TANKER Operator

OCTOBER 2018

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To learn more about our Bridge Team Enhancement Program contact Dorte Hostrup Pedersen, Senior Sales Manager, at the 7th Tanker Operator Hamburg conference 16th October, or at:

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# Looking near and far trying to make sense of it all

**In this Comment piece, we look at things both near and far in the timescale of ship operations.**

Looking near term first, we now have less than 18 months before 1st January 2020, which should be etched in everyone's minds as the date that the 0.5% low sulfur cap kicks in.

Despite the date looming, there is still a significant amount of uncertainty being expressed by the shipping industry as to the best way to go about it. Of course, it is up to individual shipowners and operators to tackle this as they see fit.

As has been written many times there are four basic methods of reaching this goal - the use of exhaust gas cleanng systems (scrubbers), low sulfur fuel oil (distillates), LNG as a fuel, or simply do nothing at all.

At last month's SMM, the situation was hotly debated at a meeting, involving IMO head Kitack Lim, ICS supremo Esben Poulsson and Frank Starke, Caterpillar CEO.

They all agreed that there would be no postponement, despite the many challenges as yet unsolved. Some of the solutions should be hammered out at this month's MEPC 73 meeting. The ICS was due to publish technical papers on the subject as this issue went to press and has since issued a guideline on preparing for 2020

Lim said that we cannot avoid the challenges and called for more dialogue with all the stakeholders on the questions of ship safety, fuel availability, supply problems, Port State Control issues to identify the critical issues. The challenges must be finalised by the middle of next year, he stressed.

He called for a substantial action plan to be agreed this month involving the IMO committees, NGOs and the industry itself. He said the transition should be undertaken step by step.

Starke also confirmed that there would be no 'grandfathering' and said it would be a 'one day change' relevant to all ships. He said this should be approached on a system basis and meet the challenges, some of which will only become evident after the regulation has entered into force.

Poulsson countered that the shipping industry was being bombarded with issues, such as the Ballast Water Convention and the low sulfur edict and no doubt other things as well. "We do not know what the cost will be," he said.

He also said that the industry does not know what technical solutions will be needed referring to the 2050 deadline of zero emissions.

Starke called it a revolution not an evolution.

## Long term future

Looking further ahead, on much the same theme, DNV GL looked into its crystal ball last month and came up with a report, 'Energy Transition Outlook', which attempted to give a global and regional forecast on energy needs and their sources to 2050.

In a nutshell, the report said that by 2050, the primary energy mix will be split 50:50 between fossil and non-fossil fuels and that primary energy supply will peak around 2032, owing to rapid energy efficiency gains. Oil demand will peak in the 2020s, however, new oil fields will still be required to 2040 to replace depleting reserves.

For tankers, it doesn't make pleasant reading, saying that the crude oil fleet will peak at around 30% larger by 2030 and then decline by 30% to 2050. The products/chemical tanker fleet is forecast to decline by 8% by the middle of this century.

DNV GL pointed out that transport was the largest oil consumer and the advance of vehicle electrification will speed up, hence oil demand is set to peak in the 2020s. Manufacturing comes second to transport in oil consumption, including feedstock, which will also peak in the late 2020s.

Regional patterns are changing with both Europe and the OECD countries experiencing an oil consumption reduction, which is forecast to continue. China's oil consumption will peak 2030, followed somewhat later by India.

Production will continue to be dominated by the Middle East and North Africa, with Latin American production increasing, while northeast Eurasian and North American levels will remain stable until the mid-2030s before declining.

Seaborne crude oil trades are expected to plateau around 21% higher than today within the next decade, then going down after 2027 dropping to around 6.5 trill tonne/miles in 2050, having peaked at about 11.5 trill tonne/miles towards the end of the 2020s.

To build a tanker to last until 2040, designers/owners and operators need to be thinking about the future now to be able to order the vessel by 2020 or before, thus giving it a 20-year lifespan.

Is there a fundamental redesign on the cards? Certainly in terms of increased operating efficiency to meet the new regulations, both international and national.

Rest assured, *Tanker Operator* will be keeping abreast of developments as they happen.

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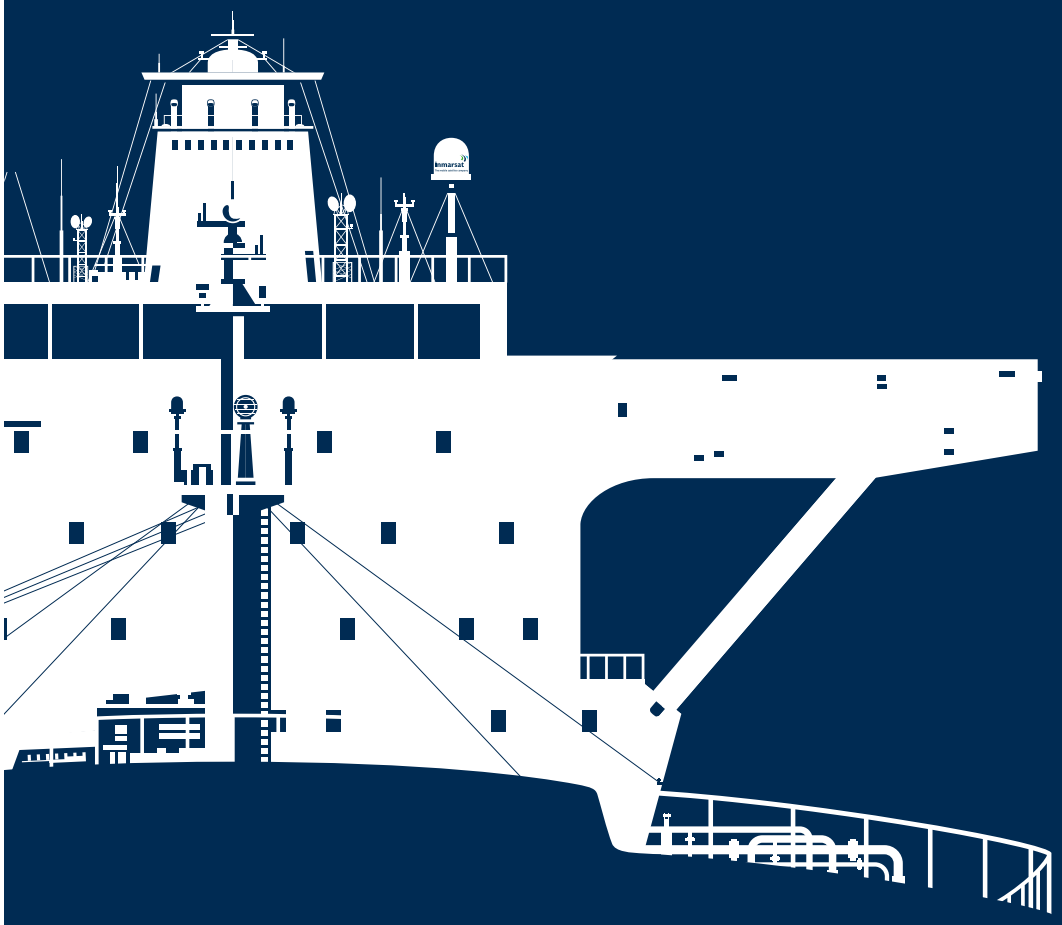

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# Who will replace lost Iranian exports?

**As 5th November, the date that the US sanctions re-imposition against Iran draws near, the impact is starting to become more noticeable in the tanker market.**

In examining the possible affect, Gibson Shipbrokers reported that the IEA said in early September that Iranian crude production had fallen by 150,000 barrels per day to 3.63 million barrels per day in August, the lowest level since July, 2016.

Ship tracking data suggested that exports had fallen further, by 400,000-500,000 barrels per day, to around 2.4 mill barrels per day. So, the question is, by how much and how quickly will Iranian production fall and who is going to replace the lost barrels?

During the last round of sanctions output fell to as low as 2.6-2.7 mill barrels per day, with exports generally around the 1.2-1.3 million barrels per day mark.

Whilst it might be reasonable to expect similar levels this time, Iran may find itself with fewer willing buyers, Gibson said.

For example, South Korea has ceased buying completely, with the last cargo imported in July, and appears to be willing to comply with US demands. Japan and India have also reduced imports in recent months, but have sought waivers from the US. It looks likely that they will both continue to import at least some Iranian crude after sanctions are imposed.

