiencies
Barges (4,735)	5,469	1,857	0.39	27.3%	7.3%
Cargo Vessels (549)	1,485	2,287	4.17	7.1%	9.0%
Pass. Vessels (6,389)	11,018	18,311	2.87	55%	72.3%
Towing (7,403) (*)	1,278	1,915	0.26	6.4%	7.6%
OCS / OSV (548)	736	779	1.42	3.7%	3.1%
Schoolship/Research (55)	121	175	3.18	0.6%	0.7%

FIGURE 7 | Top Three Casualty Types

BARGE	CARGO	PASSENGER	OCS	RESEARCH AND SCHOOL	TOWING
Collision, Allision or Grounding 75.1%	Material Failure/ Malfunction 53.2%	Material Failure/ Malfunction 35.9%	Material Failure/ Malfunction 38.5%	Material Failure/ Malfunction 50.0%	Collision, Allision or Grounding 33.8%
Personnel Casualty (Injury or Death) 7.2%	Loss/Reduction of Vessel Propulsion/ Steering 15.1%	Personnel Casualty (Injury or Death) 27.2%	Collision, Allision or Grounding 38.5%	Personnel Casualty (Injury or Death) 16.7%	Material Failure/ Malfunction 24.9%
Material Failure/ Malfunction 6.6%	Personnel Casualty (Injury or Death) 10.2%	Collision, Allision or Grounding 14.6%	Personnel Casualty (Injury or Death) 11.5%	Collision, Allision or Grounding 16.7%	Loss/Reduction of Vessel Propulsion/ Steering 20.3%
				Loss/Reduction of Propulsion/ Steering 16.7%	

FIGURE 9 | Flag State Detentions by Vessel Type



TOP 5 DETENTION DEFICIENCIES:

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Structural Conditions
Propulsion and Auxiliary Machinery
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Joel Reid

Global Sales Director, COX Powertrain

Joel Reid joined Cox Powertrain in April 2015. He holds an EMBA in Business from the University of Chicago, a Master's Degree in Marine Surveying and a Bachelor's degree in Business Administration. Reid has been instrumental in bringing Cox's ground-breaking 300hp diesel outboard to market and has worked tirelessly over the last three years to create an enviable global distributor network. Reid currently focuses his efforts on sales, distribution and support in the US market, which it is predicted to account for approximately 50% of Cox's diesel outboard sales globally. Reid is also finalizing the company's dealer network, which when finalized, will result in Cox being represented worldwide by as many as 40 distributors and 400 dealers in 60 different countries. The OXE diesel outboard, perhaps, got its initial push from the military and defense sectors. Today, it enjoys significant attention from almost every application in the marine environment. This month Reid explains why, where and how.

As a heavy-duty diesel-powered outboard engine, the CXO300 brings a long-awaited single-fuel alternative to the global commercial workboat market. What was the nexus of the idea?

The original concept of a high-powered performance diesel outboard was an idea of Cox's founder David Cox, and investor and Chairman Charles Good. After a few years of development, interest was sparked from the US Government and UK Ministry of Defence (MoD). The MoD's Defence Science and Technology Laboratory (DSTL) was so impressed by the concept, it agreed to provide Cox Powertrain with "invaluable technical assistance" in further developing the CXO300 for marine use, as well as providing US$3.18 million of funding. Following several prototype stages, we took the engine concept to the broader marine sector. It was then that we realized just how viable the development was and demand expanded further than the military sector.

The diesel outboard could be one of the most important developments for military small-boat operators in more than a decade. Would you agree?

That is a big statement. It certainly seems to be raising significant attention not just from the military but from almost every application in the marine environment. In this very heavily dominant outboard world we believe our 4 stroke V8 diesel outboard engine has game-changing potential for both military and civil applications, offering a significantly reduced weight and package size compared to conventional diesel inboard engines. Not only does it offer the torque and fuel efficiency of a diesel inboard engine, it also addresses the important changes demanded by the NATO single-fuel policy.

Cox Powertrain last year revealed the final concept of its highly anticipated diesel outboard engine, the CXO300. What was the primary reason for developing the engine: Economics, safety or another purpose?

The original drive was to allow the Navy to comply with the NATO single fuel policy. However, as we shifted away from developing a purely military engine to an off the shelf commercial engine that met military requirements, we started putting more focus on durability, fuel performance and ease of service to appeal to the commercial applications.

The final concept of the CXO300 is based on the proven technology of a 4-stroke, V8 architecture. It is the world's first 300hp diesel outboard engine ever to have come to the marine market and will deliver some advantages over gasoline outboards. Describe some of those advantages.

The Cox Powertrain diesel engine has 100% higher peak torque than the leading gasoline 300hp outboards and is 60% higher when compared with a leading 350hp gasoline

outboard. This difference is amplified when looking below the mid-range rpm. The increased low-end torque will push heavy loaded hulls through rough waters with less strain on the engine and improve even further the fuel performance in comparison to similar gasoline outboards which are notorious for their lack of low-end torque. Larger vessels will clearly benefit from the higher torque, both at the low end when getting over the hump as at the high end when trying to achieve peak speeds when heavily loaded.

Where traditionally a quad 300hp or triple 350hp installation is needed, a triple CXO300 installation can offer fuel savings at the same cruise speed. The engine offers fuel savings of approximately 25% in comparison to a similar 300hp gasoline outboard, therefore allowing boaters to go that much further.

Most importantly, it is designed to last two to three times longer than equivalent gasoline outboard engines and eases the servicing process by allowing a "dry" service every 1,000 hours or once a year, whichever comes sooner. There are several other secondary drivers such as fuel commonality, as more and more vessels carry diesel generators, or space savings, as more vessels carry gyro stabilizers.

Which sector – commercial workboat or military small littoral craft – will benefit the most, and which was your target audience?

That's like asking who benefits most from diesel engines: civilian or military vehicles. They are two very different applications with very different drivers. The commercial operator will either enjoy significant fuel savings if moving from gas outboards, which is usually the main operational cost, or will gain from uptime if moving from an inboard, as downtime is notorious amongst such vessels due to the difficulty to access the engine or because the drives are permanently in the water. The Navy on the other hand, will be able to deploy missions without the need to overcome all the logistical challenges that come with gas, while the Coast Guard will be able to offer better support in cases of floods caused by hurricanes where they need the smaller vessels to execute the mission but they cannot bunker enough gas to last them beyond 48 hours.

What about noise – is there any substantial difference between the two engines (gasoline vs. diesel)? This consideration might be of particular importance in a municipal setting and/or military operations where stealth is paramount?

There really is very little difference in noise between the CXO300 and the quietest gasoline equivalent. Noise levels will not exceed those of their gasoline counterparts, and in practice the deeper hum of the diesel is much more bearable than that produced by high-pitched gasoline outboards. If anything, the CXO300 is slightly quieter when at full throttle.

Where will the CXO300 be produced? Are there any plans for a North American manufacturing base? If so, tell us about your potential North American expansion plans.

The CXO300 will initially be assembled and distributed from Cox Powertrain's UK headquarters, which is based at Shoreham Airport on the South Coast of England. Last year we opened our new state-of-the-art assembly and testing facilities in which we have invested heavily. North America is predicted to be our biggest market so plans are under way to open a dedicated US assembly and distribution facility in Florida in the near future, to facilitate a smoother delivery service for its customers in this region. Our US headquarters will service North, Central and South America as well as the Caribbean.

Do you anticipate any move towards offering more than one standard size for the engine? If so, why and for what new target market?

The CXO300 is the first in a series of high-powered performance diesel outboards to be developed by Cox Powertrain. We have plans to expand our product portfolio to offer more powerful outboards, primarily to accommodate the growing demand for higher hp and bigger vessels.

Crucially for commercial operators, the CXO300 offers at least a 25% better range compared to a gasoline outboard and is designed to last up to three times longer. The fuel savings are of course attractive, but what aspect of the design allows the engine to last three times longer?

Framed like that it would seem like the current gas out-

board companies were not able to design a more durable engine, but the truth is that they simply haven't tried to because they are not targeting commercial applications. Current gas outboards are designed for the high-volume recreational markets, and as such they need to be cheap to appeal to the vast range of demand. Cox on the other hand has designed a product for the top 20%, the customers who are demanding enhanced features, quality and better service. To achieve this, we gave our engineering team a list of requirements that we knew the customers would either expect or positively value such as 1000h service intervals. The challenge for the engineering team is then delivering a product that meets these requirements within the package of gas outboard and with the minimum weight penalty. For example we knew the gearbox is generally the weak link in current gas outboards as a result of water ingress, requiring then a complete overhaul. Our gearbox has been specifically designed for our engine and we have engineered several features to first prevent water actually accessing the gear box but also thicker and deeper gear bevels. In addition to dimensional checks, given the potential for the generation of friction and wear in moving parts, particular attention is paid to components' critical surface roughness parameters.

What about weight difference – of the outboard engine itself and the fuel (gasoline vs. diesel)?

Keeping the weight low for the CXO300 has been one of the biggest challenges we have faced. Being our first product we preferred to err on the side of caution and have probably over engineered the CXO300, as a result of this our weight target for production is 838 lbs, similar to a 350hp gasoline outboard, however, we are confident that this will come down further as we bring out future generations of the CXO300.

Safety was a big issue for military operators when deploying gasoline outboards. Were military parameters a significant influence in this effort?

Absolutely. It was the military market who initially showed us the gap in the market for a diesel, high power to weight, performance outboard. With NATO also enforcing the single fuel policy, we wanted to provide military operators an alternative to inboards.

The CXO300 is said to have a 100% higher peak torque at the crankshaft than the leading gasoline 300hp outboards, which enables the craft to move more weight more efficiently, and reach peak torque and top power more quickly. For the non-engineer, can you explain that concept in layman's terms?

I'll try my best. Boat speed depends on how much blade surface your propeller has and how quickly it's spinning. This results in thrust that pushes the boat. Now if we consider that the bigger the propeller or the faster it spins (without slipping) the more hp we need, it then all comes down to: what does the power curve look like? Now this is when we get a bit geeky. Hp is a function of engine speed and torque, the higher the speed or the torque, the higher the hp, which translates into thrust onto the transom through the prop. A typical gas outboard will have very low torque and will spin up to 6000rpm, therefore you don't get any real hp, and thrust, until the engine is spinning at high rpm and consuming high levels of fuel. Diesel on the other hand has very high torque throughout the whole power curve and therefore delivers high levels of hp and thrust at low engine speed and continues to add thrust as the rpm's rise because the torque to stays high throughout the whole range.

Have you generated any sales as yet? If so, how many? And where, geographically and sector-wise (US / EU / Asia / etc), are these orders coming from?

Our order books officially opened in November 2018 and we have received a substantial amount of orders, with around 50% coming from the US and the balance from EU and Asia. Our production schedule for 2019 is currently full, so if you wish to order a CXO300 now, you will expect delivery in Q2 2020.

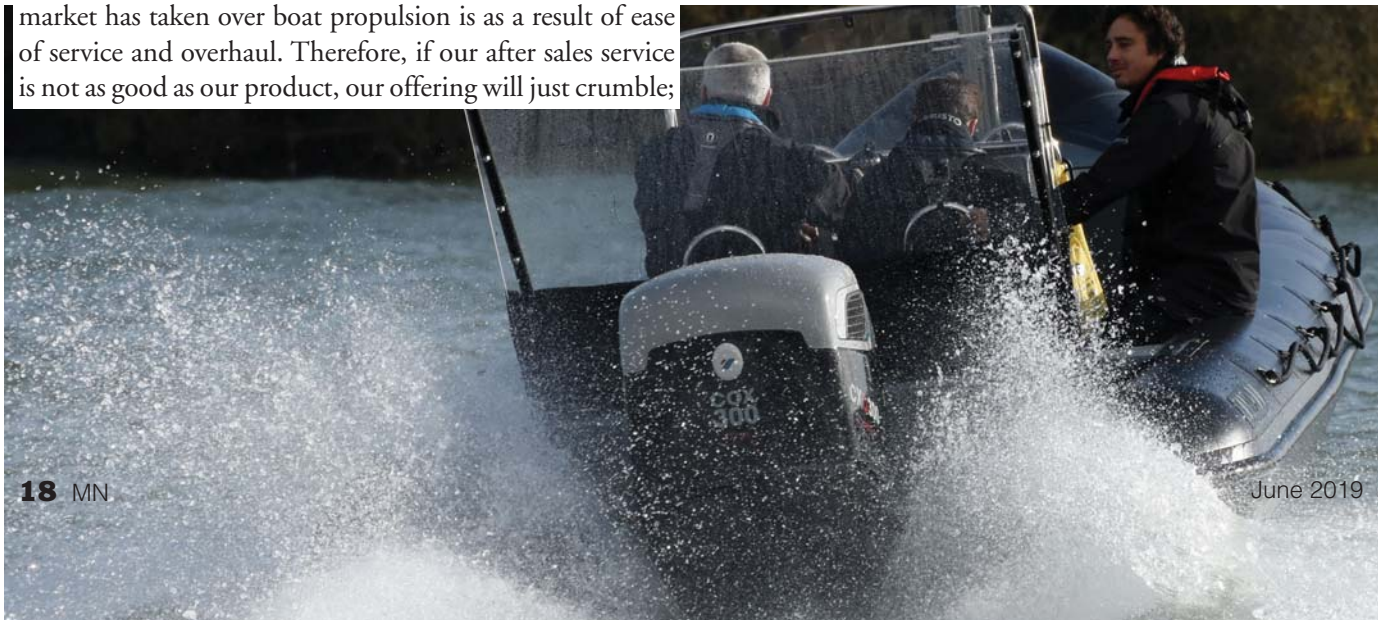
What steps have you taken to make sure that your customers receive an effective after-sales service?

After sales is one of the three pillars upon which we have built our business model. The whole reason the outboard market has taken over boat propulsion is as a result of ease of service and overhaul. Therefore, if our after sales service is not as good as our product, our offering will just crumble; our customers will only be happy if they can use the engine to go out to sea reliably. We have put in place stringent customer service milestones throughout our service network to try to offer a quicker service and more pleasant experience.

Diesels have a perception of being slow, producing black smoke on take-off. How does the CXO300 compare in that regard?

That is funny, being a marine person myself I've seen such engines and people approach me all the time assuming that it will smoke, and it'll be slow. I can guarantee the CXO300 is no smokier than a modern high-performance diesel V8 in car. The EPA emissions requirements on diesel engines are much more stringent than those on gas engines, therefore not only do we need to provide a very clean combustion for the pleasure of the operators but also because it is required by the EPA. As for the speed the reason people believe a diesel-powered vehicle will be slower than a gas-powered vessel is because they don't understand the role that the torque plays. The misconception comes from the automotive world where sports cars are predominately equipped with gas engines. While that makes sense for a vehicle with wheels on a hard and smooth surface, hence there is very little relative friction, a vessel is constantly going uphill since it needs to displace the water. What will determine the speed of a vehicle will be the speed that the shaft is spinning, and the torque required to get the vehicle moving. The CXO300 prop speed, with the lower 1.22 gear ratio, provides a similar prop speed as a standard gas outboard which is 3300 rpm, therefore there is no reason why the vessel with a CXO300 should not reach similar peak speeds as it would with a 300hp gas outboard. The only difference is that it will do so much quicker because the higher torque will get the vessel over the hump much quicker.

MarineNews readers can also learn more by viewing a recent Cox MR TV interview with Joel Reed. Click: https://www.youtube.com/watch?time_continue=3&v=eXyzNdrMrik to see the video.



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A Reassessment of the U.S. Marine Salvage Posture

It has been ten years since the U.S. Salvage and Marine Firefighting Regulations were published: Is it time for a reassessment of the U.S. marine salvage posture?

By Jim Elliott

Elliott

In 1982, the National Research Council's Committee on the National Salvage Posture prepared a study entitled, *"Marine Salvage in the United States."* The goal of the report was "to assess the present national posture for coping with ship rescue salvage and towing situations for time-critical offshore salvage in general." The report recognized that any analysis of salvage should involve "those with financial interests in marine commerce – shipowners, operators, cargo owners, underwriters, and salvors themselves – and in addition the Federal Government as represented by the Navy, the Coast Guard and the Maritime Administration."