Reliance Industries and Nayara (formerly Essar) look set to stop purchases but the state owned refiners could be prepared to continue importing Iranian crude.

In Europe, Iranian import volumes were declining by the middle of September but some cargoes were reported heading for Spain, Italy and Turkey. Shipments to European Union countries are expected to completely stop ahead of 5th November.

However, Turkey continued to import Iranian crude during the last sanction period and could do so again, particularly as relations with the US are currently strained.

Conversely, China could ramp up imports, especially if Iran offers attractive discounts. Iran could use state-owned NITC vessels to ship cargoes and to offer insurance.


**Source: Gibson Shipbrokers/Reuters**

## Declining exports

In short, Gibson said, Iran will have less buyers for its crude and even if China imports increase, exports will still decline.

Replacement barrels from elsewhere will therefore be needed.

OPEC production is increasing, having hit a 2018 peak of 32.63 mill barrels per day in August. However, additional volumes are likely to be required to offset the expected decline from Iran.

Outside the cartel, the US could of course become a key source of additional supply for the global oil markets, with South Korean, Indian and Japanese refiners already taking more of its crude. But the US cannot shoulder the burden alone whilst also keeping oil prices at an acceptable level.

In September, US Energy Secretary, Rick Perry, met his Saudi and Russian counterparts, reportedly to urge them to guarantee supplies in order to keep prices in check, a key political point for the Trump administration.

What Saudi Arabia, Russia and the rest of OPEC decide do is key to the tanker market. Quite simply, if the lost Iranian barrels are compensated by supplies from elsewhere, there will be more demand for the international tanker fleet, as the NITC fleet will not be able to compete for these cargoes, Gibson concluded.

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# E-Procurement- a central driver for efficiency gains

**Of all the shipping sectors, the tanker market has suffered significantly in the turbulent economic climate of recent times.***

Surplus tanker capacity continues to cause major challenges, in conjunction with weak oil demand in the second quarter of 2018. However, BIMCO has recently reported that freight earnings for both crude and product tankers are expected to recover, although not enough to stave off a loss-making year in 2018.

The traditional nature of shipping would suggest that cyclical changes are afoot and there is whispered optimism of future tanker rates and growth. But, while there may be a positive view with regards to the long-term fundamentals, there is still a realisation that to achieve superior and even exponential returns, technology and the industry's future digitalisation will play a central role.

This view has been supported by Maersk Tankers' Chief Strategy Officer, Søren Meyer, who recently said that "it is of critical importance to keep investing in technologies to develop, optimise and drive down costs…the biggest risk is not supply and demand, but that you don't see the digital transformation the industry is in. You miss that, and you fall behind."

While he is 100% right, the pressure on day-to-day trading makes it sometimes challenging to take a macro outlook; it's often hard to see the wood for the trees. In conjunction with this, there is much future gazing on what a digitalised industry looks like; autonomous shipping, blockchain, Artificial Intelligence and Machine Learning – the list goes on.

While these are all likely features of shipping in the coming years, there is an argument to suggest that as an industry we often look to run before we can walk; its ambition for digitalisation is no different.

The enthusiasm for an enhanced digital industry is understandable. The current pressures within the market are unprecedented; not just tight freight rates, but also stringent environmental regulations, increased competition, as well as the drive for improved and widespread sustainability. Indeed, the impending global sulfur cap in 2020 is – according to consultants Wood Mackenzie – set to increase the cost of shipping by at least $24 bill per year.

In August this year, Maersk Line stated that its fuel bill will rise by about $2 bill by 2020, and Hapag Lloyd is anticipating a $900 mill rise in costs to ensure compliance - no small sums! The pressure is therefore understandably on for shipowners and operators to cut costs, and increase efficiencies within their operations, and take every opportunity to maximise the value of their assets.

Technology and digitalisation clearly play a central role in achieving this. However, it is critical that we start at the beginning of the digital journey, rather than searching for immediate and, arguably, unrealistic 'silver bullets'; it's about building from the ground up.

A recent example of this, and the progressive thinking in our industry – driven by the likes of Wärtsilä - is that we know that success will not be found in individual solutions, which operate in isolation, but rather collaboration from multiple parties with different skill sets within an ecosystem that connects the entire marine supply chain. This includes everything from advanced weather routing software, clean technologies to drive fuel efficiency, and state-of-the-art monitoring systems, to more advanced ship-to-shore communications, as well as e-procurement platforms.

The latter – the sourcing and procurement of supplies – is an important area of the digitalisation journey that can be realised right now, as well as being a critical part of the overall vessel optimisation challenge in driving efficiencies within operations. Shipowners and operators benefit from increased productivity of up to 30% from procurement time savings; they reduce OPEX by optimising and lowering procurement spend, and they can utilise the actionable intelligence from buyer solutions within the procurement platform to maximise the performance of suppliers and create better and more dynamic relationships.

### Supplier benefits

Suppliers also realise significant benefits. First, they have access to an e-marketplace of active buyers who are looking for their products and services, where they can build and profile their brand. And they can also increase efficiencies and the speed of processing multiple transactions and responding to RFQs, as well as driving customer retention and winning more business through faster turnaround times.

For the last 18 years, we have been evolving the ShipServ e-procurement platform to deliver this for the market, using the latest technologies and cloud-based systems to make it an efficient, reliable and data-rich, insight-driven solution; one that works for shipowners and managers, as well as the myriad of suppliers that serve the industry.

The platform now serves over 200 buyer organisations representing close to 10,000 vessels, including 50% of the LNGC market, 31% of LPG carriers, 21% of crude oil tankers, and 24% of the chemical tanker market. We also work with six yards and 70,000 suppliers, with annual trade running at $3.5 bill.

This year, we have also seen record breaking trading volumes; in January over 100,000 purchase orders (POs) were traded on the platform in a single month, with the total value of orders in the same month also reaching a record $298 mill.

So, developments have clearly been made,

but we have only scratched the surface of what is possible. In a recent survey of chief purchasing officers (CPOs) and managers, conducted by ShipServ for the new whitepaper 'e-procurement in maritime; a roadmap to 2021 and beyond', when questioned on the current digital evolution of e-procurement in maritime, on a scale of one to 10 (with perfection being 10), the market scored just two. That might seem rather harsh, but the reasons were clear.

Many purchasers are operating with archaic systems that don't integrate or talk to one another; these systems are labour intensive and basically make administrative assistants of intelligent and capable procurement executives. There is also widespread fragmentation within the industry, with suppliers and buyers using different systems.

### Delivered value

Around 50% of the CPOs and managers that were interviewed also said that they predominantly used their purchasing systems just for transactional purchases. The reality is that the reverse is required; a switch from this traditional transactional approach to procurement to a strategic model that identifies where value can be delivered beyond the basic price of the product. It is a cultural shift that will inevitably happen, as we have seen in many other land-based industries, and it is the foundation from where the benefits can be truly realised.

So what needs to be done to move towards a perfect '10'?

First, increased functionality is key, and is one of the main things that purchasers are demanding; having full spend transparency, automation and real time inventories across fleets. And in conjunction with this, aligning purchasing power with tangible data, where buyers can see what is actually being bought and the value of what is on board a vessel.

More simple systems will also be developed that are intuitive (like we see with current consumer digitalisation), which makes sure that purchasers are not drowned in complex data and metrics. And perhaps most importantly buyers will be able to extract meaningful data that is easily found, displayed and analysed.

This is one area where ShipServ has been very active; developing sophisticated data analytics solutions that unlock the true value of data and provide actionable intelligence that enables procurement decision makers to deliver against their commercial strategy. Buyers will have the ability to identify purchasing patterns and trends, as well as how suppliers are performing against contracts in terms of efficiency, the quality of products and services, and agreed pricing structures.

These can then be benchmarked against industry standards to determine true value for the cost. By creating transparency and visibility of where, and on what buyers are spending, significant OPEX savings can be made, and supply chain performance can be enhanced.

While the current pressures within the market are significant, so are the opportunities of a fully digitalised, connected and collaborative ecosystem that is wholly focused on driving operational and environmental efficiencies, maximising performance and squeezing every possible bit of value out of the asset.

Not only will this ensure business continuity in a post-2020 world, but also significantly increase competitive advantage. But to achieve this, every point to harness efficiencies needs to be optimised; and within this, e-procurement should be viewed as one of the first adoptive steps of embracing digitalisation that can be delivered against right now. TO

**This article was written by ShipServ CEO, Kim Skaarup.*


SHIPOWNER VIEWPOINT

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# Shipping- a progressive part of the national economy

***Tanker Operator* asked leading Singapore-based tanker company AET about the benefits of operating out of the Lion City and the company's strategy going forward.**

Peter Liew, Global Director, Mid-Size Tankers Crude Shipping and Product & Chemical Shipping, said; "Shipping is very much in the lifeblood of Singapore. Despite the obvious benefits of location, there is a strong maritime history and extremely well-developed infrastructure. Shipping companies here also benefit from being recognised as a vital and progressive part of the national economy.

"There is a lot of support from the Singaporean Government and related authorities, and a concerted effort has been made to optimise service availability, improve manpower and training, provide investment in infrastructure and develop better connectivity between businesses across the maritime sector.

"Shipping companies here also benefit from a stable economy and political situation, high levels of corporate compliance and the positive work ethic that is engrained in Singaporean culture." he said.

Expanding on the role of the Singaporean Government in the shipping sector, Liew said; "In many countries, the importance of the shipping industry is overlooked in the development of economic policy. In Singapore, maritime activities contribute significantly to their GDP and is given focus by the government and maritime authorities.

"There are more than 5,000 shipping companies operating out of Singapore, employing nearly 200,000 people, which together contribute more than 7% of Singapore's GDP. There was a further $76.1 mill committed to the Maritime Cluster Fund earlier this year by the Maritime and Port Authority (MPA) of Singapore, and an ambitious programme for further growth put in place under The International Maritime Centre's IMC 2030 Vision.

"There is a palpable sense of optimism in the shipping industry in Singapore, which cannot be said about many other shipping hubs at the moment, giving Singapore an advantage as a maritime hub.

"AET's corporate vision is to 'consistently provide better energy-related maritime solutions and services'. The aim is to always look for ways to improve how we work and the services we provide. We will continually evaluate our positioning in maritime hubs which remains relevant to our business," he said.

## Shuttle tankers

Shuttle tankers are playing an increasing role in AET's activities with Shell being a leading charterer of dynamic positioning shuttle tankers (DPSTs).

Ron Wood, head, chartering – Atlantic, Mid-Size Tankers Crude Shipping, explained; "AET has been increasing its foothold in the provision of dynamic positioning services, and we are continuing to develop our fleet of DPSTs, with seven offshore loading shuttle tankers currently on order, one of which is for Shell. Two of the vessels on order are amongst the first LNG dual-fuelled Aframaxes in the industry, which we will take delivery of this year, and are also on charter to Shell.

"The four DPST newbuilds will join two DPSTs already operating in the Brazilian Basin for Petrobras and another two DPST newbuilds will join the two operating in the North and Barents Seas for Equinor (formerly Statoil).

"We have seen an increased demand from energy customers for specialist services to support their operations offshore. With oil companies continuing to look further and deeper offshore, we are in a reasonably strong position to support and provide flexibility to their operations.

"We are one of only a small handful of owner operators able to offer state-of-the-art vessels, as well as highly trained and capable crew and a full range support services that meet the offshore loading and transportation requirements of oil companies in what is a changing energy landscape. Our maritime solutions can be modelled on an integrated solution across our various asset segments in AET and our larger Group.

"Our Group sustainability strategy seeks to address the longer-term, big-picture challenges the shipping industry, and tanker owners and operators in particular, will face in years to come, and to turn these into opportunities. For AET, our sustainability strategy looks to develop recurring and stable sources of income with long-term contracts, and newbuilds attached to charters, while also building our niche high-value service offerings, such as DP operations.

"We also remain focused on training and education, while finding ways to expand our operations worldwide and investing in developing environmentally efficient shipping solutions for the future," he said.

## Fleet replacements

Capt Amit Pal, head, business development explained AETs fleet replacement programme, which has seen some of the 20 year old vessels sold to be replaced by newbuildings.

"AET works to maintain a young, agile and varied fleet. Under our fleet rejuvenation programme, we are working to maintain a fleet of vessels younger than 10 years of age, equipped with a wide range of eco-technologies to reduce our impact on the natural environment.

"We have mapped the operational and commercial requirements of our customers against the particulars of our fleet and in line with impending regulations. This includes divesting our older tonnage when it is prudent to do so. In making these assessments, we always look for ways to avoid adding additional tonnage to an already over-burdened market," he said.

As for the forthcoming low sulfur fuel cap regulations, Liew said; "To meet the forthcoming low sulfur fuel requirements, we intent to adopt a mixture of fuelling solutions.

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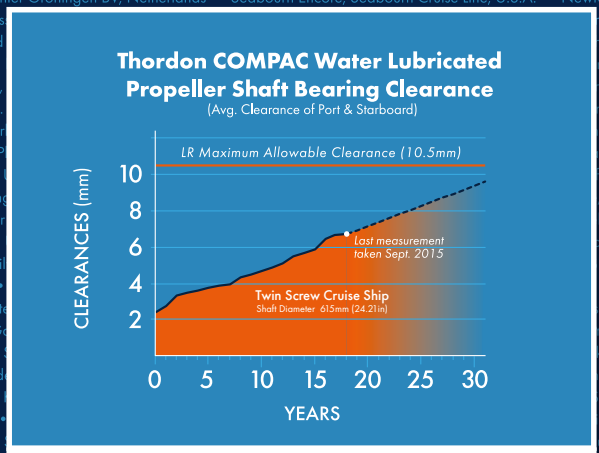


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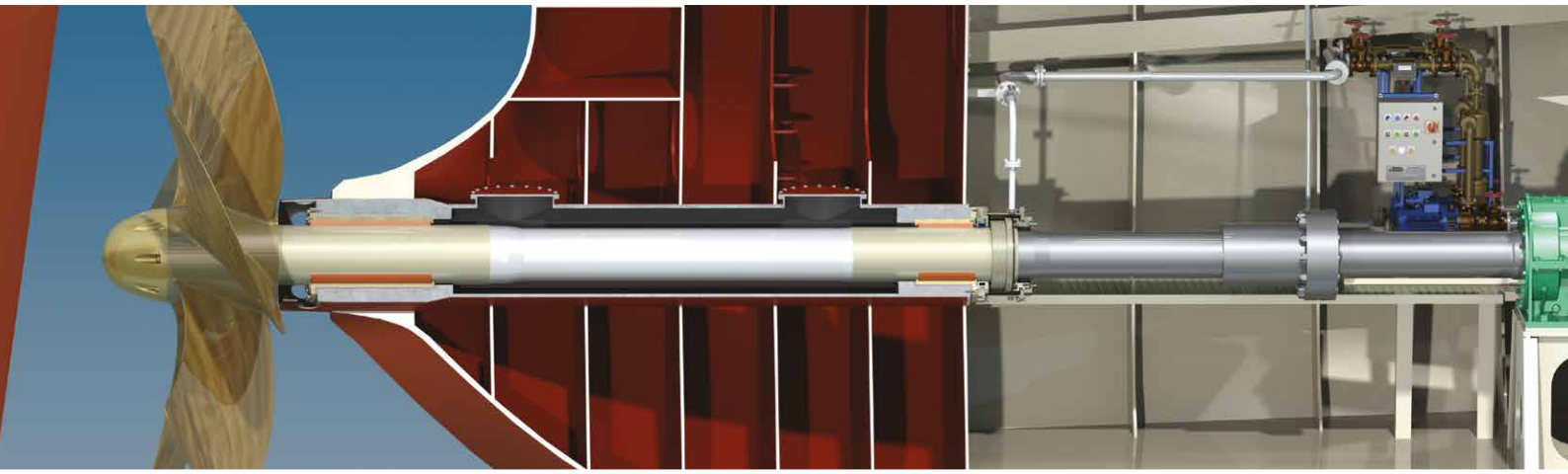

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"We plan for LNG dual-fuelled solutions to be adopted on our newbuild fleet whenever possible. This makes sense given our ties with MISC Group's LNG business, and our strong relationships across the LNG supply chain.

"Otherwise, we are also going to be utilising both scrubbing technology and low sulfur fuel oil across our fleet, as deemed appropriate based on technical specifications, trading patterns and customer' charter requirements for each vessel. We've also carried out extensive planning and have begun liaising with suppliers to put in place fuel procurement plans.