In 1994, the National Research Council published *"A Reassessment of the Marine Salvage Posture of the United States,"* found "that the traditional salvage company, with dedicated vessels and personnel, was disappearing from the commercial salvage market due to high maintenance costs and fewer marine accidents."

Based on these studies and other analyses, in 1997, the U.S. Coast Guard began hosting public workshops "to address issues related to salvage and marine firefighting response capabilities, including the 24-hour response requirement…" (Federal Register, Vol 73, No. 251, Dec 31, 2008). These workshops and subsequent notices of proposed rule makings culminated in the publication of Salvage and Marine Firefighting Requirements for tank vessels in 2008 and non-tank vessels in 2009.

Ten years after the publication of the tank vessel Salvage and Marine Firefighting regulations, a Coast Guard led "verification" program has reduced the number of salvage companies that can be recognized on Vessel Response Plans from hundreds to only four national services providers and a handful of regional service providers. Additionally, the regulatory contract requirements have changed the way salvors are compensated. Historically, contracts required "an ample award" for salvors that risked lives and livelihoods to save a vessel; today, it is merely time and materials.

The Coast Guard's verification program continues to become more stringent, to include tightening verification

Credit: AdobeStock / ©Hassyoudo

response times and increasing reporting requirements. In the evolution of this verification program, the Coast Guard is now requesting to review and critique contracts between service providers and subcontractors – that had previously been accepted by the Coast Guard. As a result, it appears the "planning standards" in the regulations, now also published in the Coast Guard's Incident Management Handbook, are becoming response expectations by interpretation without a regulatory basis. These "interpretations" are well beyond that envisioned when the regulations were published. Simultaneously, the Coast Guard's recent interpretations of Subchapter M and merchant mariner credentialing requirements have potentially negatively impacted the US response framework and capabilities.

Despite American Salvage Association (ASA) members consistently meeting the SMFF regulatory requirements, entities such as the Rapid Ocean Response Corporation (RORC), a private equity group whose sole asset is a small fire boat funded by a governmental grant, criticize both the salvage industry and the Coast Guard's oversight. As this was a topic of a Congressional Hearing and RORC has since funded a document on marine firefighting focused on two ports, it is the ASA membership's understanding that RORC's business plan is to offer solely marine firefighting services as an Alternative Planning Criteria Administrator, exempt from the SMFF regulations and the salvor selection criteria under 33 CFR 155.4050 that ASA members are required to meet to the maximum extent possible.

Even if the regulations were applied to RORC, the corporation might meet but a few of the regulatory selection criteria listed in 33 CFR 155.4050 or suite of salvage services outlined in 33 CFR 155.4030(b). As all companies and entities should be treated fairly by regulatory authorities, we have asked that all companies, including RORC, be evaluated by the same standards as our members and that, if the Coast Guard desires to place firefighting stations in each port, that this be codified in regulations with due process to permit a fair playing field for all potential service providers as opposed to creating what is perceived by our members as a monopoly for a single entity.

Regarding the issue of marine firefighting, firefighting itself has historically been a "public good." As such, from a business perspective, marine

firefighting is not a profitable or sustainable venture. For example, to meet the regulatory standards ASA companies have pre-positioned marine firefighting equipment around the US and Captain of the Port Cities outside the continental U.S. This equipment is rarely used and will not pay for itself. As noted in the 1994 assessment, the financial losses are only covered, if at all, by including the equipment in an overall suite of salvage services. If the Coast Guard decides to grant RORC their requested APC Administrator position, it is envisioned that ASA members, no longer required to meet the marine firefighting component of the services required by regulations that will be addressed by an APC, will quickly move their equipment outside the US where there is still an award for salvage operations in contrast to the time and materials contracts generally found in the U.S. since the implementation of the regulations. This will potentially have third-order effects of reducing national marine firefighting services with the loss of both equipment and qualified, seasoned response personnel. Additionally, if the Coast Guard should determine that marine firefighting services require dedicated assets in contrast to vessels of opportunity currently accepted by the regulations, it can be argued and logically follows that other services should also require dedicated assets, such as diving, emergency lightering, heavy lift and emergency towage. The United Kingdom, for example, publicly funds dedicated salvage tugs.

While it can be argued that the US government or the shipping industry should fund both dedicated fire houses in every port with standby salvage tugs and ready crews, in the end, we believe these are public policy decisions that will require supplemental legislation to implement. Considering an assessment of the salvage industry has not been published since 1994, we believe a reassessment is needed to review the state of the industry to make informed decisions by all stakeholders. Otherwise, the Coast Guard, while well intentioned, may ultimately reduce the salvage capacity of the nation through misguided regulatory interpretations and political pressure.

As ASA members have collectively hundreds of years in responding to salvage and marine firefighting incidents, and have never failed to respond when called, our members stand ready to support the continued development of the nation's salvage and marine firefighting policies.

Jim Elliott *is President of the American Salvage Association and Chief Operating Officer of the Teichman Group of Companies, including T&T Salvage and T&T Subsea. With three decades of leadership experience in maritime operations, he has served as a senior Coast Guard Officer, Incident Commander, Salvage Master, Commercial Diver and Project Manager on salvage and oil spill response operations from the Equator to the Arctic. Jim holds a Bachelor of Science in Environment Management with distinction, a Master of Environmental Policy with honors, Master of Arts in National Security and Strategic Studies with highest distinction from the U.S. Naval War College and a MBA with merit from the University of London. Additionally, he has earned over 75 Coast Guard, State and industry awards and medals, including the Coast Guard's prestigious Inspirational Leadership Award.*

Credit: OXE

The OXE Diesel Outboard Arrives

Swedish manufacturer Cimco Marine has developed the world's first 200hp diesel marine outboard – named the OXE Diesel – for maritime security agencies, yacht tenders, municipalities and military applications.

By Rick Eyerdam

As Trace Laborde, Marine Manager for Laborde Products, said, "The OXE diesel is the complete package, a true diesel engine. It's great for any maritime application that requires fuel efficiency, simple maintenance, compliance with all European and EPA Tier 3 regulations, and unmatched performance. There is no other choice than the OXE diesel." That's high praise, predictably coming from one of OXE's authorized North American distributors, but in this case, the talk is matched by this OEM's proven performance.

Separately, and in March 2016 Hurtigruten Cruises accepted their first order of 15 Cimco diesel outboard engines through Cimco's Norwegian distributor Link Norge AS, for use in Antarctica, and they are still operating as promised. The reasons why are evident enough.

Developed, Compliant – and on the Market

The OXE was recently approved by the United States Environmental Protection Agency as the first and only Tier 3 diesel outboard for commercial use. This is important for all maritime agencies; local, state and federal who apply each year for the millions of dollars available for FEMA Non-Disaster Grants in the Port Security category. The OXE and its EPA Tier 3 emissions compliance will exceed all the criteria when apply for outboard grants.

"OXE is the first EPA approved CI diesel outboard on the market. We are excited to be at the forefront of developing new technologies and leading the global outboard market to new emission levels" says Christer Flodman, R&D Technical Manager at Cimco Marine. "That's one small step for OXE, one giant leap for outboard emissions"

With diesel engines – also known as CI engines – the combustion of fuel takes place due to the heat generated by the compression of fuel and air inside the cylinder. CI means 'compression ignition' and is far safer than petroleum ignited by a spark plug, or any other spark.

Over the span of three years, Cimco Marine developed and matched the proven diesel power plant, the GM EURO 5 compliant engine. In marinizing this engine, mounting it horizontally and taking on the design plus manufacturing of a gearbox and foot they achieved the high torque this marinized diesel can produce, Laborde explained.

Along the way, adds Mr. Laborde, Cimco engineers moved the entire service components to the front of the engine so

that when you lift the soundproof cowl, everything is easily accessible. CIMCO also designed a similar mounting pattern as a Yamaha 200hp outboard; the prop uses the same spline and shaft.

As Pim Polesie, the Chief Marketing Officer for Cimco, explained, "The approach was to take advantage of the automotive diesel engine's inherent high performance, substantially increased life and substantially reduced operational cost and compliance with environmental laws and regulations and combine it into a more reliable drive train suitable for the commercial market."

Meet the OXE Outboard

Laborde Products of Louisiana and Texas is the authorized distributor of the OXE Diesel outboard engine for the Gulf of Mexico and Mexican states. Mack Boring & Parts Co. Somerset, NJ represents OXE in the North East United States. Cascade Engine Center, LLC; Seattle Wash. represents OXE in the Pacific Northwest.

The OXE outboard weighs 700 pounds and will sell from Cimco at 43,000 to 47,000 Euros. Cimco recommends service every 200 hours and belt checks at 800 hours. The average weight for a 300-hp gas outboard is 551 pounds and Cox's V8 diesel outboard is 826 pounds.

Unique Features: Advantage OXE

"OXE's technology eliminates beveled gears and transfer shafts, the weakness found in other outboards and inboards. The commonly used dog clutch system used mainly on outboard systems has been substituted with more sophisticated electro hydraulically operated solution, located above the waterline," Mr. Polesie explained.

"OXE's transmission drives a geared belt that turns the prop and allows for increased torque transfer to the propeller while it enables smaller torpedoes,

Credit: OXE

and a slimmer submerged module. The gearbox and clutch system are continuously water-cooled which means that you can use the trolling function without time limit," said Robert Karlssen, Cimco test pilot and technician.

The gear box makes it possible for the operator to change from left hand to right hand rotation on the propeller by simply opening it up and switching the two gears. This more sophisticated electro hydraulically operated gearbox is water-cooled for operation at load. It makes possible a gear ratio communicated through the throttle that operates like a trolling gear; together eliminating over heating while simplifying continued low speed operation.

The use of the Euro 5 diesel combined with the streamlined engine design reduces fuel consumption by up to 42 percent. The result is an outboard unit of similar size and dimensions to conventional two- or four-stroke petrol outboard for the same power output that is also compliant with the emission regulations established by the Environmental Protection Agency (EPA), European Union (EU) and the California Air Resources Board (CARB) and is certified by IMO Tier II, EPA Tier III and RCD, according to Cimco.

All that said; there are many other advantages born by the OXE.

Technical data – OXE 200 hp Diesel

Engine type:	Diesel, L4
Displacement:	2.0 L
Intake:	Turbocharged, intercooled
Torque:	415 Nm at 2500 rpm
Power:	200 HP at 4100 rpm
Fuel:	Diesel / EN 590, ASTM D 975 No.1
Weight:	No.2. JIS KK2204, F54 & F75
Alternator output:	350 kg
Rig length:	130 Amp
Cooling:	25" or 33"
Starting:	Closed cooling circuit
Steering:	Electric
Shi t:	Electronic Power Steering
Clutch:	CANbus, Electro-hydraulic
Gear ratios:	Hydraulic multi-friction plate
Dimensions (25" leg), LHW	1.73:1 and 2.17:1
Dimensions (25" leg), LHW	994x1880x678mm

Merging the current GM EURO 5, in line 4-cylinder turbo diesel engine with the lower unit required out of the box thinking.

OXE's gear box eliminates beveled gears and transfer shafts, the weakness found in other outboards and inboards. The commonly used dog clutch system used mainly on outboard systems has been substituted with more sophisticated electro hydraulically operated solution.

Credit: OXE

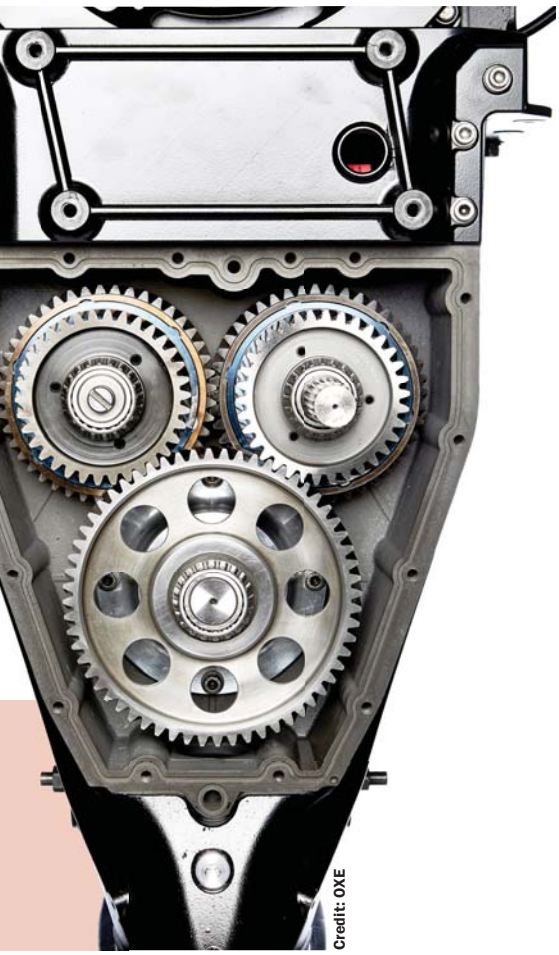
Safety, Performance and TCO

"From a safety aspect for the commercial users it was thought desirable that OXE Diesel units allow for low engaging speed and trolling capability," Mr. Polesie said. "Not only does it negate the need for carrying petrol – and therefore complying with the concomitant safety requirements – but also running costs, available range and service intervals are all improved."

With low speed limits around many coastal areas and all ports, operating a 'performance' outboard for hours at trolling speeds that cannot exceed five knots is asking for trouble. The OXE is engineered for both long duration trolling speed and high performance

"The OXE Diesel allows for trolling," he continued. "When engaging Trolling Mode (TM) the full throttle range represents 20 percent of normal throttle range. This enables a higher resolution of the throttle maneuvering thus giving the operator a more precise control in demanding situations."

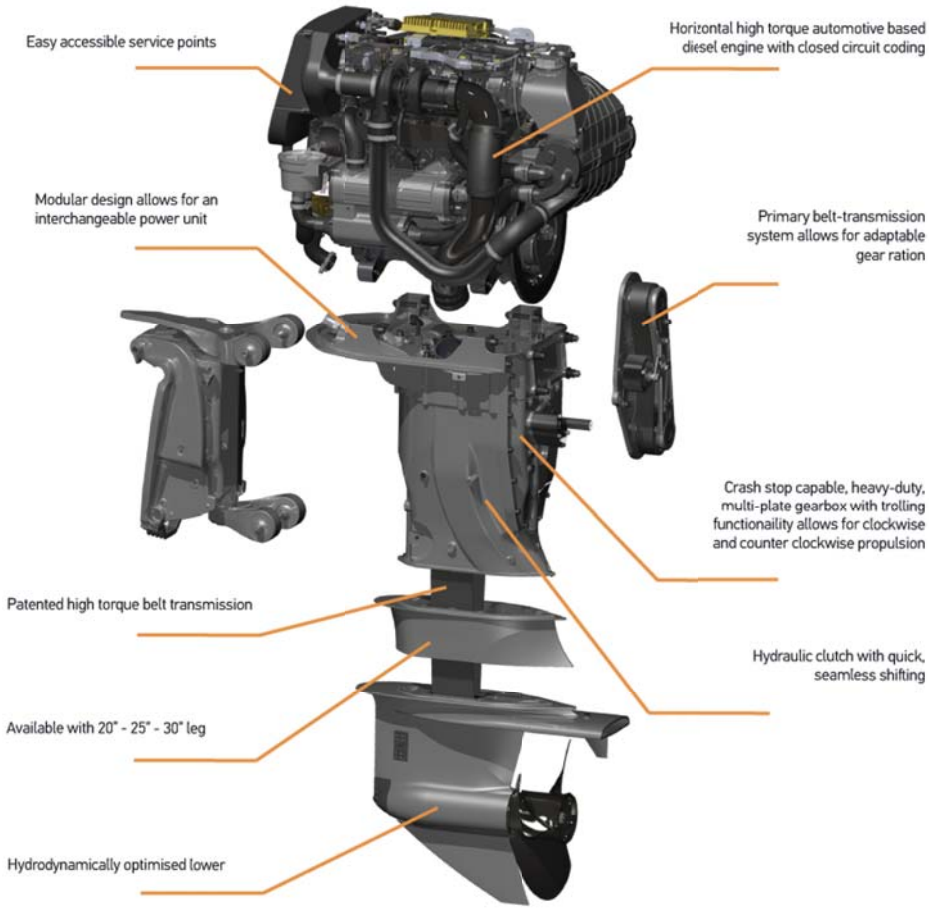
Cimco cites comparative figures for fuel consumption at wide-open throttle of 43 l/h for the OXE Diesel 200hp outboard against 71 l/h and 73 l/h respectively for equivalent 200hp four-stroke and two-stroke petrol outboards. The



Credit: OXE

"The approach was to take advantage of the automotive diesel engine's inherent high performance, substantially increased life and substantially reduced operational cost and compliance with environmental laws and regulations and combine it into a more reliable drive train suitable for the commercial market."