"Ideally, there would be a fix-all solution for meeting planned and future environmental regulations, but that is not the case right now. We are planning as far beyond 2020 as possible and continue to investigate new fuelling solutions for consideration in future.

"As a responsible owner, we have to be pragmatic, reasoned and take sensible steps. Sometimes, this has meant being the first to take a big step into the unknown, as we have done with LNG duel-fuelled Aframaxes and DP vessels, as well as our early adoption of ballast water treatment systems and several other environmental technologies.

"As we have stated in the past, we envisage that up to 50% of our future fleet will be LNG dual-fuelled through a programme of fleet rejuvenation. This will help us to meet our environmental sustainability agenda and is also commercially viable," he explained.

Addressing the ballast water system situation, Capt Pal said; "As with our fuelling solutions, we have carefully mapped our fleet for BWM requirements – in fact, we started our BWM roadmap a decade ago.

"In 2012, we were the first VLCC operator to install a fully IMO compliant ballast water treatment system (BWTS) into four of our newbuild vessels. Today, all of our vessels trading in US waters and elsewhere meet all existing regional and international regulations for the treatment of ballast water. Importantly, all our crew and personnel receive training on BWM monitoring, reporting and management requirements.

"All our ships built since 2012 and those that are currently under construction are fitted with IMO/USCG compliant BWM systems. Thankfully, having started the process earlier than most, we are now also well underway with our programme of retrofitting appropriate BWM systems across our entire fleet," he said.

TO

# WSS wins Singapore drone use recognition

**Wilhelmsen Ships Service (WSS) has been selected to help develop Singapore's future Unmanned Aircraft Systems (UAS) regulatory framework.**

In addition, the company will receive dedicated funding for its shore-to-ship delivery project.

WSS is one of only four companies to have received funding, following a Call-For-Proposal (CFP) by the Civil Aviation Authority of Singapore and the Singapore Ministry of Transport.

The CFP aims to support the development of systems and technologies to enable innovations within the wide-ranging UAS use. The maximum funding available for each project is Sing$1.5 mill, or up to 50% of the total project qualified costs.

Outlining the potential development of UAS for shore-to-ship deliveries, WSS proposal highlighted how UAS delivery could improve safety, productivity and efficiency.

With a quicker response rate and turnaround time compared to traditional launch boat deliveries, Wilhelmsen believed delivery by UAS had the potential to lower shore-to-ship delivery costs by up to 90%, as well as removing the safety risks inherent with delivery via boat.

Commenting on the award, Marius Johansen, Vice President Commercial, Ships Agency said, "Only weeks after announcing the Airbus partnership, this award almost feels a bit overwhelming. In itself it will be important for us to validate the use case of parcel delivery with drones, but it will also enable us to develop key technological solutions such as ship localisation and precision landing, payload release system, light and reliable private 4G/LTE communications, onshore parcel station and an automated package delivery system."

Signing a detailed MOU with aviation company Airbus, at Posidonia, in addition to the CFP award, WSS is currently working with Airbus' Skyways on a pilot trial to deliver spare parts, documents, water test kits and 3D printed consumables to vessels in the anchorage from Singapore port's Marina South Pier.

Beginning in the third quarter of this year, this will be the first-time drone technology has been deployed in real port conditions, delivering parcels to anchored vessels.

# Trafigura opts for Singapore flag

Trafigura has opted for Singapore as the port of registry for its 35 newbuilding crude oil and product tankers.

Singapore's Senior Minister of State for Transport and Health, Dr Lam Pin Min's wife, Dr Jeanette Chen, was godmother to the first vessel delivered, the Suezmax' Marlin Singapore'.

"My wife and I are honoured that the first of this fleet of new, technologically advanced vessels has been named after our country. We take this as a fitting tribute to Singapore's role as a global hub for trading in commodities, including oil and oil products, and as a centre of the global shipping industry," said Dr Lam at the naming ceremony.

"Trafigura is a leading player in global shipping," said Chin Hwee Tan Trafigura's Asia/Pacific head. "We're delighted that all the new vessels will be registered in Singapore, flying our nation's flag as they transport commodities around the world."

The order for the MRs, LR2s and Suezmaxes was placed by an Asian financial partner and the vessels are being leased to Trafigura with options to purchase at a later date.

TO

# BSM Singapore relocates to new office

**More than 200 representatives from the global shipping community were present at the inauguration ceremony of the new Singapore offices of Bernhard Schulte Shipmanagement (BSM) in the Republic's Central Business District.**

The new wholly-owned building, named 'Bernhard Schulte House', consists of nine floors and has a gross floor area of 41,806 sq ft.

The new premises, which the Schulte Group acquired in 2017, now house Bernhard Schulte, the Group's shipowning arm with BSM, the third-party shipmanager and MariApps, the Group's digital solutions company.

"We are excited to relocate to these new offices," said Raymond Peter, Managing Director of BSM Singapore at the inauguration ceremony. "BSM's presence in Singapore has grown steadily in recent years and we believe that the new 'Bernhard Schulte House' will cater to the future growth and expansion of the Group's entities in Singapore. This purchase also depicts Singapore's relevance as a regional centre of the Schulte Group and supports the local government's initiative of strengthening the country's maritime cluster."

"Working together with a leading Singapore based interior designer, the new office has been renovated with the comfort of colleagues and guests in mind. The Group has invested reasonably in this new office to ensure a pleasant and healthy workplace for our colleagues as well as a hospitable venue for our guests," Johann Schulte, Shareholder of Bernhard Schulte, added.

**Bernhard Schulte's Johann Schulte**


**BSM's new Singapore office consists of nine floors**

BSM Singapore has had a direct presence in Singapore for more than 20 years and is now one of the leading shipmanagers in the Republic, with over 100 vessels under full management. TO

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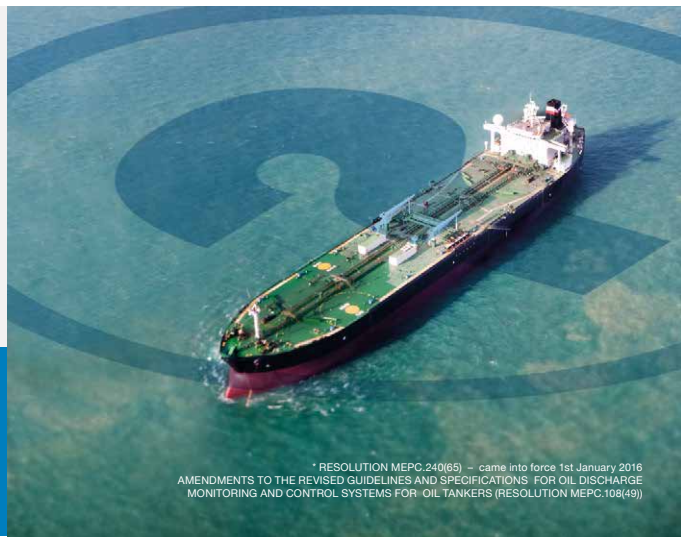


* RESOLUTION MEPC.240(65) – came into force 1st January 2016 AMENDMENTS TO THE REVISED GUIDELINES AND SPECIFICATIONS FOR OIL DISCHARGE MONITORING AND CONTROL SYSTEMS FOR OIL TANKERS (RESOLUTION MEPC.108(49))

# Alfa Laval introduces BWTS deckhouse solution for MRs

**A new Alfa Laval PureBallast 3 Ex deckhouse solution has been validated for product tankers fitted with Framo ballast pumps.**

The solution allows Alfa Laval PureBallast 3 Ex to be installed on deck – without any changes to the ballast pumping system on board.

Modern product tankers use submersible ballast pumps to eliminate the need for a ballast pump room thus creating more space for cargo.

This means their ballast water treatment systems (BWTS) is often installed in a deckhouse. However, the filter backflushing sequence may require water pressure in excess of available pressures from today's market-standard ballast pump design.

"The situation is a Catch-22 for owners of product tankers, who may have to alter a functioning pumping system to support ballast water treatment," said Anders Lindmark, head of Alfa Laval PureBallast. "Working together, the technical teams for Framo pumping systems and Alfa Laval ballast water treatment systems have developed a deckhouse solution that removes this headache."

The new deckhouse solution incorporates a booster pump unit into the PureBallast 3 Ex system, as well as other modifications to increase backflushing pressure. The modifications ensure that sufficient backflushing pressure will be generated by the BWTS itself.