– Pim Polesie, Chief Marketing Officer for Cimco



net result is that for the same performance and tank size the OXE Diesel four-stroke offers 70 percent more range.

"The OXE features Low Speed Control (LSC), a revolutionary system that enables unprecedented control while mooring and low speed maneuvering. LSC incorporates an electro-hydraulically operated clutch that ensures smooth shifting between neutral, forward and reverse. LSC features sensor controlled propeller speed, allowing for seamless control from zero to maximum rpm. The boat is fully operable even below 3-4 knots," Mr. Polesie explained.

With roughly equivalent dimensions – albeit with a higher weight – the OXE Diesel 200hp should also offer broadly similar performance to the petrol equivalent. "We've got a twin installation on a 10 meter Cheetah cat," says Jeremy Paul, general manager of Proteum and distributor for the UK, Ireland and Channel Islands. "That's a heavy boat, but we're getting around 30 knots. Cimco has demo boat in Sweden with a sleeker hull and a single engine that does around 45 knots."

Proteum has been demonstrating to commercial operators the low total cost of ownership (TCO) of the OXE Diesel outboard in comparison to petrol equivalents. Based on in-service data, an operating scenario over 5 years shows OXE's TCO to be, on average, £100,000 less than a petrol equivalent.

On the water, environmentally compliant and versatile enough to appeal to the needs of commercial, government, military and yacht sectors alike, the OXE outboard has something for everyone.

***Rick Eyerdam** is an award winning journalist and editor. Formerly, he was Editor of Florida Shipper Magazine. Additionally, he was Executive Director of the Miami River Marine Group and Captain of the Port of the Miami River. He is a graduate of Florida State University with majors in English and Government. His articles have appeared in myriad shipping magazines and newspapers since 1970.*

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Exceptional (Market) Reach Lifts a Crane Retrofit to Success

The New York State Canal System, Advance Marine and MelCal Cranes all enjoy a reputation for versatile applications in challenging conditions. It's no wonder that their recent deal to replace an aging maintenance crane was also a similarly good fit.

By Joseph Keefe

When Advance Marine recently delivered a telescopic boom crane to New York State Canals, the decision regarding which type and brand of crane to select wasn't made in a vacuum, nor was it made lightly. That's because commercial utilization of America's original superhighway – the Erie Canal – is on the rise again. The New York State Canal System is a 524-mile long, commercially viable waterway connecting the Hudson River with the Great Lakes, Finger Lakes, and Lake Champlain. Today, the Canal System is a viable artery for the movement of bulk and project cargo – but, not unless it can be properly maintained.

The Melcal model TL75T2M telescopic boom crane, delivered by Melcal's exclusive U.S. representative, Wilmington, Delaware-based Advance Marine, is a replacement for an old crane on one of their barges. Intended to be used for canal maintenance, including debris removal, such as trees and other floating (or not floating) debris, some dredging with a clamshell bucket, and servicing of lock equipment, it had to robust, reliable and most importantly – versatile. That's important because the crane will also be used for buoy removal and placement. With a slightly greater reach and lifting capacity, Advance Marine, in this case, made sure that this crane was fit-for-purpose.

NUTS & BOLTS

Self-contained, with a 4 cylinder turbocharged CAT diesel engine. Importantly, the CAT diesel complies with U.S. EPA Tier 4 Final, EU Stage IIIB environmental standards. The new crane has an auxiliary winch that operates the clamshell (The main winch lifts the clamshell; the auxiliary winch opens it), and is also man rated for lifting a work basket. Maximum outreach is an impressive 45 feet with a capacity of 7,900 pounds, and the working capacity at 25 feet is 15,000 pounds.

Designed to ABS rules, the crane therefore has the required excess capacity, redundant braking, load sensing and load limiting for operations in personnel lift mode. Beyond those impressive features, the crane has a special boom tip to deal with side loading, and provides protection against collisions with trees and/or bridges for the outer boom, winches, and operator's station.

According to Advance Marine's Jake DuPont, very little

in way of changes to the NY Canal's work barge had to be made in order to install the crane. "The existing holes through the four-inch foundation mounting plate were drilled to accept slightly larger bolts and an additional four holes were drilled to increase the total number of mounting bolts to 12. But, the New York State Canal System takes no chances when safety is involved. Because this barge dates back to 1960 – not unusual in a fresh water application – the canal system requested a review of the foundation structure. Hence, naval architects Farrell and Norton were engaged to assess the foundation. DuPont explained, "NYS Canals does an incredible job of preserving historical equipment while maintaining the canal system to be fully functional."

MEET ADVANCE MARINE & MELCAL

Advance Marine is the North American representative for Melcal, a designer and manufacturer of marine and offshore lifting solutions. The relationship, which dates back to 2012, involves equipment ranging up to 3,000 metric tons and encompasses all box boom configurations.

The Advance Marine line-up

stiff boom	heavy duty knuckle telescopic boom	telescopic boom	knuckle boom
A-frames	folding knuckle boom	stabbing baskets	pipe handlers

The Advance Marine/Melcal supply line also includes electric or diesel hydraulic power units, electric and hydraulic winches, special equipment, and custom designs – all to any of the well known rules, including but not limited to FEM, ABS, DNV, BV, NK, RINA, API, and the firm certifies to any major class society. Customized, special options can be provided, as well. These include hazardous zone operation systems (ATEX); Active Heave Compensation systems (AHC); Arctic packages to -50° C; stainless steel fittings and piston rods; personnel handling systems and emergency operation systems (EOS), just to name a few.

Jake DuPont sums his partnership with Melcal and the full range of Advance Marine's capabilities, saying, "Melcal's comprehensive engineering and design capabilities, safety systems and regulatory compliance competence, and extraordinary attention to detail allow us to provide equipment for just about any marine application where high quality and lowest overall cost of ownership lifting solutions are required."

For its part, Melcal says that its knuckleboom cranes "set the standard for excellence and reliability." Importantly, all Melcal cranes are designed from the ground up as marine cranes, and built to withstand the added stresses and most hostile environmental conditions that marine equipment can be tasked to handle. Quality, safety, and operational reliability, with the longest possible service life and greatest ease of maintenance are key design objectives. But, in this case, that's not just a sales pitch. All products receive best-in-industry NORSOK M-501 Corrosion Protection treatment.

"Our folding knucklebooms are designed specifically as marine cranes, they are not, as is typical, derived from truck crane designs," explained DuPont, who added quickly, "All structures are either totally enclosed watertight box sec-

"Our folding knucklebooms are designed specifically as marine cranes, they are not, as is typical, derived from truck crane designs. All structures are either totally enclosed watertight box sections, or receive full paint treatment. These designs avoid water and debris traps, sheet metal, unnecessary points of water ingress, and configurations that make access to components difficult. That's because ease of access for maintenance and service is critical."

– Jake DuPont, Advance Marine

tions, or receive full paint treatment. These designs avoid water and debris traps, sheet metal, unnecessary points of water ingress, and configurations that make access to components difficult. That's because ease of access for maintenance and service is critical."

ON THE WATER: QUALITY, RELIABILITY, & LOCAL SERVICE

The new Melcal crane has already been installed on the barge, and it is intended to be working this season. The last part is important, because although Melcal is the manufacturer of this high quality equipment, Advance Marine is their authorized partner. With all the necessary tools and personnel to provide local U.S. service, Advance Marine is the full service exclusive U.S. representative for Melcal with complete sales and service capabilities.

As the New York State Canal System continues to improve and maintain the waterways that accommodate not only shortsea commerce, but also recreation and flood control, that kind of multi-use marine highway demands an equally versatile set of tools to keep it up and running. Recently, they got just that when they opted with Advance Marine's delivery of the Melcal knuckle boom. www.advamar.com

Transitioning to LED Navigation Lights

The Convention on the International Regulations for Preventing Collisions at Sea (COLREGS) governs the intensity of navigation lights, requiring a minimum intensity in candelas according to a prescribed intensity formula. Changes are coming.

IMO Resolution MSC.253 (83) for larger vessels sets performance standards for navigation lights, navigation light controller and associated equipment, requiring a masthead light, sidelights and a stern light installed on board a ship not less than 50 meters in length should be duplicated or be fitted with duplicate lamps, and that navigation light controllers be fitted onboard vessels to provide means of control and monitoring of the status of navigation lights onboard the vessel.

MSC.253 (83) 4.3 provides for special requirements for lights using LEDs. In fact, the luminous intensity of LEDs gradually decreases while the electricity consumption remains unchanged. The rate of decrease of luminous intensity depends on the output of LEDs and temperature of LEDs. To prevent shortage of luminous intensity of LEDs:

- *An alarm function should be activated to notify the Officer of the Watch that the luminous intensity of the light reduces below the level required by COLREGS; or*
- *LEDs should only be used within the lifespan (practical term of validity) specified by the manufacturer to maintain the necessary luminous intensity of LEDs.*

New Equipment, New Challenges

In other words, the resolution 4.3 provides two choices for LED navigation lights: An operator can either monitor intensity; or, alternatively, specify lifespan (count hours). The problem with specifying the lifespan (counting hours) of the LED navigation light is that there is no way of determining if the LED navigation light is maintaining COLREGS intensity requirements for the lifespan of the light. The only way to know if COLREGS intensity is being maintained is to monitor the intensity of the LED.

LED marine navigation lights are gaining popularity due to their energy efficiency and long lifetime, but LEDs present special problems that compel special requirements for navigation lights using LEDs. There needs be an alarm to notify the Officer of the Watch that the luminous intensity of the light has been reduced below the level required by COLREGS. The intensity of conventional incandescent lights depends on electrical current, and so conventional navigation control panels monitor current and trigger an alarm when they detect an open filament. The challenge is that LED navigation lights do not fail the same way as do

incandescent navigation lights. With LED navigation lights, the intensity diminishes over time but without a reduction in current. Therefore, conventional navigation control panels cannot detect a non-compliant LED navigation light that does not meet the COLREGS requirement.

This is becoming an issue as more passenger vessels and large vessels are converting from incandescent to LED navigation lights while keeping their conventional navigation control panels designed for incandescent lights. There is no easy way to properly modify an incandescent control panel for the lower currents of the LED navigation light to prevent false triggering of the alarm without modifying the control panel circuitry. A more expensive option is to replace the original control panel entirely with a new one designed for LED navigation lights. Nevertheless, neither a new nor a modified control panel will detect non-complaint LED navigations light due to the decrease of LED intensity without any decrease of current.

Benchmarking the Solutions

Most manufacturers of LED navigation lights that are required to meet MSC.253 (83) choose 4.3.2 to provide a lifespan of 50,000 hours and then replacement of the light is required. One manufacturer monitors the temperature of the light to either speed up or slow down the internal clock that counts the hours of life. This is done to attempt to estimate the life of the LED based on temperatures in the lab, but it is not useful in determining the LED intensity is compliant. LEDs can have a diminished intensity for several reasons (thermal management, electronic components, and thermal adhesives).

Another manufacturer's method

addresses the MSC.253(83) 4.3.2 requirement by increasing the current to the LED at predetermined intervals to make up for any degradation of the LED intensity during the 50,000 hours before replacement of the light is required. Since the temperature of the LEDs (proper thermal management) is the most important factor in determining longevity, arbitrarily continuing to increase the current to the LED, thus raising the temperature of the LED, may actually cause the LED intensity to prematurely diminish below COLREGS, without notifying of a non-compliant LED navigation light.

Both methods do adhere to MSC.253 (83)4.3.2, but neither method notifies if the LED intensity has not maintained COLREGS requirements.

Viable Alternatives

A self-monitoring LED navigation light that simulates an open filament (when non-compliant) by turning off the current to the light to trigger the existing alarm panel into seeing it as an incandescent light with an open filament, will send appropriate alarms. Signal Mate offers a UL1104 LED navigation light certified by a Coast Guard recognized testing laboratory to IMO MSC.253 (83)4.3 that monitors LED intensity and activates an alarm function to notify the Officer of the Watch of non-compliant LED intensity. Since the light monitors LED intensity, the light can be used regardless of the hours of use. Signal Mate also keeps track of hours of use to indicate the approaching end of life, notifying users that it is time to purchase a replacement LED module. Because of its modular design, the whole light does not need to be replaced; just the LED module.

Looking Ahead

IMO MSC 253(83) 4.3 addressed the concerns of the reduction of LED intensity for navigation lights for vessels over 50 meters. Similarly for inland vessels, USCG is also addressing the concerns of reduction of LED intensity over time, for navigation lights for inspected vessels over 65 feet, and is currently updating the UL1104 standard with ABYC. The UL1104 standard produced in 1998 was for incandescent navigation lights. Since that time technology has changed and the UL1104 standard is being updated to addresses the concerns of LED navigation lights.

It appears that USCG is taking a different approach than the IMO MSC.253 (83) which gives a choice to either monitor LED intensity or provide practical terms of validity (lifespan). The Marine Safety Center Technical Note MTN 01-18 that provides guidance for UL1104 LED navigation lights states "These lights must have a means of detecting and signaling a light that is degraded," and "All LED Lights must have a bulb life of at least 500 hours." MTN 01-18 is the first phase of the changes.

At the ABYC Standards Week & Annual Meeting in Seattle January 7-11, 2019; USCG concerns and changes were to be addressed with the committee, but unfortunately, the coast Guard was not present due to the government shutdown. A subcommittee was formed to address some of the issues that were presented during the meeting. The rewriting of UL1104 navigation lights will be addressed at the next meeting.

There is also progress moving forward with the National Shipbuilding Research Program (NSRP) and the Navy regarding advances in navigation lighting and control panels. Moreover, there is current interest in a NSRP Panel Project to investigate the new lighting and control technologies for navigation lights to replace the legacy lights currently in use. Stay tuned. www.SignalMate.com

USMI: *35 Years & Going Strong*

Spanning 35 exciting years, USMI's core values of Family, Integrity and Quality have served the firm and its military customers well. The next 35 promise to be just as compelling.

By Joseph Keefe

Little more than one month ago, on April 16, 2019, Gulfport, Mississippi-based United States Marine Inc. (USMI) celebrated its 35th anniversary of continuous Department of Defense production, with hopes of many more years to come. According to CEO and President Barry Dreyfus, Jr., they'll do just that by exceeding customer expectations by adhering to USMI's core values of Family, Integrity and, of course, Quality. Over three and one-half decades, the firm has thrived, primarily by evolving into one of the nation's premier military small craft builders.

ROOTS

The company originally built World Class racing sailboats. Over time, however, USMI became best known for the design and production of military, patrol and special warfare boats ranging in length from 21 to 90 feet, constructed of high performance composites and aluminum. A fully integrated manufacturer capable of designing, building and testing boats in house, USMI has supplied DOD craft uninterrupted for 35 years and counting.

Barry Dreyfus describes the nexus of USMI, saying, "My father started USMI over 35 years ago. He was a son of a sailor and had a love of the water, but most importantly had respect for it. Our boats were always Tommy tested tough, because everyone knows a sailor can break anything. USMI has always built craft we know are going into harm's way; that is the rule of being on the water. A specification is one thing to follow, but real world experience needs to be a part of the building process, that is what is so special about USMI."

USMI TODAY

Headquartered in Gulfport, MS, with a maintenance and repair facility in Chesapeake, VA, the Gulfport facility also has extensive dockage and capability for launching and retrieving boats. The facility connects to the Mississippi Sound providing riverine and littoral type environments, as well as varying water conditions for trials and training. The nearby, open waters of the Gulf of Mexico are used for blue water ocean testing.

Privately held with the majority of ownership held by current management, this corporate structure allows the decision-making process to be quick and decisive. To this end, USMI customer support teams are known as 'Tiger Teams,' comprised of USMI employees who are experts in

35 Years of USMI ... at a glance:

YEAR	EVENT
1984	USMI Incorporated
1988	First Military Craft delivered
1996	First Government Prime Contract (NSWRIB)
1998	David Packard Excellence in Acquisition Award (NSWRIB)
2002	100th NSWRIB delivered
2003	David Packard Excellence in Acquisition Award (SOCR)
2005	Move from New Orleans to Gulfport
2006	Ribbon Cutting Gulfport
2006	Visit by President Bush (1 year Katrina Anniversary)
2009	Celebrated 25 Years
2009	Largest FMS contract: ten 27M MKV-Patrol Boats
2013	Last 27M MKV Patrol Boat delivered
2018	First Outboard Motor Craft delivered
2019	Celebrating 35 Years

U.S. Navy photo by Mass Communication Specialist 2nd Class Arcenio Gonzalez, Jr.

their field. In short, USMI Logistics is available at any time to travel anywhere to assist customers in any way.

According to Dreyfus, USMI is uniquely positioned to provide specialty military craft. Through an ISO 9001:2015 Quality Management System, they continually work to improve a customer focused, management driven, prevention based Quality System. This is achieved using key metrics and processes that are measurable, visible and challenging. USMI's ability to convert customer's real world experiences to maritime solutions for the warfighter allows USMI to stay on the forefront of innovation. As *MarineNews* went to press, the firm had about 185 employees hard at work on these myriad missions.

AWARD WINNING PRODUCT LINE

USMI's dominate focus is the production of sophisticated craft for the Department of Defense. Craft include the SOCR, 11MNSWRIB, MKV and 9M MERC, all of which are in-house USMI designs. The 9M MERC is the latest USMI boat in the small craft naval inventory and includes an outboard powered open and cabin boat that is lower cost for initial investment and maintenance. The 9M MERC is used primarily by Navy EOD forces, including Mobile Diving and Salvage Units to conduct underwater operations, harbor clearance and passenger transport.

USMI revenues reflect a robust maintenance capability. USMI also designs and manufactures non-standard fabrications to support customers' unique needs. These components include sub-assemblies for larger platforms, mobile boat cradles, weapon foundations, specialty launch mechanisms and mobility components.

From simple to complex issues, USMI provides solutions to its customers. USMI is a two time winner of the David Packard award, presented by the United States Department of Defense, for excellence in acquisition. The first USMI David Packard award was for its contribution to Acquisition Reform by designing and building the NSW RIB which was fielded in an accelerated schedule and under the expected budget. The second USMI Packard Award was presented to USMI for a groundbreaking logistical support strategy initiated for SOCR program.

In total, USMI's 35-year output includes 750+ craft, all built and delivered to date. The 11M NSWRIB comprises the largest percentage of those impressive totals, and USMI continues to build the 11M NSWRIB today, with the original award coming way back in 1996. To date, USMI has built over 270 craft for the US military and foreign navies. Some of these sales are highly classified, many emanating through the Foreign Military Sales (FMS) program, spanning dozens of nations.

ON THE HORIZON

With 35 action packed years in the rearview mirror, *MarineNews* asked Dreyfus how USMI would prepare for what comes next. He quickly replied, "By being prepared. Who would have thought Katrina would destroy our facilities, and a year later President Bush would congratulate us on coming back stronger? Who would have thought we would have the customer loyalty that we enjoy today?

We did at USMI because we were prepared. We work

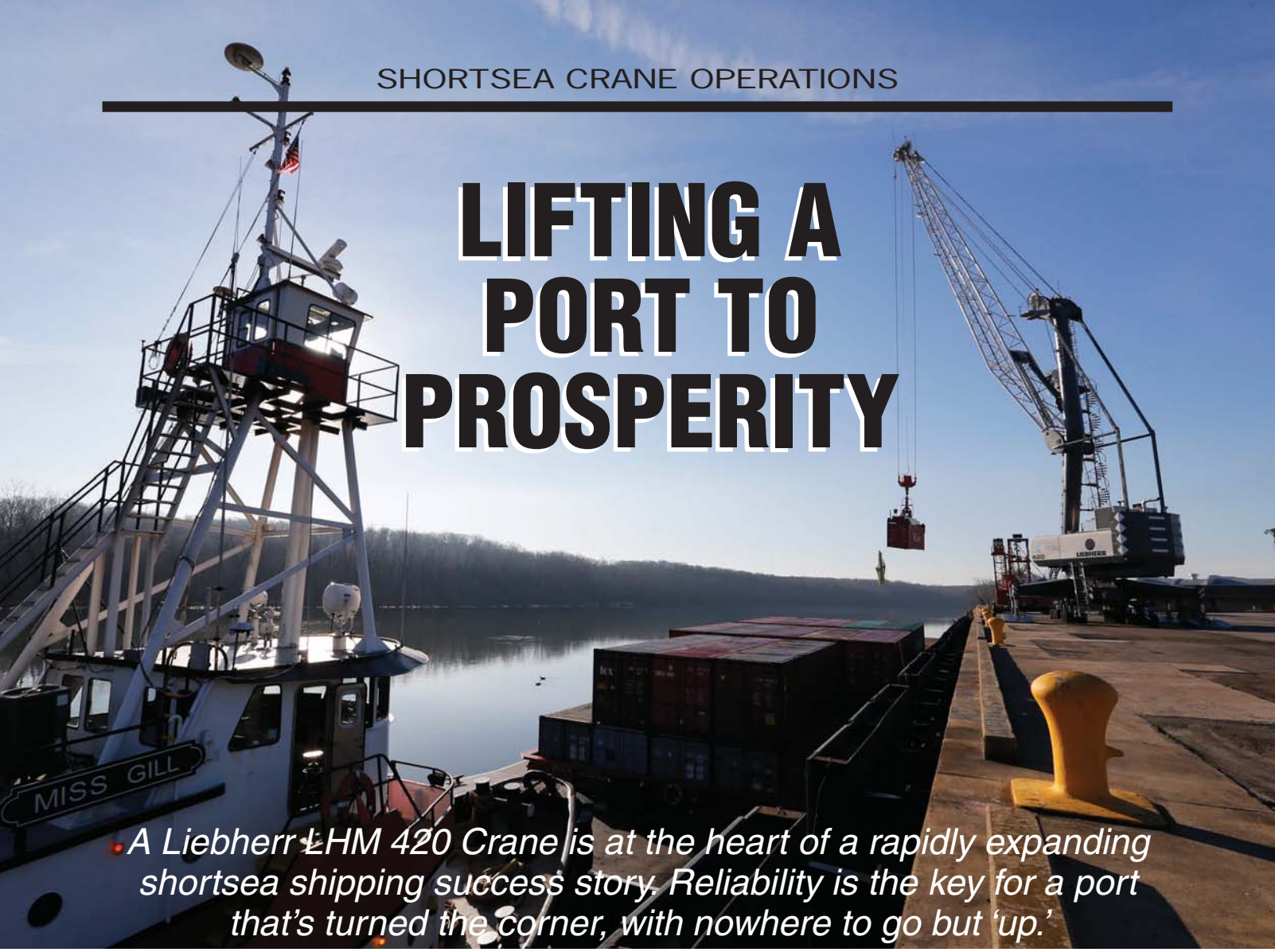
USMI Upper Management, from left to right: Barry Dreyfus, Schaeffer Dane, Bryant Bernhard, John Dane III, Fernando Mejia

hard to make sure we are here today, tomorrow, and in the future. We are financially sound to the point we have no debt at all. We pay close attention to the needs of our customers. A call from any of them is a call to action."

Dreyfus went on to say, "The products we produce are so much more advanced than just 10 years ago, in the next 10 years we need to be prepared to adapt to discoveries yet to happen and the best way to apply them." To that end, he said for emphasis, "Leaders need to prepare future leaders. That is by far the most important piece of preparation. USMI's next generation of leadership is in place and leading innovative processes right now. Working together with them gives me confidence USMI will do well now and in the future."

With that kind of attitude and determination, no doubt the next 35 years will involve change, evolution and the same kind of excitement that was the Hallmark of the first 35. One thing, however, won't change. Along the way, Dreyfus and his future leaders will pay close attention to the three core values that brought them here: *Family, Integrity and Quality.* www.usmi.com

LIFTING A PORT TO PROSPERITY



A Liebherr LHM 420 Crane is at the heart of a rapidly expanding shortsea shipping success story. Reliability is the key for a port that's turned the corner, with nowhere to go but 'up.'

By Joseph Keefe

Way back in January of 1996, I moved to Richmond, Virginia from Houston, Texas. Still very much in the maritime business as a cargo surveyor and ship expeditor, the Port of Richmond intrigued me, every time I drove past it on I-95. Eventually, I got a tour of the struggling port, courtesy of then port director and retired USCG Captain Marty Moynihan. Moynihan, an energetic executive, was keen to expand the port's horizons.

Back then, as much as half of the port's meager business was tobacco shipping to and from Philip Morris, just across the street. Still, Moynihan persisted, and the port – later helped by Sean Connaughton, Virginia's Secretary of Transportation from 2010 until 2014, and prior to that, the U.S. Maritime Administrator from 2006 until early 2009 – slowly came to life. Connaughton, then a huge supporter of shortsea shipping, put the muscle of those state and federal government positions to work, advancing the role of inland waterways in the nation's intermodal equation.

Humble Beginnings, Great Potential

In September 2006, when Connaughton assumed the helm of the Maritime Administration, he focused on developing the foundation for a more efficient marine highway system. And, Richmond was, for this Commonwealth resident, the perfect place to start. It was slow going and the initial efforts to get a container-on-barge service up and running from the Hampton Roads area was very much a 'chicken and egg' proposition.

Shippers were unwilling to commit to regular freight volumes and tug and barge operators on the route also struggled to make a living. Indeed, the year 2008 saw less than 150 containers moving through the port via barge. What a difference a decade can make. The Richmond Marine Terminal, as it has been rebranded, reported 29,685 box movements in 2018 alone. The terminal's original 80-foot barge has since been replaced by another barge, the 309-foot LOA Richmond Express. A second,

similar-sized barge has since joined to rotation. As many as 40 containers can fit onto each barge.

The Virginia Port Authority, eager to expand opportunities for its impressive, modern Hampton Roads port complex, also knows that their intermodal operations will only be as good as the modes that follow them in the intermodal supply chain. The days of relying on trucks on the congested I-64 corridor are slowly coming to an end. One way to beat that bottleneck is to ship via rail to the Front Royal inland port, located near the confluence of Interstate highways 81 and 66. The other alternative, the Richmond Marine Terminal, reached via barge, is also becoming an increasingly popular choice for shippers.

With three barge shipments per week now the standard, and the possibility of a fourth coming very soon, reliability for this relatively obscure inland port will be everything. Virginia Ports envision the service expanding to 60,000 containers per year, or twice its current volume, something that would remove as many as 120,000 trucks off Interstate 64, along with the NOx, SOx and particulate matter associated with those engines.

None of that can happen without the crane equipment needed to quickly and safely load and unload these critical cargoes. Hence, when the Port of Virginia doubled down on their commitment to the shortsea, container-on-barge concept and extended what had been a series of five year leases to a 40-year pact, they bought – with the help of Marad – a dedicated harbor crane – the Leibherr LHM 420 version.

Meet the Leibherr LHM 420

The LHM 420 is 124 metric ton class crane and was delivered in 2016. While the port purchased it mainly for container handling, the modern unit is versatile enough to efficiently handle project cargo, breakbulk and with the motor grab, bulk handling with 90 metric ton handling curve is possible, as well.

In practice, the Liebherr LHM is a modular crane; hence Liebherr adopts it for each individual customer and its intended operations. In this case, it is comprised of a 2-rope machine with a rotator and spreader to handle containers, project cargo and breakbulk, as well. According to Liebherr, a 4-rope crane would also have been feasible, but typically bulk operations that predominantly handle bulk would have preferred such a configuration, so hence the 2-rope with the motor grab load chart was chosen in this instance.

The standard pad sizes were already bringing down the corner loads of the crane sufficient enough for the pier loading capacity. Hence, the adapting of the crane is quite possible, and the port can easily relocate this crane to another location in the facility.

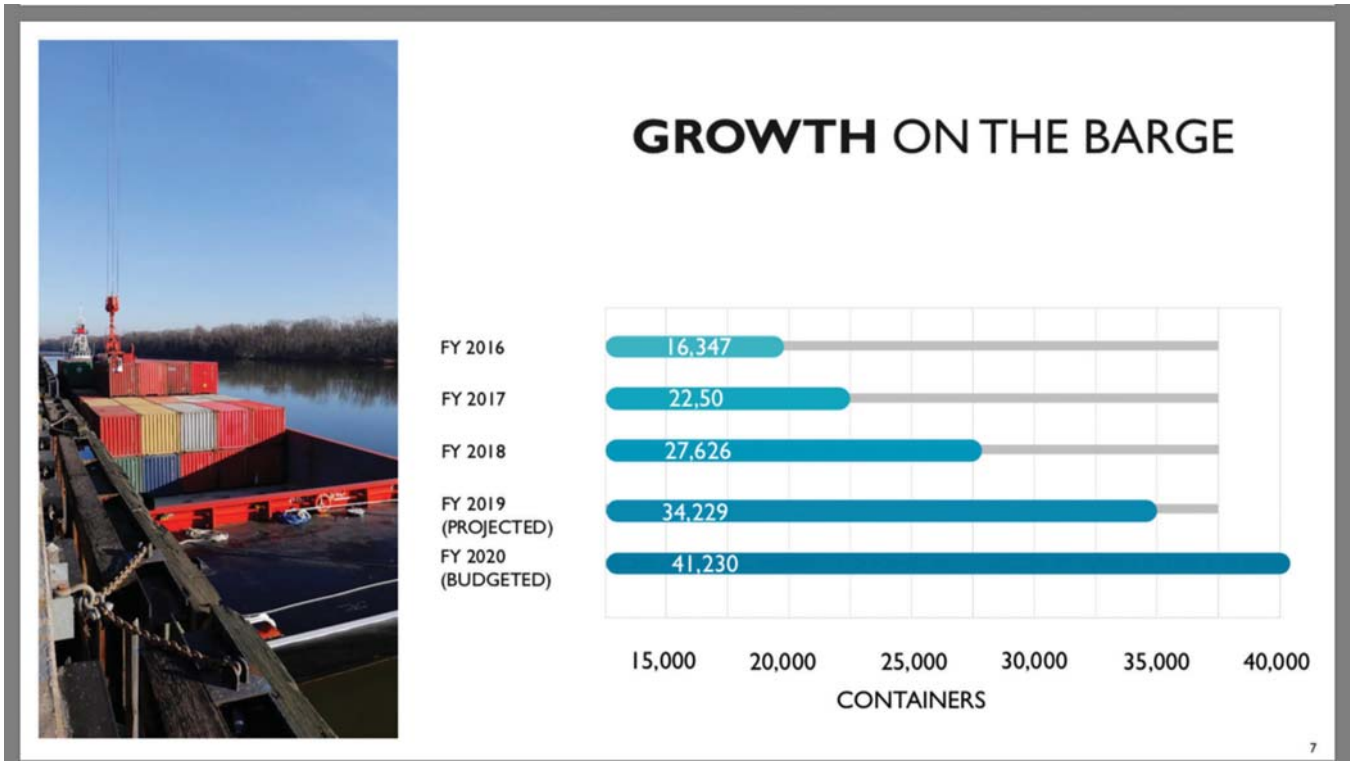
Special features of the crane include Liebherr's Advanced Container Control handling which allows the operator to offload the container from the barge and land it parallel to where it was picked up. Because the LHM is a revolving crane, this makes life easier for the operator as the container does not need to be repositioned.