Reviewed by DNV GL, the solution has been validated at the Framo pump testing facility for use on product tankers with Framo ballast pumps installed. Because the modifications fall within the current US Coast Guard type approval and revised IMO G8 certificate for PureBallast 3 Ex, no additional certifications are necessary when fitting the system.

**Alfa Laval's Anders Lindmark**

**All the necessary equipment needed can be installed in a deckhouse**

The deckhouse module includes not only the PureBallast 3 Ex system, but also HVAC, lighting and all necessary pipework within the deckhouse. "With a complete deckhouse solution that is validated from both pumping and ballast water treatment perspectives, we have a full answer to the needs of product tankers," Lindmark claimed.

Alfa Laval's improved BWTS systems for large vessels, including tankers, will be highlighted in the November/December issue of *Tanker Operator* magazine.

Turning to the 2020 low sulfur cap, at a presentation at SMM last month, Alfa Laval's Serdar Sengun, Global Sales Manager Marine Separation, claimed the company had a unique depth of expertise in marine fuel treatment, encompassing not just fuel separators but the whole chain from bunker tank to engine.

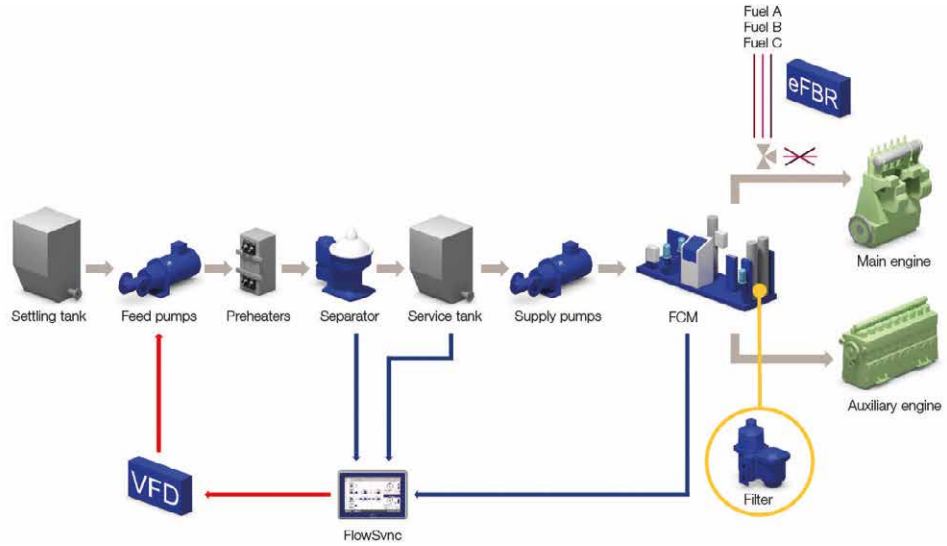
As on board operations change in response to the fuel sulfur regulations, the company is optimising and updating the technologies in its portfolio to meet the new challenges. The result will be improved engine protection and increased energy efficiency, despite more varied and less predictable fuels.

With the forthcoming global sulfur cap, on board fuel handling will become more complicated than ever before. "There will be many options for compliance and every vessel will have to choose the route that makes most sense for their operation," Sengun explained. "No matter what customers choose, it will have dramatic implications for the fuel line. But Alfa Laval is taking a complete and forward-thinking approach to fuel line optimisation."

## More complexity

A number of new fuels and fuel blends have already entered the market, and more are likely to appear once the global sulfur cap is in place. For many fleets, 2020 will also mean going from existing single-fuel systems to multi-fuel operations. If not managed properly, using multiple fuel oils can result in a variety of issues – especially when the fuels are unfamiliar. The problems can range from clogged fuel systems to, in the worst case, engine stoppage.

"As refineries recalibrate for lower sulfur




**Alfa Laval's answer to shipboard fuel treatment**

content, we also anticipate a continued increase in the proportion of cat fines in marine fuel oils," Sengun warned. "Already, we have seen a huge rise in cat fines, which cause major problems if not separated from the fuel before it reaches the engine."

Meeting the challenges of more varied fuels will affect the fuel line as a whole. Centrifugal separators, which are the primary defence against cat fines, will need to perform at different capacities and with new levels of efficiency. Fuel conditioning systems will need to handle fuels with more widely differing properties, using embedded automation to avoid handling mistakes and perform safe changeover within the required engine parameters.

"Matching the separator feed to engine load is critical to achieving the highest efficiency and engine protection, as field tests have clearly shown," said Sengun. "After separation, matching the fuel to the maker's specifications is critical for the engine, its injection systems and the safety of the vessel. All of these processes have to occur smoothly and safely, no matter what fuel is used."

As well as introducing improved touchscreen control for the Alfa Laval fuel line, the company will optimise and update key equipment within it prior to the global sulfur cap. This includes Alfa Laval FlowSync, the company's solution for automatically adjusting the separator feed, as well as the Alfa Laval FCM One Oil.

Launched in 2014 and already capable of advanced fuel changeover and managing up four different fuels, the FCM One Oil will be released in a new version by the end of 2018.

# Middle East cleans up

**The Middle East is as the largest crude export region in the world with about 20 mill barrels per day of outflows annually; however, what is perhaps less known is its growth potential as a clean product export region.**

We are beginning to see a fundamental change in the Middle East petroleum industry, with initiatives from government entities to diversify away from reliance on upstream revenues and towards a wider scope of product exports, McQuilling Services said in a blog.

As a result, the Middle East has expanded its refinery capacity to reach 9.4 mill barrels per day as of the end of 2017 from just 8.4 mill barrels per day in 2013. Further expansion will see this figure reach 10.8 mill barrels per day by 2022.

Refinery intake is likely to rise to 7.5 mill barrels per day by the end of this year, before climbing to over 8.6 mill barrels per day in 2022, supporting a 14.4% gain in clean product supply.

This, coupled with just 5.5% growth in clean product demand through 2022 will increase the exportable balance by 680,000 barrels per day. McQuilling emphasised this is one of the most important themes to unfold over the next five-years, not only for its negative impact on dirty tanker demand from the region, but also its contribution to evolving clean tanker trade flows East of Suez.

In order to understand how tanker trade flows are likely to adapt to this development, we must look at the balance of clean products in surrounding regions.

### SE Asia demand

Where we see significant demand for clean product imports is in Southeast Asia, as the growth in regional clean product supply will not meet the demand requirements of rapidly expanding economies within the region, effectively increasing the CPP deficit by 213,000 barrels per day from 2017 to 2022.

Increased refinery activity in China is likely to elevate clean product supply within the Far East by 600,000 barrels per day year-on-year in 2018 and nearly double the balance to 830,000 barrels per day.

Some of this growth will serve the Southeast Asian market; however, over the long-term, as CPP demand in China increases, the balance for export is expected to tighten to 610,000 barrels per day and other supply stream will be required to fill the gap.

Traditionally, Southeast Asia also imports CPP from India; however, the long-term outlook for this region points to a tightening of the balance for export. With GDP growth of over 7% expected in India over the next five years, demand growth for clean products is likely to amount to 5% per annum through 2022, whereas supply growth is projected at just 2% per annum. The balance of CPP for export, which is estimated at 770,000 barrels per day this year, is likely to fall significantly to 250,000 by 2022.

On this basis, the Indian sub-continent's status as a primary supplier of CPP to the East Asian market will wane over the long-term. Due to these developments, McQuilling expected the Middle East to increase its presence in the global clean product market with growth concentrated in volumes shipped to the East.

According to the consultancies tonne/mile demand forecasts, clean product tanker demand from the Middle East is on track to expand by 19% through 2022, particularly supporting LR volumes to the East.

When coupled with an improving clean tanker supply outlook, we forecast TC1 to rise to average WS117 in 2021, while TC5 is pegged at WS131 in the same year, McQuilling concluded.

# Satcoms services make use of IoT

**At last month's SMM, Inmarsat unveiled Fleet Data, a new Internet of Things (IoT) service.**

This will enable shipowners and managers to access and analyse real-time on board data more efficiently, and as a result will help accelerate the adoption of IoT across the maritime industry, the company claimed.

Developed in partnership with Danelec Marine, Fleet Data will record data from the on board voyage data recorder (VDR), and other on board sensors, pre-process the data, and upload it to a central (cloud-based) database equipped with a dashboard and an application process interface (API).