LiebHerr Sees No Shortage of Shortsea Opportunities

The Port of Richmond may well have been the very first 'container on barge' effort, but it certainly won't be the last. As Marad pushes the concept – and puts its collective money where its mouth is – shippers also have incentives to get on board. Tax credits are available for inland rail and barge service users, and many distribution centers close to both Richmond and Front royal are already taking advantage.

For its part, Liebherr global footprint extends this market abroad. They've sold similar units to other inland facilities for similar mission sets. A Liebherr LHM 280 has been purchased in Owensboro, KY, as well as two LHM 550 units in Stockton, CA and another LHM 420 in Sacramento. CA. Overseas, Liebherr also supplies their lifting equipment to port interests on inland waterways such as the Amazonas in Brazil, and the River Magdalena and River Parana in Columbia.

Nearer to home, and as US inland rivers – from St. Louis all the way to New Orleans – heat up for 'container-on-barge' shortsea service, this remains a target area for Liebherr, who offer multiple different solutions. Both the LHM and FCC (Fixed Cargo Cranes) are ideal solutions for the inland rivers as is Liebherr's floating crane range.



Advantage Richmond,
Thanks in Part, to Liebherr

At Richmond Marine Terminal, local stevedores are averaging 28.5 moves per hour. And Liebherr reports that some customers and terminals are doing more, depending, of course, "on the operator, operations, conditions, how fast can containers be taken away – it's different in every terminal."

All that said; the Federal Maritime Administration has identified the Richmond Marine Terminal barge service as "the most successful marine highway effort in the United States." And, once again, Marad put their money where their mouth is, recently announcing a $1.8 million grant for the James River Expansion Project on the M-64 marine highway. That's high praise indeed, especially considering what is already happening between Baton Rouge and New Orleans. At the heart of that success is a modern and efficient container crane.

Eye in the Sky for Inland INTEL

Genscape Maritime's Vessel Coverage of U.S. Inland Waterways offers new perspectives and a leg up on the competition. In today's transportation markets, information is everything.

By Joseph Keefe

It was back in 2016 that Genscape announced the complete integration of more than 400 terrestrial AIS antennas in North America, providing an impressive level of data accuracy and visibility into ship movements in the U.S. today, Genscape's proprietary antenna network offers customers insights into ship movements, commodity flows, and other important data metrics in North America.

Genscape's private monitoring network covers every commercial port in the U.S., and over 90 percent of U.S. inland waterways, including extensive coverage of key regions such as the Mississippi and Ohio Rivers, and the Gulf Coast. With this enhanced coverage, Genscape customers – commodity traders, ship owners and operators, and port service providers – gain unique, real-time insight of vessel movements in North America, and an understanding of their associated commodity flows and trade patterns.

For traders and analysts, Genscape's comprehensive AIS network offers unrivaled insights into the opaque inland-waterways trade with the finest possible level of granularity, not available elsewhere. This empowers customers to identify patterns associated with routine operations, so that they have real-time indications of potential market opportunities when vessels deviate from regular routes, experience delays, or exhibit unusual activity. Every day, so it seems, new partners find unique ways to leverage the Genscape network.

The Vesseltracker antenna partnership model

Genscape's value isn't limited to commercial applications, and its reach extends to many users through data sharing arrangements that provide value to both sides of the equation. One such partnership involves the OKI Regional Council of Governments and the Raven 991 program, which signed a data share deal with Genscape Vesseltracker. In a nutshell, they became a Vesseltracker Antenna Partner by sending Genscape data from a few antennas. In exchange, Genscape sends back data from their antennas in the "region of interest." OKI serves two million residents in eight counties spanning three States.

In cases like this, Genscape looks for reliable partners who are interested in tracking vessels in their own geographic areas. The firm provides AIS antenna equipment free of charge, including shipping. In exchange, the partner installs the antenna and connects it to the Internet and then receives free Vesseltracker access for as long as their antenna remains online. Genscape realizes improved service quality in that partner's area and the partner gains free (or discounted) access to professional AIS service that can include more than 2,800 antennas, to date.

In the case of the Ohio-Kentucky-Indiana Regional Council of Governments (OKI), a council of local governments, business organizations and community groups committed to developing collaborative strategies to improve the quality of life and the economic vitality of the region, the need for better information on the river was paramount. Locally, the local fire department put up 3 receivers, in part for homeland security purposes, but these proved too limited in scope to provide the breadth of information that OKI required.

David Shuey, GIS Manager for the Greater Cincinnati Transportation Planning group, explained, "Freight is critical to the local economy. We had many data sources, pooling from variety of sources." OKI in particular needs to know which tugs and what type of freight is transiting the region, when it is coming, and which of these cargoes might be an import (coming into the region from other domestic sources). The Ohio Department of Transportation (ODOT) wanted verification tools.

The solution involved the barter of three AIS antennas

for access to Genscape's Strong Network. The local RAVEN911 (Regional Asset Verification & Emergency Network), an internet based mapping system developed from the perspective of an emergency operator utilizing exemplary technical expertise, and the latest in GIS computer technology, needed to pool data to anticipate river bottlenecks. The ultimate goal included such tasks as controlling traffic and promoting safety zones during local events such as 'Riverfest,' which might take place in close proximity to commercial traffic also transiting the region.

Access to a common data set is, for OKI and RAVEN911, most important. And, that means real time data. "Now, with Netscape, we have real time quality data," said Shuey. In a similar way, Genscape provides logistics INTEL for barge operators, in ways such as timing, price of freight, and the question of time of arrival vs. today's freight price.

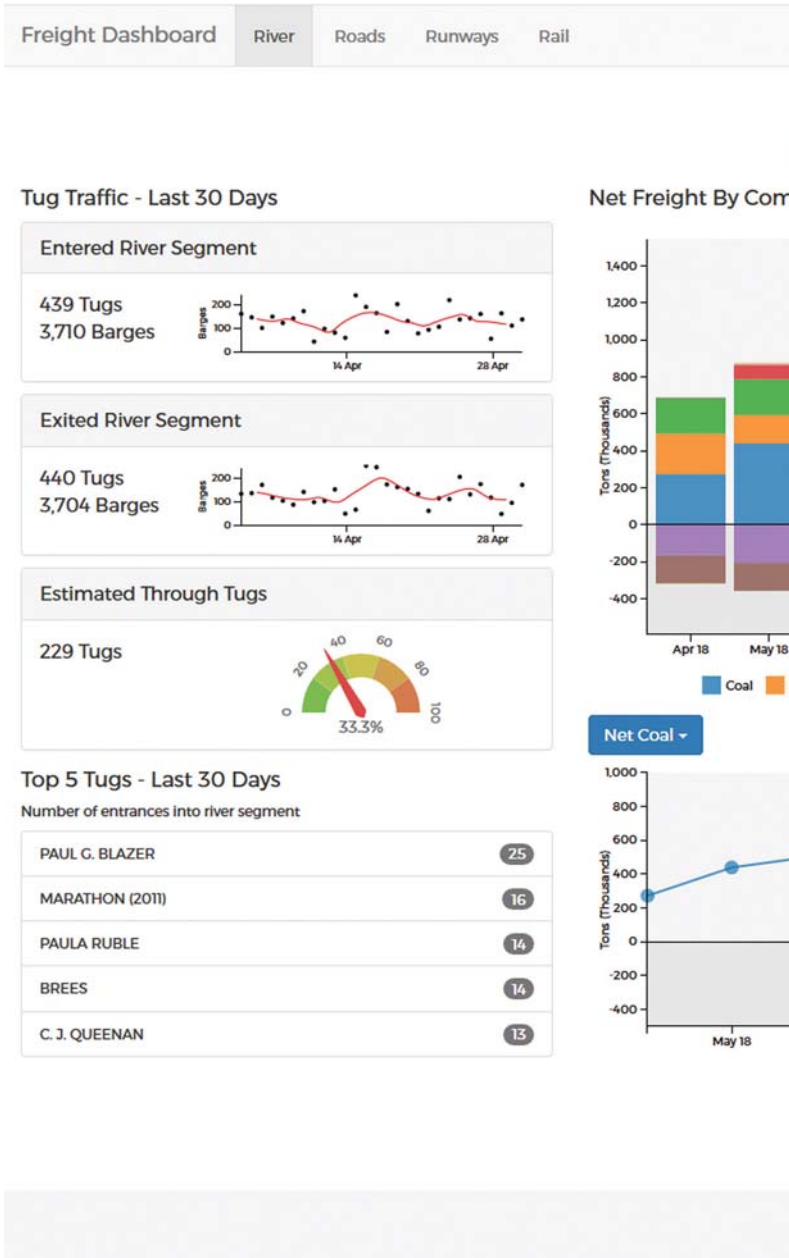
The new OKI project also involves looking back at historical vessel tracks in the interests of local and public safety. They want to encourage recreational use, but at the same time avoid interference with commerce and/or putting recreational users at risk. This might involve creating what OKI characterizes as a "commercial marine activity zone." OKI is even developing an APP specifically designed for boaters to keep them out of trouble. Another APP, this one intended to provide the number of barges in an area, and notice of casualties to area stakeholders and first responders, is also being developed. According to Shuey, OKI is working with the U.S. Coast Guard and other stakeholders on the project. Shuey adds, "The Coast Guard is excited about it."

Commercial Applications: Information is Power

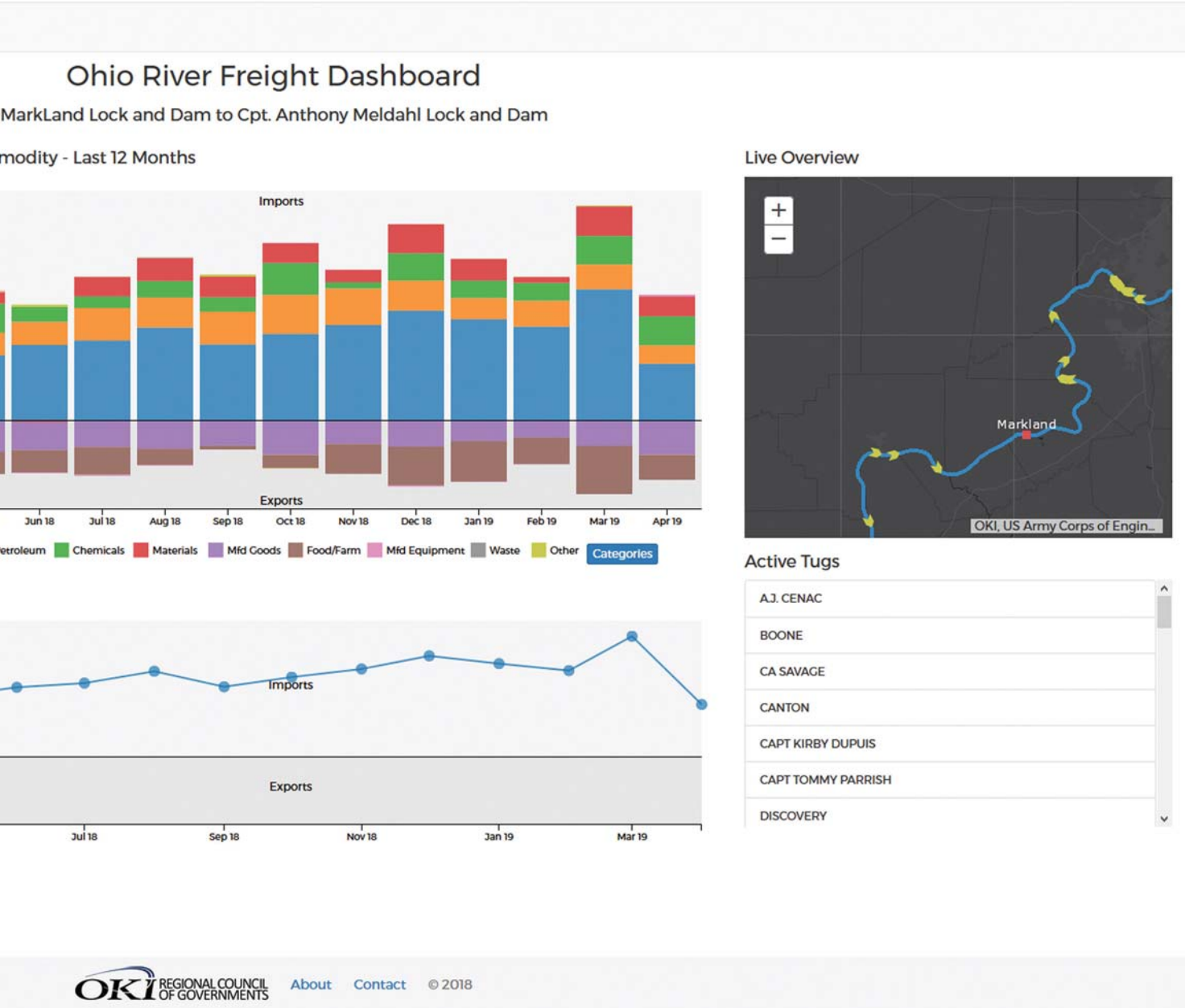
For traders and analysts, Genscape's comprehensive AIS network offers unrivaled insights into the opaque inland-waterways trade with the finest possible level of granularity, not available elsewhere. This empowers customers to identify patterns associated with routine operations, so that they have real-time indications of potential market opportunities when vessels deviate from regular routes, experience delays, or exhibit unusual activity.

For vessel owners and managers, Genscape's network expansion provides the only source of current information on all vessels operating in U.S. coastal areas and inland waterways. Port service providers can expect the most reliable and up-to-date information available on expected vessels and estimated times of arrival.

With 500 million messages processed every day, Genscape tracks more than 144,000 vessels in near-real-time daily, with more than 98 percent of the data originating from a privately-owned and operated terrestrial AIS antenna network. Activity analysis of all of this allows Genscape to create compelling products on top of raw AIS data, such as tracking global commodity movement and storage to a high degree of accuracy.



Also on the commercial side, one new Genscape US market involves the import and export of LNG, something which Genscape covers closely. And, while AIS isn't an exclusive tool for any one provider, Genscape's terrestrial AIS coverage, as compared to satellite reception, involves almost real time information. In the greater logistics pool, time is money. In contrast, satellite-based AIS can involve



as much as a few hours of delay. By September, Vessel Tracker will provide via APP, SMS and/or Text messaging, vessel type and cargoes to all subscribers.

In fact, Genscape delivers innovative solutions across a number of asset classes including, but not limited to Oil, Power, Natural Gas and LNG, Agriculture, Petrochemical and NGLs, Maritime, and Renewables. Genscape clients often gain important insights, improve risk management, and/or increase operational efficiency. Powered by the Vesseltracker AIS network, exceptional transparency and insight is delivered to customers, providing the market with a detailed view of the global commodity supply chain.

With 500 million messages processed every day, Genscape daily tracks more than 144,000 vessels via 2,800+ AIS antennas in near-real-time. Importantly, more than 98 percent of the data originates from a privately-owned and operated terrestrial AIS antenna network. Activity analysis of all of this allows Genscape to create compelling products on top of raw AIS data, such as tracking global commodity movement and storage to a high degree of accuracy. In the heartland, spanning the far flung and sometimes fragmented world of U.S. inland river commerce, the picture could get a lot clearer for stakeholders. Will you be one of them? www.genscape.com

The Sea Skipper High-Pressure Fire and Salvage Pump

After working with the Royal Australian Navy for several years, a small Australian pump manufacturer – Sydney-based Australian Pump Industries – which works on both the naval and commercial side of marine, developed a high-pressure fire and salvage pump dubbed the Sea Skipper, designed specifically for seawater applications.

While engaged in maintenance work on Australia's FFG fleet, Aussie Pumps' Chief Engineer, John Hales, saw workboats using commercial grade, agricultural style, self-priming centrifugal diesel powered pumps for seawater applications. "You can imagine the condition the pumps were in," said Hales. "Some of them had cast iron impellers and aluminum bodies. Fasteners were cad plated steel. Engines were not specially treated in any way to protect them from rust," he said.

After a short time at sea, the pumps suffered severe corrosion and were unserviceable for one reason or another. The pumps with cast iron impellers and volutes, even though they may have had marine grade aluminum bodies, were never flushed out with fresh water after use. After two or three months of being idle, those pumps had their impellers and volutes 'joined at the hip.'

"In an emergency, that's the last thing you need," said Hales.

The company moved into high gear to figure out how they could take their own commercial agricultural high-pressure fire pumps, and turn them into seawater pumps. The standard product was developed for fighting bushfires in Australia's sweltering summer seasons.

First, the company started working with powder coating the bodies inside and out. Finally they realized that the only way to provide a solution was to go to cast bronze impellers and volutes, 316 stainless steel fasteners and fitting zinc anodes. The project evolved over a period of years, step by step, until the company had produced the final version of what they christened the Sea Skipper Fire Chief.

The pump delivers a 450 lpm flow and heads of up to 50 meters, equaling 100 PSI. The pumps, already proven in bushfire fighting with Australian National Parks and firefighting authorities, are designed to have excellent self-priming characteristics.

The hydraulics of the big belly body on the pump allows a vertical suction lift 7.6m (25 feet). Compared to other

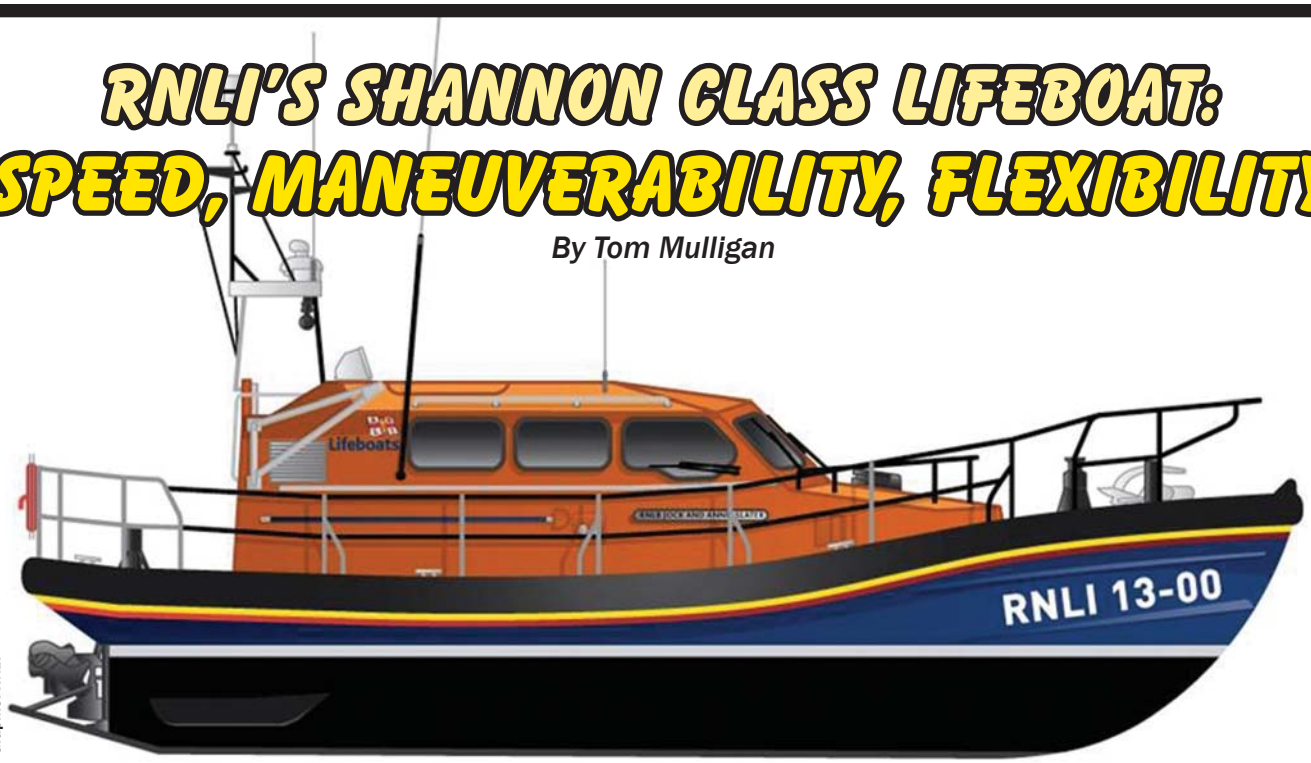
diesel pumps, they are light weight so are a two man lift, and they come with hot dipped galvanized carry frames, available in both recoil and electric start.

The L48 4.8hp Yanmar diesel provides loads of power and the pumps are remarkably efficient. Not only the Australian government uses the Aussie Pump product range but, other navies throughout the world, including the French, Indian, Bangladesh and Sri Lankan are gradually standardizing on the Sea Skipper range.

The Fire Chief Sea Skipper is the flagship product and is designed for firefighting at sea and salvage rescue work. The company is working on the production of bigger pumps in the Sea Skipper configuration that will handle flows of up to 1,800 lpm and suction lifts of over 8m. "We're getting enquiries now from around the world for a bronze impeller and volute trash pump that can be used for cleaning out oily bilges. That's a new project for us and we're just trying to evaluate the market potential," said Hales. www.aussiepumps.com.au

RNLI'S SHANNON CLASS LIFEBOAT: SPEED, MANEUVERABILITY, FLEXIBILITY

By Tom Mulligan



Graphic: RNLI

The latest lifeboat to join the fleet of the Royal National Lifeboat Institution, the main sea rescue service in the UK and Ireland, is the waterjet-propelled Shannon class, their most agile and maneuverable all-weather lifeboat yet to be deployed. Designed entirely in-house, cutting-edge technology has been used in this new boat to meet modern-day rescue service demands following the lead taken with the RNLI's introduction of the Shannon's sister lifeboat class, the Tamar, in 2005.

In 2013, the Royal National Lifeboat Institution introduced the Shannon class lifeboat to meet the modern-day demands facing a sea rescue service. At 13 meters long and weighing 18 tonnes, the Shannon is the smallest of the RNLI's all-weather lifeboats and, with an operational lifetime of 25 years, is expected to provide lifesaving cover around the coasts of the UK and Ireland for the foreseeable future: its hull and wheelhouse have a life expectancy of 50 years, thereby enabling the boat's lifetime to be extended beyond 25 years by having it undergo a refit.

The Shannon is self-righting and can stay at sea for up to 10 hours in extreme conditions. The boat's hull shape was designed specifically to reduce the vertical and transverse slamming forces that affect boats in high seas, with a narrow bow that cuts through water and a wide aft to provide stability. Its hull, deck and wheelhouse are constructed of composite materials, predominantly an epoxy resin film infusion glass sandwich construction, carbon fiber being employed in areas of the boat that are under high load.

Integrated Systems Management

Both the Shannon and its larger sister, the Tamar, are fitted with a Systems and Information Management System, an electronic integrated bridge system that allows the crew to monitor, operate and control many of the lifeboat's functions such as the navigation of the lifeboat, including direction finding, radar and charting; radio communications and CCTV; and the boat's mechanics, including the engines, bilge and electrical systems, directly. Crews can perform these functions while seated in shock-absorbing seats, thus improving crew safety, and SIMS also promotes better task-sharing between crew members. The SIMS now used in the Shannon class boat was developed jointly by the RNLI and software and solutions provider SCISYS and communication solutions specialist Savox. The six SIMS workstations on board the Tamar and Shannon boats are located at the Coxswain, Helm, Navigator 1, Navigator 2, Mechanic, and Upper Steering Position (USP) crew positions: the first five of these positions are located within the wheelhouse: the USP is up on deck.

Launch and Recovery system

A special feature of the Shannon lifeboat is that it was designed to be launched and recovered from a beach via a new faster and safer launch and recovery system: the vessel can also be launched from a slipway or it can lie afloat. The RNLI has also introduced a new launch and recovery tractor, designed in conjunction with high-mobility-vehicles

The RNLI has also introduced a new launch and recovery tractor, designed in conjunction with high-mobility-vehicles specialist Supacat Ltd, specifically for use with the Shannon. It acts as a mobile slipway. Pictured is the Hoylake, UK Shannon class lifeboat being recovered from the sea.

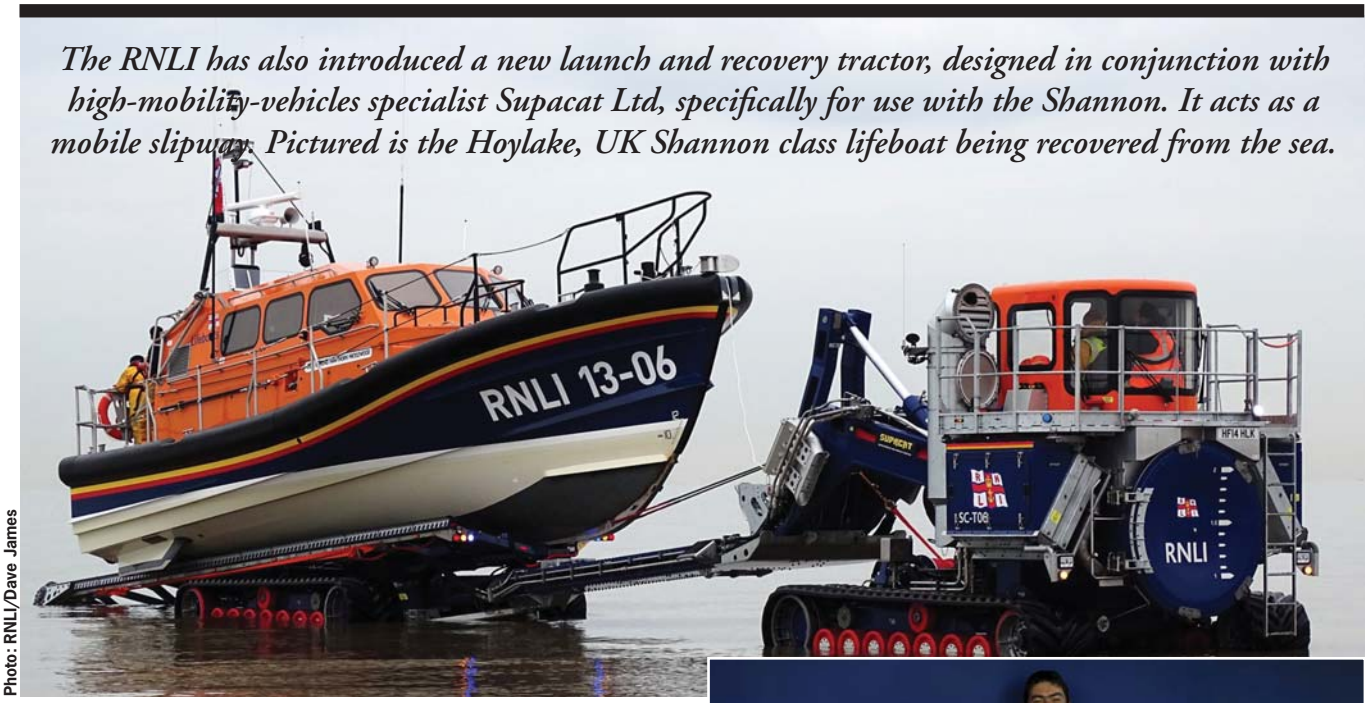


Photo: RNLI/Dave James

specialist Supacat Ltd, specifically for use with the Shannon. It acts as a mobile slipway: it can be driven directly onto the beach for recovery, a major advantage for lifeboat stations without harbors, slipways or davit systems. The tractor can carry an 18-tonne Shannon over rough beach terrain, including steep shelving shingle or wet, sticky sand, and can safely launch the lifeboat in up to 2.4 meters of water. In addition, the tractor is watertight and can be completely submerged in high-tide water up to 9 meters deep before being retrieved at low tide.

Speed and Maneuverability

Two Scania D13 650 hp engines give the Shannon a top speed of 25 knots, making it almost 50 percent faster than the RNLI's older Mersey class vessels. The engines each have a 1,370-liter fuel tank. Its twin Hamilton HJ 364 waterjets provide propulsion that makes the Shannon the most agile and maneuverable all-weather lifeboat in the RNLI fleet and give the boat its ability to operate in shallow waters and be intentionally beached, thus providing broad operational versatility.

The Shannon will gradually replace the RNLI's Mersey and Tyne class lifeboats. Once rolled out, the whole all-weather lifeboat fleet will be capable of 25 knots. The Shannon is not only fast but also highly maneuverable: "The maneuverability of a jet-driven boat is phenomenal – it really has to be seen to be believed. The launch and recovery equipment helps us get safely back to shore, no matter what the conditions," said Trevor Bunney, Mechanic at RNLI Dungeness Lifeboat Station.

Photo: RNLI/Nigel Millard

All-weather Lifeboat Center

The first Shannon class lifeboat was built at the RNLI's All-weather Lifeboat Centre in Poole, Dorset, UK. The Center carries out the whole boatbuilding process under one roof and aims to build at least six Shannon class lifeboats per year to produce a fleet of at least 50 such vessels.

The RNLI All-weather Lifeboat Center allows the organization to govern its own destiny and that because in the future there will be fewer specialist suppliers that will be able to meet its particular needs, the Centre will mitigate the risks to its lifeboat-building supply chain, give it greater control over quality, and make cost reductions of at least $4 million per year. Facilities at the Center include two boat halls with flexible bays for manufacturing and maintaining lifeboats; a component manufacturing area; a launch, recovery and boat storage area; a paint preparation area with built-in extraction system and heat curing facility; a workshop for supporting the RNLI's inshore training fleet; office facilities; tools and equipment storage facilities.

The new class is now gradually being introduced and ten RNLI stations have a Shannon class lifeboat, with four Shannon class boats in the organization's relief fleet.

SAFE Boats Delivers Patrol Vessels at Home and Abroad

Bremerton, WA-based SAFE Boats International's domestic customers include state and municipal law enforcement and first responders, federal agencies, and armed forces. SAFE Boats also has seen increased interest in delivering patrol boats for international customers. In 2018, SAFE delivered its 12th Mk VI patrol boat, a highly capable and nimble vessel, for the US Navy Expeditionary Combat Command's (NECC) fleet. Also delivered last year was the sixth SAFE 65 full cabin patrol boat. The SAFE 65 offers the agility of a fast responder with the benefits and features of a larger patrol craft. Ideal for longer missions, it is suited for patrols and SAR operations in all sea conditions. Beyond this, SAFE Boats is building eight 35-foot multi-mission interceptor patrol boats for Hong Kong. The MMI is an agile, open cockpit/T-top vessel with configurable seating and stowage options to fit myriad missions.

Derecktor Launches Third Hybrid Catamaran

The Captain Ben Moore is the third in a series of 65-foot aluminum catamarans built by Derecktor and powered by BAE Systems hybrid technology, the vessel was built for Harbor Harvest, a Norwalk, CT, based company set on changing the way fresh produce and foods are transported around metro areas. The Captain Ben Moore will carry goods from regional family farms across Long Island Sound, relieving traffic congestion and reducing emissions. The vessel has a top speed of 15 knots and boasts 300 square feet of open cargo space, 100 square feet of covered space and 140 square feet of walk-in refrigerated space. Total capacity is an impressive 12,000 pounds of cargo, equaling three to five full truckloads.

Credit: Robert Kunkel

Wight Shipyard Hybrid Patrol Vessel: Clean & Low Cost

UK shipbuilder Wight Shipyard Co (WSC)'s newbuild hybrid vessel sets new industry standards in the patrol and pilot sectors, meeting new pollution standards. Port authorities now require a vessel that can operate and switch easily between variable speeds; at low speed when environmental consideration is needed and high speed when required. WSC's hybrid vessel also provides a reduction in fuel costs and engine maintenance with its ability to turn off the main engines for substantial periods of time. The WSC vessel has been designed by Chartwell Marine, and is the first in the new Chasewell range of pilot and patrol boats. Notably, the hull form minimizes drag and resistance throughout the speed range, enabling efficient performance under both diesel and electrical propulsion.