This will allow shipowners and managers to quickly and easily identify equipment issues and failures and link third party applications to monitor vessel performance and fuel efficiency.

Latest research published by Inmarsat on digital transformation in shipping indicated that, on average, ship operators and managers plan to spend $2.5 mill on IoT-based solutions within three years and expect to achieve average IoT-driven cost savings of 14% over the next five years.

The research, 'The Industrial IOT on Land and at Sea' was published in July, 2018 and was commissioned to Vanson Bourne, a specialist technology market research company, also strongly suggested that a greater maritime appetite for IoT-based solutions would emerge if more data could be delivered and analysed in real-time.

Fleet Data is claimed to be the only service to offer a highly reliable, dedicated bandwidth-inclusive service, on a sensor agnostic platform that allows shipowners and managers to access the full potential of IoT and efficiency-enhancing vessel performance applications, in real time.

"Fleet Data will overcome key difficulties faced by those frustrated with the challenge of aggregating vessel data on board and getting it efficiently onshore," said Stefano Poli, vice president Business Development, Inmarsat Maritime. "It will allow ship operators and managers to access, control and exploit their own data, and/or to make that data available to selected third-party applications as required, via a secure platform that is fully scalable, fleet-wide. Data reports can be customised and modified, then sent back as a configuration file to update the Fleet Data equipment software on board."

Trials of Fleet Data were due to be completed last month on board two ships operated by a leading shipmanager. The ships have been verifying the performance over a six-month period by relaying data collected through fuel optimisation software.

It is expected that the service will be rolled out across the commercial shipping fleet in the first quarter of next year.

Hans Ottosen, Danelec Marine CEO, commented: "Fleet Data brings together Danelec's 20 plus years of experience in shipboard data infrastructure and Inmarsat's unmatched position as the premier maritime satellite communications provider, to create a seamless shipboard and shoreside IoT experience for shipowners and managers."

Fleet Data will be available on both Fleet Xpress and FleetBroadband making it accessible to over 45,000 vessels.

Laboratory tests with other applications to run over Fleet Data, such as ECDIS chart updates on the FleetBroadband service, are also underway in Ålesund, Norway, the home of Inmarsat's research and development activities for the commercial maritime sector.

Ottosen and Poli told *Tanker Operator* that the shipowner would own the data collected to either analyse it individually or use third party service providers. The data will be transferred over a dedicated secure link using a subscription base service.

Thus far, there has been strong interest shown by logistics providers, insurance companies, service organisations and regulators, the companies claimed at a presentation in Hamburg


**Danlec Marine's Hans Ottosen (left) and Inmarsat Maritime's Ronald Spithout (right)**

## VSAT milestone

Inmarsat has also confirmed that the 5,000th ship installation of Fleet Xpress, the high-speed, globally-available Ka-band VSAT service designed for mobility and available from a single operator, was due to be completed by the end of last month.

The latest data compiled by specialist market analyst, Euroconsult, indicated that six out of 10 VSAT installations undertaken in the first half of this year were for Fleet Xpress. Euroconsult's independent research also found that Inmarsat was the fastest growing VSAT provider to the maritime industry during this period, accounting for over 1,500 terminals out of an industry total of 2,550.

"The adoption of Fleet Xpress for so many vessels across the globe over such a short period of time indicates that it has become the key

platform for converting industry talk into action on digitalisation," claimed Ronald Spithout, President, Inmarsat Maritime. "Since its launch, Inmarsat has had more than 10,000 vessels committed to Fleet Xpress, including from all of the major airtime providers such as Speedcast, Marlink, Navarino and Totoheo.

"The example of major companies is spurring on smaller owners, who are rapidly closing the gap, to explore digital offerings and accelerate their efforts to exploit available efficiencies for competitive gain.

"Many small and medium-sized vessel operators are at the start of their digital voyage. They are fully aware that their existing ship-to-shore communications infrastructure is not sufficient to realise their goals. Over the last two years, we have seen a growing willingness within this group to transition from legacy solutions to Fleet Xpress, as the compelling benefits of data-centric operations show themselves more clearly," he added.

Meanwhile, rival Iridium Communications has added KDDI Corp, Navarino and NSSLGlobal to the list of Iridium Certus service providers for the maritime industry.

Iridium Certus will offer a superior L-band satellite broadband connectivity solution, making its service providers invaluable in delivering it to their customers around the world, the company claimed.

With higher speeds, new small form factor terminals and competitive pricing options, Iridium Certus will offer a complete communications platform for all seafarers and can serve as a primary service or VSAT companion solution.

Together, each Iridium Certus service provider brings a unique set of value-added qualities to the programme. For example, as one of the largest connectivity and technology solutions providers in the maritime industry, Navarino brings a focus on offering both standardised services and comprehensive and customised maritime connectivity solutions.

With a strong presence in the Asia/Pacific region, KDDI Corp will help deliver Iridium Certus to Asian-based seafarers, in additional to its other customers around the world.

Global SATCOM provider NSSLGlobal has added Iridium Certus to its portfolio of maritime solutions where it will act as a primary L-Band service and a companion to NSSLGlobal's VSAT IP@SEA service.

### Overall coverage

The combination of the Iridium NEXT network and the NSSLGlobal's fully-owned global VSAT network continues to enable NSSLGlobal to offer its customers overall coverage and services, the company said.

"Every service provider is crucial to the success of Iridium Certus," said Wouter Deknopper, vice president and general manager, Maritime Line of Business at Iridium. "The addition of these three service providers not only ensures a smooth upcoming launch for Iridium Certus but also further validates the interest and broad demand for Iridium Certus in the marketplace."

Commercial service availability for Iridium Certus is planned for this year. The service will be introduced to the market in a series of speed classes. Initial service offering speeds will start at 352 Kbps and will later be upgradable to 704 Kbps through a firmware upgrade.

It will also support safety services and a range of streaming options. Enabled by Iridium NEXT, the company's $3 bill satellite constellation, Iridium Certus will provide higher quality voice capabilities, alongside broadband functionality, for the whole world, whether on land, in the air or at sea.

To date, there have been seven successful Iridium NEXT launches, deploying 65 new satellites. One launch remains before the company's constellation is refreshed. TO

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# Marlink introduces new hardware and security system

**Last month, Marlink launched XChange FX, a new hardware solution designed for its customers using Inmarsat Fleet Xpress voice and data services.**

XChange FX provides network and service information in real-time, enabling seafarers to manage usage on board according to status and ensuring Marlink's global support network can react fast and effectively to any issues, based on the availability of precise, real-time network data, the company claimed.

The system also future-proofs Fleet Xpress, by enabling over-the-air firmware and software updates.

Developed by Marlink and Inmarsat specialists and powered by Soft NSD (network switching device) V1.5, XChange FX introduces several key features, including real-time on board connectivity monitoring and enabling traffic prioritisation to ensure critical applications are always globally available. It also adds an extra layer of management functionality to help end-users make the most effective use of Fleet Xpress.

Marlink claimed that XChange FX provides unique visibility into on board network performance and statistics, ensuring users will always know if they are using Ka-band or L-band via a number of methods, including a built in LCD screen, enabling usage patterns to be adjusted.

More in-depth data will be available in a customer dashboard providing easy to understand bandwidth performance and traffic statistics, available on board and for Marlink support personnel to streamline remote troubleshooting. It claimed to be is simple to install, and once on board, delivers the most advanced functionality available for Fleet Xpress network management available today.

Fleet Xpress is augmented by Marlink's value added services, including the already available Portal360 online management system and the SkyFile email and anti-virus suite.

"Our multi-band network strategy ensures we can provide the best service whatever the requirements, so bringing the same added value to Fleet Xpress customers that we offer on our other Ku and Ka-band services was important from day one," said Tore Morten Olsen, President Maritime, Marlink.

"To achieve this, we are connected to all three Global Xpress 'meet me' points, which enables us to make our portfolio of business critical solutions available on Fleet Xpress. With XChange FX we are leading the way, by making network status and statistics readily available to the user, ensuring they can optimise their connectivity and ensure availability of business critical digital solutions," he claimed.

## Threat detection

In addition, at SMM, Marlink unveiled Cyber Detection, an intelligent threat detection solution for the maritime industry. This forms part of its fully integrated ship and shore-based Cyber Guard portfolio.

Cyber Guard enables Marlink customers to protect, detect and resolve any cyber-threat through a holistic combination of network resilience and redundancy, dedicated maritime cyber-security technology and maritime Security Operation Center (SOC) experts, the company said.

Cyber Detection monitors all outbound and inbound network traffic 24/7 and enables customers to view threats affecting their vessels through an intuitive, web-based dashboard. In addition, customers may also be notified about critical threats to be received by email and/or SMS.

"With the increasing use of broadband communications and the fast deployment of new digital IT-based applications on board ships, cyber-security has become even more critical to fleet and business operations," said Ghani Behloul, Chief Marketing Officer, Marlink. "Our multi-layered Cyber Guard solutions portfolio provides ship operators with a set of tools to better protect themselves and reduce their risk of exposure to a large range of cyber-attacks. By adding the innovative new Cyber Detection service, we enable our customers to even further secure the availability and integrity of their IT systems and networks."

Requiring no additional installation of equipment on board, nor upfront CAPEX, the new service identifies more than 50 different threat categories (including malicious applications, intrusion attempts, confirmed intrusions, abusive usage and social engineering), whatever type of satcom technology is used to connect the ship, VSAT or MSS.

As part of the Cyber Detection solution, Marlink has established a new SOC and introduced an intuitive Cyber Dashboard, which provides customers with real-time actionable alerts and counter-measures while delivering easy to digest insight on the cyber risk level throughout their fleet.

While using proven rule-based algorithms to detect malware or unauthorised activity on a network, Marlink's SOC experts investigate in parallel any anomalies and pro-actively hunt for advanced persistent threats (APT) designed to stay 'under the radar'.

Cyber Detection is claimed to be ideal for vessels equipped with Sealink VSAT connectivity. In addition, the service is fully compatible with Marlink's delivery of Fleet Xpress, as well as Inmarsat FleetBroadband and Iridium Certus.

At SMM, Marlink claimed that its VSAT uptake was running at around 120-140 per month. TO


**Marlink's new hardware**

# Navios Maritime Acquisition Corporation

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# ChartCo unveils e-navigation platform

**Supplier of digital navigation services and voyage compliance, ChartCo launched a new e-navigation and compliance platform at last month's SMM in Hamburg.**

ChartCo OneOcean was designed to play an important role in how shoreside operations and shipping fleets are managed whilst offering significant benefits to seafarers, the company claimed.

A notable new feature within the OneOcean platform is the incorporation of data from ChartCo's environmental solution, EnviroManager, which helps crews comply with both MARPOL, regional and national regulations.

EnviroManager includes the baseline information for each country as required by the regulations. An integral function in the new platform, EnviroManager will help crew effectively plan the handling of waste and minimise the risk of a faulty discharge with the associated fines and reputational damage.

In addition to unveiling OneOcean, ChartCo also introduced an upgraded version of its flagship software, PassageManager, which is currently used by over 6,500 vessels worldwide.

### Fully integrated

All the key functions and content of the previous version of PassageManager have now been fully integrated, enabling users to access information in one place. An ENC can now be overlaid with all the critical content required for passage planning purposes, without the user having to switch screens.

Key applications within OneOcean include PassageManager, Regs4ships, EnviroManager, FleetManager and Docmap.

As for PassageManager, the new version is intuitive to operate with an easy-to-use graphic interface – allowing users to access a comprehensive range of digital content and services all designed to simplify complex tasks.

OneOcean can be left running without taking over the screen, while PassageManager will continue to continuously keep the bridge up-to-date, showing on-screen notifications of any action required.

When used with ENCs, a USB can be left plugged in and PassageManager will automatically create a weekly update file, so that the ECDIS can be updated using the USB. TO

# KVH's AgilePlans accelerates maritime digitalisation

**Increased demand for the AgilePlansTM subscription-based Connectivity as a Service (CaaS) program from KVH Industries has been the driving force behind the company's VSAT unit deployments growth during the first six months of 2018.**

KVH recently reported that it successfully shipped almost as many VSAT systems in the first six months of 2018 as it shipped in the whole of 2017.

In addition, KVH VSAT unit shipments from April to June, 2018 were up 100% compared to the same period last year. In total, shipments are at an all-time record by far compared to any quarter in KVH's 10-year history in the maritime VSAT business, the company claimed.

Providing Internet access to seafarers for crew welfare and on board training is also important in attracting and retaining today's more digitally sophisticated crew, KVH said.

"I believe our recent success is a result of the broad appeal of our all-inclusive no-commitment AgilePlans programme in the commercial markets combined with our new high-throughput satellite global network and superior service," said Martin Kits van Heyningen, KVH CEO. "We're being selected across all segments, from small fleets to large."

The AgilePlans programme is a CaaS subscription-based model offering KVH's global connectivity, VSAT hardware, news, entertainment, and training content, free installation in select ports, and zero maintenance.

KVH's recent AgilePlans customers include large fleets involving hundreds of vessels, including chemical tankers.

The CaaS solution is claimed to be particularly popular when paired with KVH's latest antenna system, the patented TracPhone V7-HTS, introduced in late 2017, as nearly 80% of recent AgilePlans vessels selected the new antenna.

This 60 cm, Ku-band antenna system is designed to deliver global data download speeds of up to 10 Mbps, and upload speeds of up to 3 Mbps. It was designed for KVH's mini-VSAT BroadbandSM network, which late last year began using the IntelsatOne Flex platform, a global managed service designed to optimise bandwidth allocations and provide flexible coverage where needed.

With the TracPhone V7-HTS, vessels can use cloud-based software programs, remote system monitoring, and data analytics to achieve the benefits of digitalisation, the company said.

V7-HTS offers a two-track system - one channel for critical reports and another for less urgent and continuous data flow.

In the tanker market, there has been a lot of interest shown in the online platform, KVH's Mark Woodhead told *Tanker Operator*. He also pointed out that the IoT brings huge benefits for service providers, such as monitoring vessel performance, condition monitoring of their own equipment on board thus enabling them to make changes before the shipowner is aware that there might be a problem. TO

# Danelec enhances ECDIS range - wins type approvals

**Danelec Marine has upgraded its ECDIS offering.**

The new features include a universal radar overlay module that allows radar images to be superimposed on the electronic chart display, and a new conning display dashboard to give a concise view of the status of all navigational subsystems and sensors.

Both are now available with Danelec Marine's DM700 and DM800 G2 ECDIS products.

The radar processing unit (RPU) can be interfaced with most current radar systems from major manufacturers. It receives the data stream from the radars and converts it into a format for overlaying on the ECDIS chart display. A single RPU can be used to feed radar images to multiple ECDIS workstations on the ship.

"The radar overlay improves navigational safety and efficiency by making it easier for the ship's officers to identify navigational aids, shoreline and the location and movement of other ships in the area in a single integrated picture," said Hans Ottosen, Danelec Marine CEO.

The conning display dashboard provides a concise summary of the status and performance of all connected navigation systems and sensors, such as gyrocompass heading, speed, water depth, engine rev/mins, wind speed and direction, rudder angle and rate of turn, the company said.

"At a glance, the navigator has a quick view of vital navigation data on a large, easy-to-read dashboard display. Presenting these readouts on a separate dashboard simplifies the navigator's job by avoiding screen clutter on the main ECDIS chart display."

"The RPU and conning display, like all of Danelec Marine's modules are designed with Danelec Marine's 'future-proof' technology for easy software updates and incorporate our exclusive SoftWare Advanced Protection (SWAP) technology that dramatically reduces the time and cost required for ship service and repairs," Ottosen added.

Danelec Marine also announced that the DM700 and DM800 G2 systems had recently received type approval certificates from the US Coast Guard.

In addition, the company announced an extended warranty programme for older models of VDRs and S-VDRs, covering Danelec DM300 S-VDRs and DM500 VDRs, which ceased production in 2007.

The extended warranty will ensure that ships will remain compliant with IMO carriage requirements. TO

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# StormGeo gives reasons behind Nautisk acquisition

**The news that StormGeo is to acquire maritime charts and publications supplier Nautisk prompted the company's vice president shipping, Svein Kare Giskegjerde, to outline the reasons behind the buyout.**

He said that the main benefit for customers will be an all-in-one, integrated on board digital platform that will allow them to undertake complete navigational planning workflow in one place. Customers will also still have the option to buy standalone products from both product suites.

Over the past three years, Nautisk has completely transformed its product line — originating in traditional paper offerings to a primary focus on digital solutions.