NBBB Delivers Hybrid Tractor Tug

Nichols Brothers Boat Builders (NBBB) recently delivered Baydelta Maritime's new Delta Class Hybrid Tractor Tug. The Tug is the seventh tractor tug NBBB has built for Baydelta and affiliates, but the first Hybrid, an exciting milestone for NBBB and Baydelta. The hybrid system allows the vessel to operate in different power modes, direct-diesel, diesel-electric or fully-electric, providing fuel savings as well as reduced emissions, while supplying with the same power and performance needed for tug operations. The tug has 7 berths and the major equipment on board includes a single drum tow winch, and the drivetrain is connected with Centa carbon fiber shafts. In addition to the drive units and hybrid system, Kongsberg supplied the control system, main switchboard, electric motors and control cabinets.

LOA: 100'	Engines: (2) CAT C3516 C Tier 3	Hawser Winch: Rapp Marine
Beam: 40'	Z-drives: (2) Rolls Royce (Kongsberg)	Designer: Jensen Maritime
Speed: 14 KT	Generators: (3) CAT C9.3 300Kw each	Class: ABS

ABB to Power First US built all-electric Vessels

At the iconic Niagara Falls landmark, two new Maid of the Mist passenger vessels will soon be powered entirely by high-capacity battery packs, becoming the first all-electric vessels ever built in the US. ABB's zero-emission technology will allow guests to experience Niagara Falls undisturbed by engine noise, vibration or exhaust from conventional diesel engines. Each will be powered by a pair of battery packs with a total capacity of 316 kWh, split evenly between two catamaran hulls. Having two fully independent power systems on board provides operational redundancy. The vessels will charge between every trip and shoreside charging takes just seven minutes. The power setup controlled by ABB's integrated Power and Energy Management System (PEMS) will optimize energy use. ABB will also provide switchboards, drives and the integrated control system, as well as the ABB Ability Marine Remote Diagnostic System for remote equipment monitoring and predictive maintenance.

Armstrong Marine Catamaran Arrives in Alaska

The landing craft Sea Wolf was built by Armstrong Marine USA for Alaska-based Kodiak Legends Lodge. With a Sea-Star Power Assist Pro steering package, twin 180-gallon fuel tanks maximize range, and the vessel will be navigated with a Garmin/NMEA electronics package. A walk-around cabin, extended T-transom, fish cleaning station, and two self-draining fish lockers make Sea Wolf well-suited for fishing excursions in Uyak Bay and surrounding waters. The vessel features ballistic nylon bench seating, a head, a Webasto heater, and Bentley Patriot seats are located at helm and co-pilot stations. The versatile boat features 10 recessed tie-downs (forward) for safe transport of ATV's or lodge supplies. A hydraulic drop bow door makes for easy beach loading and unloading.


Allen


(L-R) Crowley & Jenkins


Cullather


Samona


Norrgren


Shelton

Thad Allen Joins HudsonAnalytix

HudsonAnalytix announced that Admiral **Thad Allen**, U.S. Coast Guard retired, joined the firm as a Senior Executive Advisor. Allen served as the 23rd Commandant of the Coast Guard from 2006 to 2010. He will be focusing on risk management for the global maritime transportation sector served by Hudson. Admiral Allen was the lead federal official for the responses to Hurricanes Katrina and Rita and served as National Incident Commander for the Deepwater Horizon oil spill. Allen commented. "The dynamic issues associated with rapidly advancing technology and complex global supply chains create significant opportunities and associated risks in marine transportation systems. Traditional approaches to enterprise risk management and incident response are being challenged by greater complexity and scale. The advantage will go to those who create the art of the possible faster than others. The HudsonAnalytix Team is poised to do that."

Coast Guard Foundation Presents Award to Tom Crowley

The Coast Guard Foundation, a nonprofit organization committed to the education and welfare of all Coast Guard members and their families, recently recognized Chairman and CEO **Tom Crowley Jr.** and Crowley Maritime Corporation for more than 30 years of support at its 25th Tribute to the Coast Guard Seventh District event. Approximately $380,000 was raised that evening to support Coast Guard Foundation programs and initiatives that provide education, morale and relief support for Coast Guard members and families. "The men and women of our entire company and I are honored to receive this recognition from the Foundation," Crowley said.

Propeller Club Names Cullather as EVP

The International Propeller Club of the United States has selected **John M. Cullather** as its new Executive Vice President. In the role of Executive Vice President, he will be responsible for the day-to-day and will serve as the primary liaison to the Club's 70 port chapters worldwide. Cullather served for more than 32 years as a staff member in the U.S. House of Representatives as Staff Director of the Committee on Transportation and Infrastructure, and the Subcommittee on Coast Guard and Maritime Transportation. Among his many honors, he was awarded the Distinguished Public Service Award from the U.S. Coast Guard and the President's Award from the National Association of Boating Safety Law Administrators.

Viega Names New HR VP

Terry Samona has been named Vice President of Human Resources at Viega LLC. Samona's entire career has been in human resources. Prior to joining Viega, he was vice president of human resources at Hach Environmental. He previously held leadership positions at Honeywell International and Entergy Corp. He has a master's degree in psychology from Mississippi State University and a bachelor's degree in psychology from Louisiana State University.

New Humphree CEO Named

Volvo Penta announced that **Hannes Norrgren** has been appointed the new CEO of Humphree. In 2016, Volvo Penta became a majority shareholder of Swedish marine technology provider Humphree, which specializes in trim and stabilization systems for boat control. Norrgren has a global network based on more than ten years of experience in the marine industry and many years in leading and designing international organizations with excellent results. Hannes is currently Vice President of Industrial Sales and Marketing for Volvo Penta in Europe. He will take up the new position as of August 1st, 2019.

Beaumont Port Commissioner Shelton Retires

After nearly three decades of service, Commissioner **C.A. "Pete" Shelton** in April retired from the Port of Beaumont Board of Commissioners. Shelton, who served as Beaumont's fire chief for 20 years, was first appointed to the Port of Beaumont Board in 1989 as one of two at-large commissioners. Shelton also served as president of the


Jarvie


Black


Brand


Zier


Raffo

Sabine-Neches Chiefs Association and the Texas Fire Chiefs Association, and has been active in numerous civic organizations including the American Red Cross, Boy's Haven, United Way and Beaumont Main Street. To honor Commissioner Shelton, the Orange County Terminal Overpass, a project that will enhance safety and efficiency at the Orange County Terminal, as the C.A. "Pete" Shelton Overpass.

Jarvie Joins APC as Marine Coatings Representative

Stephen Jarvie has joined Advanced Polymer Coatings (APC) as a Marine Coatings Representative, responsible for sales of the MarineLINE cargo tank coating system in parts of Europe. Prior to joining APC in May 2019, Mr. Jarvie worked for several coatings companies including most recently at PPG and at Akzo Nobel (International Paint). Jarvie achieved FROSIO Red Certification in 2011 and maintains this status today.

Sea Machines Hires Black as VP, Sales & Marketing

Sea Machines Robotics announced that it has hired **Don Black** as vice president of sales and marketing. Black's career roles include global senior vice president of sales, marketing and business development for NAVIONICS and CEO/president of startup Sea Wave. He has an MBA from IESE Business School and will complete a masters in data science in June 2019 from Northwestern University.

Sennebogen Recruits Brand to Lead HR Group

SENNEBOGEN LLC has appointed **Carolyn "CB" Brand** as the firm's dedicated senior manager of human resources. Brand previously served as the Director of HR Development for an engineering consultancy firm based in North Carolina.

Zier Joins Crowley Offshore Services Team

Crowley Maritime Corp. has appointed **Jonathan Zier** manager of business development in Houston. In his career, Zier has served customers in heavy lift, LNG and other specialized transport services from a variety of management positions. He is a graduate of the U.S. Merchant Marine Academy and served in the U.S. Naval Reserve.

Raffo Appointed to OSHA's MACOSH Group

Donald Raffo, a Marine Chemist at General Dynamics-Electric Boat in Groton, CT, has been appointed to OSHA's Maritime Advisory Committee on Occupational Health and Safety (MACOSH). MACOSH advises OSHA on matters relevant to the safety and health of employees in the maritime industry. Raffo, a past chairman of the Marine Chemist Association, now oversees continuing training for the MCA, and will become the overall chairman of MACOSH. He also serves on two National Fire Protection Association (NFPA) technical committees.

Pemamek Names Bell Director of Sales

Pemamek Oy has named **Michael Bell** Director of Sales for its North American subsidiary Pemamek LLC. Pemamek provides welding automation technology and integrated manufacturing solutions to a wide range of industries including shipbuilding, heavy fabrication, oil and gas, wind energy and boiler manufacturing. Bell previously was director of operations at automation equipment and software manufacturer Fastems LLC.

Marad Awards $6.7 Million for Marine Highway Projects

The U.S. Department of Transportation's Maritime Administration (MARAD) last month announced $6,790,000 in grants to three Marine Highway projects. The funding, provided by MARAD's Marine Highway Program, will go towards enhancing existing services in Louisiana and Virginia as well as supporting the development of a new project in New York. "America's Marine Highway Program is dedicated to expanding freight movement on the water and this round of grant funding will go a long way towards ensuring that our nation's waterways continue to be utilized as effectively as possible," said Maritime Administrator **Mark H. Buzby**. Projects receiving funding include Harbor Harvest Long Island Sound Service (Sponsored by the Connecticut Port Authority), the Baton Rouge-New Orleans Shuttle on the M-55 (Sponsored


Bell


Buzby


Credit: USDOT
Chao


(L to R) Todd, Merritt, Blessey, Jr., Nadeau

by the Port of New Orleans), and the James River Expansion Project on the M-64 (James River Barge Lines).

U.S. DOT Secretary Chao Announces New MTSNAC Committee

U.S. Transportation Secretary **Elaine L. Chao** recently announced the appointment of 29 members to the Maritime Transportation System National Advisory Committee (MTSNAC). MTSNAC is made up of maritime industry leaders and stakeholders that advise the Secretary on policies to ensure that the marine transportation system can respond to projected trade increases. Members are nominated through a full and open process published in the Federal Register. Among the new members are **David Cicalese**, International Longshoremen's Association, **Ms. Berit Eriksson**, Sailors' Union of the Pacific, **David C. Fisher**, Port of Beaumont, TX, **John Graykowski**, Maritime Industry Consultants, **Griff Lynch**, Georgia Ports Authority, **Gene Seroka**, Port of Los Angeles, **Scott Sigman**, Illinois Soybean Association, **Augustin Tellez**, Seafarers International Union of North America, **Robert Wellner**, Liberty Global Logistics LLC, **Thomas Wetherald**, General Dynamics-NASSCO, and Ms. **Lisa Wieland**, Massachusetts Port Authority

Coast Guard Presents Blessey with Public Service Award

Rear Adm. **John Nadeau**, assistant

Coast Guard Foundation Elects New Board Members


Cooper


Doherty


Parrott


Quarles


Scholz


Symons


Johnsen


Smith

The Coast Guard Foundation last month announced the addition of six new trustees to its board. The Coast Guard Foundation Board of Directors and Trustees governs the organization and promotes the Foundation's mission of support to the United States Coast Guard. Each will serve three-year terms, commencing in 2019. In addition, a Vice-Chair and Secretary were elected to serve one-year terms. The new trustees and officers include **Scott Cooper**, president of Crescent Towing & Salvage Co., **John Doherty** a private wealth advisor with Goldman Sachs & Co., **John Parrott** president of Foss Maritime, **Cory E. Quarles** president of SeaRiver Maritime, **Jeffrey R. Scholz**, the owner and manager of Scholz Associates, LLC., **Richard M. Symons** is a retired Coast Guard Reserve Commander, **R. Christian Johnsen**, the managing partner of the Washington office of Jones Walker LLP, who was elected to fill the role of Vice-Chair on the Coast Guard Foundation Board of Directors, and **Duncan C. Smith III**, a retired Coast Guard Reserve Rear Admiral, was elected to fill the role of Board Secretary.


Cooper


Coda

Inland Rivers Ports and Terminals


Schultz


Doyle

commandant for prevention policy, presented **Walter Blessey, Jr.** with a Coast Guard Meritorious Public Service Award during the American Waterways Operators' Spring convention in Washington, DC. The award honors Blessey's contributions to the inland marine transportation industry, navigation safety, environmental stewardship, and homeland security. As chairman and chief executive officer of Blessey Marine Services, Inc., Blessey was an active voice in a broad array of AWO policies, plans, and projects.

IRPT Presents Cooper with Lifetime Achievement Award

Inland Rivers Ports and Terminals (IRPT) at its annual conference, presented its inaugural Lifetime Achievement Award to **Rich Cooper**, former CEO of the Ports of Indiana. Rich Cooper was appointed chief executive officer for the Ports of Indiana in 2005. Under Cooper's leadership, the organization experienced unprecedented growth and became a completely self-funded enterprise. **Vanta E. Coda II**, current CEO for the Ports of Indiana, said, "Rich is the right person to receive the IRPT's first-ever lifetime achievement award because he helped shape a new vision for the Ports of Indiana to be a premier inland port system in North America."

U.S. Coast Guard releases new Arctic Strategic Outlook

The U.S. Coast Guard recently released its newest strategy to address its expanding role in the Polar Regions. As the Nation's primary maritime presence in the Polar Regions, the Coast Guard advances national interests through a unique blend of polar operational capability, regulatory authority, and international leadership across the full spectrum of maritime governance. "The Arctic Strategic Outlook reaffirms the Coast Guard's commitment to American leadership in the region through partnership, unity of effort, and continuous innovation. We understand the significant investment required to secure the Arctic, and … will remain vigilant in protecting our national interests in the Polar Regions," said **Admiral Karl L. Schultz**, Commandant of the U.S. Coast Guard.

U.S. Dredgers Applaud President for Jones Act Support

On May 1, President Donald Trump met with Congressional leaders from the Senate and House to discuss U.S. Maritime Policy. On the table was the Jones Act. President Trump assured the Congressional leaders that he is not seeking any changes to the Jones Act, nor is he seeking any waivers. **William P. Doyle**, CEO & Executive Director of the Dredging Contractors of America, said, "Mr. Trump is all about jobs and national security — he's never wavered on this. We appreciate the President's support for the Jones Act."

In-Mar Solutions: Wynn Marine Type C & Type D, Heavy Duty Straight Line Wipers

Wynn Type C (internal motor) and Type D (external motor) Straight Line Wipers offer the most advanced design of linear action window wiping systems for marine and other specialized applications. Optimum window coverage can be achieved and enhanced by utilizing a twin-bladed or dual-arm/blade design.

www.inmarsolutions.com

Reid Gantry for Floating Solar Installation

Northern Pontoon used a 3,000kg working load limit lightweight gantry crane from Reid Lifting to anchor a solar system in Lancashire, UK. The application, an example of the versatility of the Reid lightweight gantry and davit crane range, is renowned for light weight, portability, ease of assembly, and safety and offers a range of configurations, lift-ratings, and personnel lifting options, including a 5,000kg WLL version.

www.reidlifting.com

Evinrude Named Supplier for America's Cup Challenger

Evinrude is the Engine Supplier of New York Yacht Club American Magic, a professional sailing team and Challenger for the 36th America's Cup. Evinrude will outfit American Magic's fleet of chase boats with 300 HP E-TEC G2 engines, as well as providing the organization's technical crew with a training course at its Sturtevant facility. Each engine will also be custom wrapped with an American flag-based design.

www.evinrude.com

Cynash's SerialTap Cybersecurity Sensor Commercially Available

Cynash announced the commercial availability of its SerialTap patented cybersecurity sensor. Based on technology developed by the United States Department of Energy, SerialTap passively intercepts serial communications on legacy industrial control networks. It then transmits the intercepted data to a backend appliance and higher-level computing systems for critical systems monitoring, intrusion detection and asset management by Cynash's suite of industrial cybersecurity tools.

www.cynash.com

Wärtsilä Gains Dual Technology BWMS USCG Type Approval

The technology group Wärtsilä's Aquarius UV Ballast Water Management System (BWMS) has been granted US Coastguard (USCG) Type Approval. With the company's other BWMS technology, the Wärtsilä Aquarius EC, already Type Approved by USCG, Wärtsilä becomes the first to offer two USCG Type Approved BWMS technologies. The Wärtsilä Aquarius UV technology utilizes filtration and UV irradiation. It retains its effectiveness regardless of the water quality.

www.wartsila.com

Survitec's Tri-Approved Immersion Suit

Survitec's new Tri-Approved Immersion Suit, is designed to exceed European standards, and is approved for both aviation and marine transfers as well as for constant wear. It also has an abandonment option which offers cost efficiencies with a five-year service regime. The new suit, designed for the offshore sector, has exceptional in-water performance and cold-water survivability, and incorporates a flame-retardant material.

www.survitecgroup.com

Damen's InvaSave Mobile BWTS

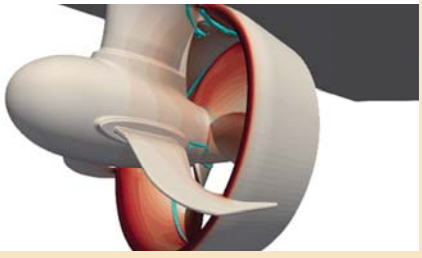
The InvaSave 300 IMO-certified system is an external ballast water treatment unit that uses mechanical filtration and UV radiation to remove/eradicate invasive organisms from ballast water being discharged from inbound vessels, to IMO-D2 standards. It can also provide ballast water of the same quality to outbound vessels. The entire system comes in a single, 40 foot container, fully mobile; ideal for barge or workboat placement.

www.damen.com

SCHOTTEL Expands Range of High-Performance Nozzles

With the launch of the newly developed SDC40 nozzle, SCHOTTEL has expanded its range of high-performance nozzles. The SDC40 sets new standards in terms of compact design and free running efficiency, leading to reduced operating costs and standing out with its optimally designed propeller geometries and exceptional performance characteristics. It comes equipped with SCHOTTEL patented ProAnode as standard and is now available for all SCHOTTEL Rudderpropellers.

www.schottel.de



ARG Adapts Zinc-Free Engine Oil for Marine Use

Sea Ready Marine Petroleum Alliance American Refining Group (ARG) has made its zinc-free engine oil available for marine applications through an alliance with Sea Ready Marine Petroleum (SRMP). For decades ARG's Zn Free lubricant has been used in locomotive engines in North America, protecting 25,000 of them through millions of hours of high-demand performance. ARG brings this U.S.-made alternative to marine transportation companies operating in the inland waterways to help them secure cost savings amidst tight profit margins.

www.amref.com

BCM Chooses IMTRA for LED Lighting Distribution

IMTRA, a manufacturer and importer of quality solutions and products for the marine, energy and transportation markets, announced today it is now the exclusive North American distributor for BCM-Benedetti Lighting. The two companies have come together to provide an expanded LED lighting offering to the OEM boat builder, yards and dealers in the U.S. and Canada.

www.imtra.com

Bosch Rexroth's Autonomous Docking for Offshore Access

Bosch Rexroth is developing and testing features that will make offshore access systems and applications safer and more efficient. This will increase window of operation, efficiency and safety, and allow application of sensors and cameras for autonomous docking procedures. Extensive tests performed at sea on existing offshore gangway. Cameras and sensors mounted on various places serve as the 'eyes' of the gangway for precise docking.

www.boschrexroth.com

HSI's NikoRail Enclosed Track Crane System

Handling Systems International's NikoRail enclosed track crane product complements their current offering of jibs, gantries and I-beam cranes and runways. Partnering with Helm Hellas, HIS provides rail and a full line of hardware and components to offer some unique material handling solutions. Handling Systems International has launched a new web domain and full marketing material to support their dealer sales efforts.

www.nikorail.com

ComNav Autopilots – We Steer Boats

With a 5.7" VGA color screen, an industrial grade encoder switch and large course, change knob, the P4 offers a navigation mode to track waypoints or route. Additional P4 displays and controllers (tiller or joystick control) offers full autopilot functionality, with multiple stations in strategic locations. The P4 can be utilized on vessels ranging from 10 to 300 meters (10,000 GWT).

www.comnav.com

Rolls-Royce Mooring Systems: The Standard in Drill Rig Safety

Rolls-Royce has signed agreements for mooring equipment to drilling rigs. The 12-point mooring system is outfitted with new R6 grade rig chain. With a minimum breaking load of 1048t, the new chain quality raises the standard since it allows for a maximum 480t capacity on each winch. Each high capacity winch will be class-approved according to the requirements of both CCS and DNV GL.

www.rolls-royce.com/marine

Hempel's Topcoat Solution for Reduced Offshore Maintenance

Hempel's flexible two-coat water repellent coating – Hempatop Repel 800 – offers enhanced corrosion protection by actively repelling water from coated surfaces. By enabling the use of fewer coating layers, this solution for offshore assets and installations can be applied faster and lasts longer than conventional coatings solutions. For optimum protection, Hempatop Repel 800 is used in combination with Hempel's Avantguard technology activated zinc primer, Avantguard 770.

www.hempel.com

Damiamant Sonars for Poorly Charted Areas

Some places are poorly charted. Moving shoals defy the efforts of hydrographers and buoys. Forward Looking Sonars (FLS) are designed to offer insurance for your vessel against unseen obstacles, making difficult anchorages less stressful. Unlike simple digital sounders which show a depth that can be 15 seconds out of date, or hundreds of meters behind, Daniamant's FLS updates every 0.2 seconds to give real time information.

www.daniamant.com

Wärtsilä Propulsion Superior Power for Tugboats

Wärtsilä engines and steerable thrusters deliver excellent tugboat performance, achieved through the combination of a 6-cylinder Wärtsilä 26 engine and a Wärtsilä WST-24 steerable thruster, controlled by a Wärtsilä ProTouch propulsion remote control system. To achieve 75 TBP, an 8-cylinder engine would normally be required, and by reaching this level of pulling power with fewer cylinders has a positive impact on both CapEx and OpEx.

www.wartsila.com

HydroHoist Lands U.S. Navy Contract

HydroHoist Boat Lifts were recently selected to protect U.S. Navy security boats. HarborHoist's saltwater friendly design boasts ISO-9001 certification, and the lift has a level-lifting frame constructed of aircraft-grade aluminum. The versatile HydroHoist is compatible with fixed or floating docks and works in U-shaped, double-wide, L-shaped, and square docks. The hull supports can be configured for any boat, including inboard wake, pontoon, and tritoon boats.

www.boatlift.com

ELECTRONICS TECHNICIAN

Military Sealift Command
Salary: $64,170, Full Time, Mid Career
Category: Vessel Operations
Job Location: 6353 Center Drive building 8, Suite 202 Norfolk, VA, 23502 USA
Email: civmar@sealiftcommand.com
Work Phone: 757-341-4610
6353 Center Drive, Building #8, Suite 202 Norfolk, VA, 23502 US

Description:
Announcement #: 19-335-01EX
Title, Series, Grade (Code)
Electronics Technician,
WM-9944-15 (335)
Type of Appointment: Excepted Service Career-Conditional
Opening Date: December 3, 2018
Closing Date January 2, 2019
Location: Military Sealift Command (MSC) Vessels Worldwide
Who May Apply: All United States citizens and current Military Sealift Command Civil Service Mariner (CIVMAR) eligible to apply under the Veterans Employment Opportunities Act (VEOA). Active Duty Service Members (ADSMs) must submit a certification (i.e., statement of service) at the time of application which certifies that the service member is expected to be discharged or released from active duty service under honorable conditions not later than 120 days after the date the certification is submitted. Relocation expenses are not authorized for this position.
Duties: The Electronics Technician is a Civil Service Mariner (CIVMAR) employed by the Navy to serve the Military Sealift Command (MSC) onboard naval auxiliaries and hybrid-manned warships worldwide, in peace and war. MSC exists to support the joint warfighter across the full spectrum of military operations. MSC provides on-time logistics, strategic sealift, as well as specialized missions anywhere in the world, contested or uncontested environments. The Electronics Technician must be able to work independently and be proficient and able to interpret test results from a variety of electrical and electronic test equipment. This test equipment includes but is not limited to, oscilloscopes, function generators, I-P calibrators, power harmonic analyzers, analog and digital multi-meters and other diagnostic instruments. The Electronics Technician must be proficient in the operation, testing and demonstration for regulatory bodies, troubleshooting, maintaining, and repairing of a wide variety of electrical and electronic equipment aboard ship. This may include, but not limited to: Engine Room control consoles & monitoring systems, - Engine, auxiliary machinery, and boiler automation, monitoring, and boiler, - Electrical generation, conversion.

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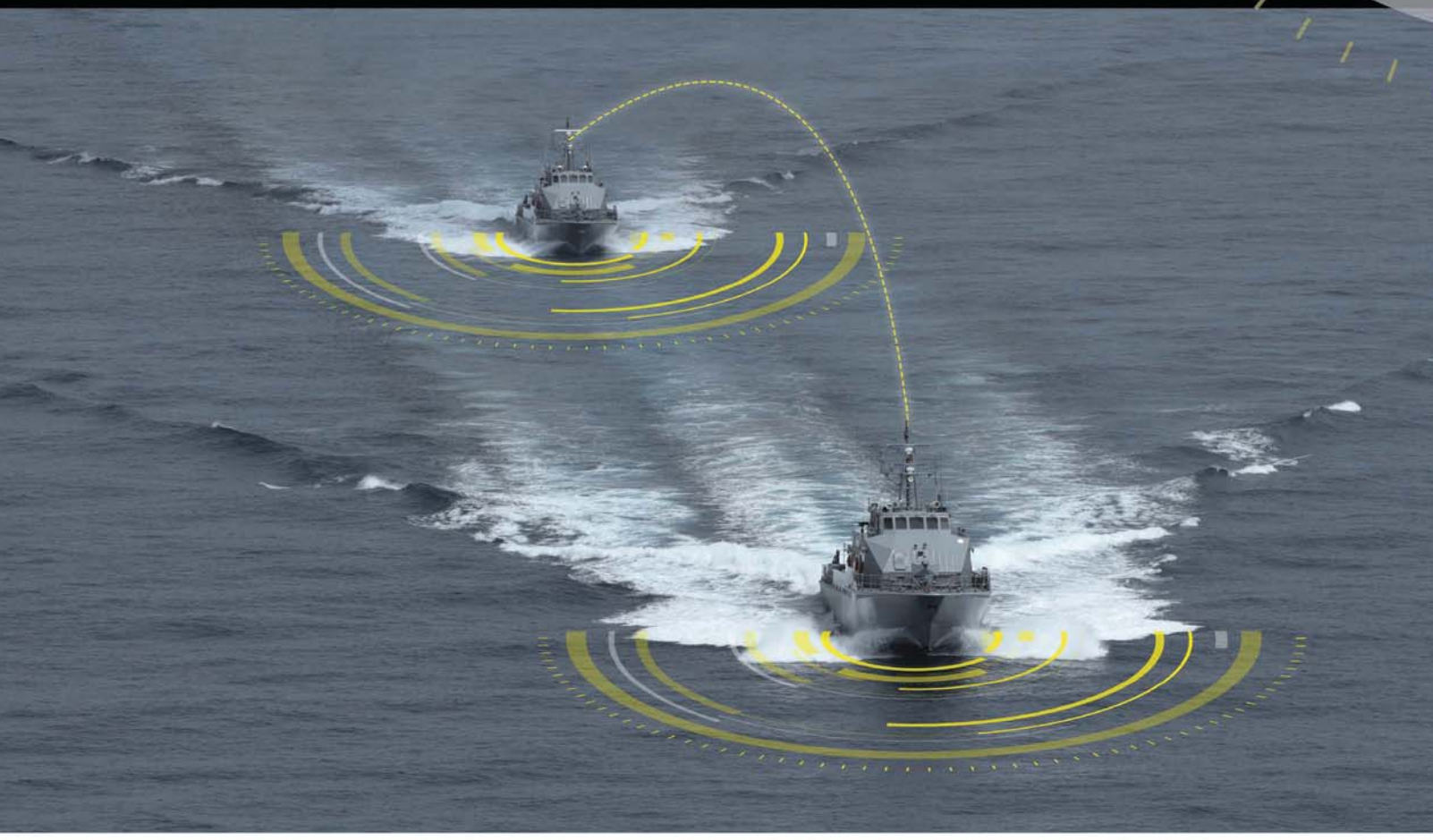

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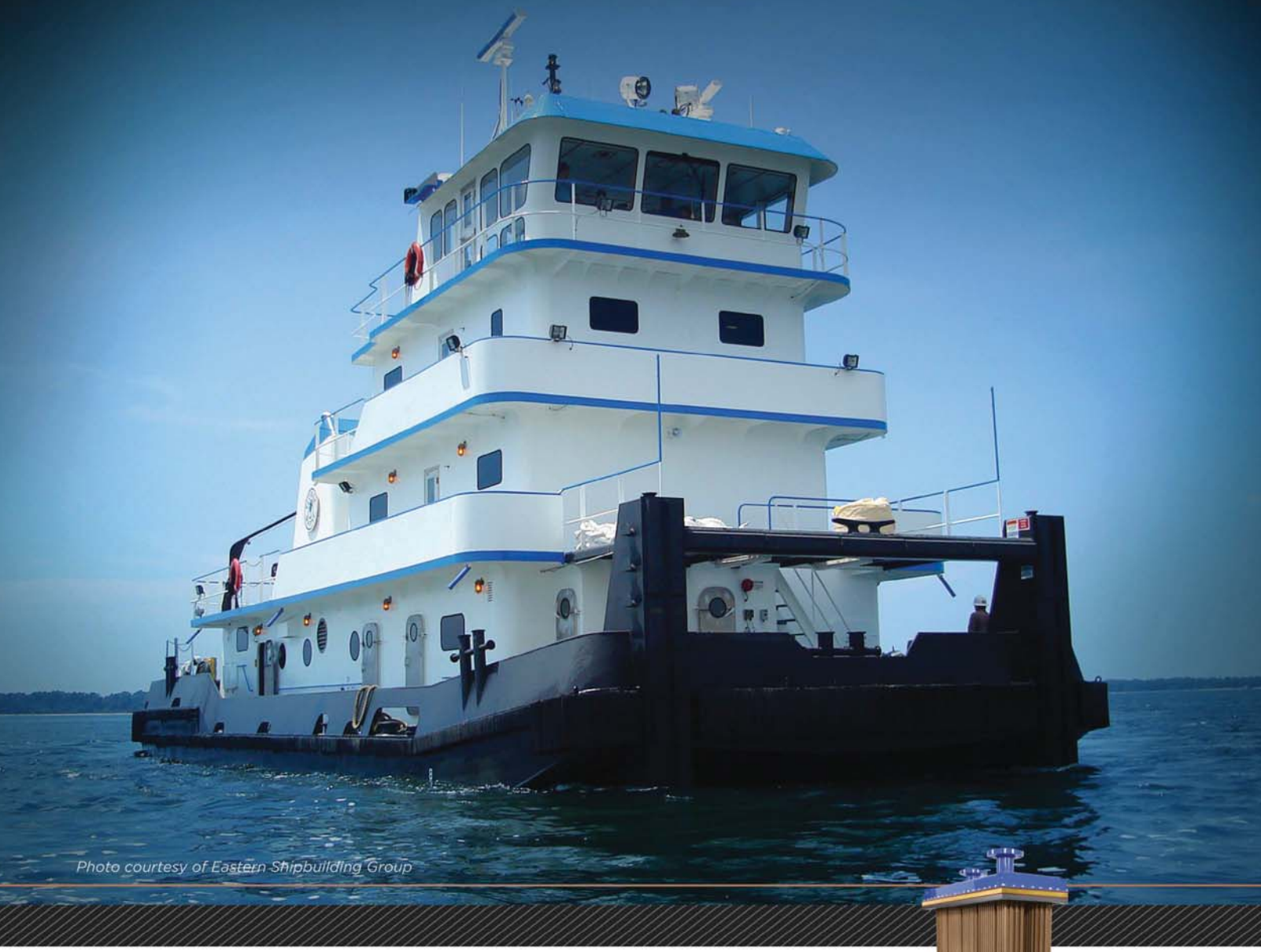

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