In navigational planning today, seafarers and shoreside staff are working with several, disparate systems from various vendors that often do not communicate with each other. This process is inefficient, time consuming and costly.

Furthermore, data is often stored on a memory stick and taken from one system to another, inherently increasing security risks and adding the opportunity for human error. Also, if customer support is needed, there are multiple vendors to contend with.

Following the ECDIS mandate, there has been a rapid increase of digital charts on board, along with a rapid and ambitious digital software transformation of the overall navigational planning station. "Our customers have asked for an all-in-one, integrated system from one vendor in a simple, easy-to-use digital navigation solution," he explained.

Having an all-in-one, integrated platform for navigational planning allows customers to enter and optimise a route, obtain the appropriate charts and create a voyage plan without switching between different solutions. Eliminating the need for multiple systems means decreasing costs and increasing efficiency, both in the time it takes to complete the workflow and by removing the opportunity for human error.

In addition, the platform will be dynamic and customisable, meaning that users can choose to turn on or off different functions. For example, if a client only wants the current version of BVS for route optimisation, he or she can choose to receive just that functionality. If a client wants to receive charts in a system as well, this module can be turned on remotely.

## Information sharing

Another key benefit for customers is that clients' shore-based operations and vessels will be able to share information and communicate. More specifically, one of Nautisk's products, NaviUpdate, manages safe communication and data download to and from shore and ECDIS.

This eliminates the previously used method of transferring charts and routes to ECDIS using a memory stick, which has security concerns, he said.

NaviUpdate also uses continuous broadband communication to both bring information to the vessel on-demand and transfers vessel data to shore for immediate analysis. Thus this integrated solution will also improve the connection of the on board navigational planning station to continuous shore analysis, advice and decision making, specifically, to StormGeo's FleetDSS product onshore, optimising fleet performance and control, and route analysis.

Finally, Nautisk's NaviTab, will bring customers the only truly innovative solution on the market for managing digital books and publications, he claimed.

This custom eReader contains an installed store where all regulation-required materials can be purchased and made available immediately. This replaces the high volume of physical copies, maintaining them and ensuring the most updated version is available. Postal savings alone reduce the cost of these materials by 30-40%.

**Thomas Fjeld, Nautisk CEO, and Per-Olof Schroeder, StormGeo CEO**

Building on the integrations of Seaware, a vessel motion and safety solutions company in Sweden, and Applied Weather Technology (AWT), the ship routing and fleet performance company based in Silicon Valley, StormGeo's ability to enable digital transformation in shipping is significantly enhanced with the addition of Nautisk.

He said that StormGeo sees this as a step in the direction of further enabling digitalisation within the shipping industry. Autonomous shipping is coming ever closer to fruition, and we look forward to pushing the envelope to make this and other industry innovations a reality.

StormGeo's Cynthia Harris told *Tanker Operator* that clients will still be able to deal with the same people as before. She said that the company's shipping portfolio was growing with 26 offices, 9,000 vessels and now another 3,000 ships from Nautisk.

She also said that Nautisk CEO Thomas Fjeld would become Storm Geo's vice president, navigation and planning. TO

# X-DF by WinGD

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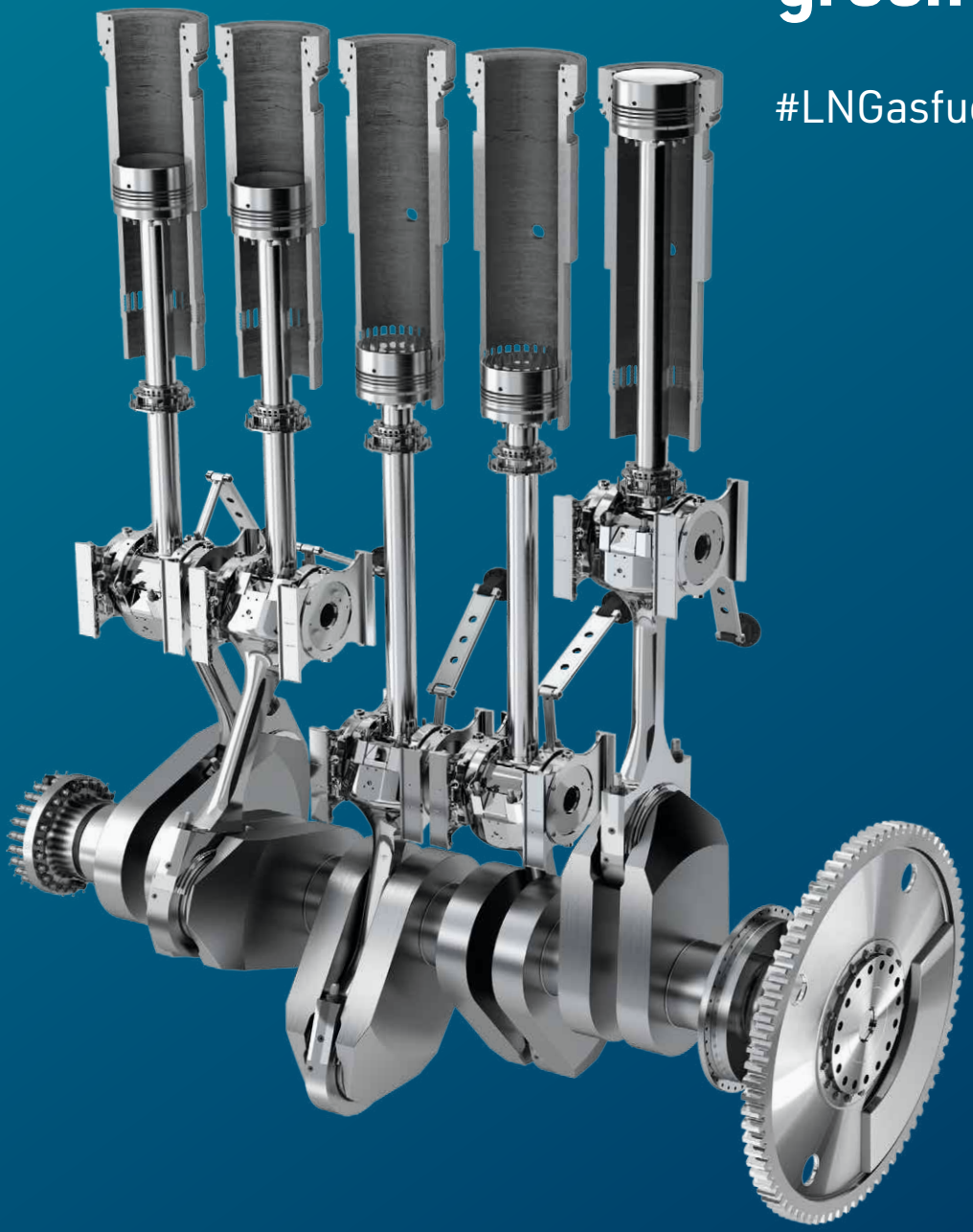

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# Emissions control - Multiple choices ahead

**With 1st January, 2020 low sulfur fuel cap fast approaching, the shipping industry is being warned to be prepared to act by the middle of next year.**

No matter what road a shipowner decides to go down to meet the cap and the lower emissions target further down the line, there will be fundamental changes needed in the choice of fuel, lubes and possibly the power source itself. There is no doubt that there will be a significant cost involved, whatever the choice.

There maybe some who will just sit back and do nothing in the hope of not getting caught. However, this course of inaction will run the risk of a significant fine and possible vessel detention, which could result in a charter being cancelled.

In DNV GL's latest Maritime Forecast to 2050, published last month, the class society explained its 'Low Carbon Pathways' model, which formed the basis of the report. This model looks at the possible uptake of a wide range of energy efficiency solutions, alternative fuels and other emissions reducing technologies, based on investment decisions and forthcoming regulations.

Energy use and emissions will depend on the availability of technical solutions applicable to each segment, their emission reduction potential and rate of uptake.

Modelled levels of uptake depend on the expected payback time for each technology and fuel, the shipowners' investment levels and on regulations requiring specific technologies or specifying general levels of energy efficiency and carbon intensity, DNV GL said.

The class society listed the forecast the technology impact and fuel options on carbon and energy efficiency in tabular form, reproduced above right.

There are many different fuels being touted around as the panacea to attaining the sulfur cap and the ambitious emissions reductions the IMO has set for 2050 and beyond.

Of course, it very much depends on the ship type, size and its trading pattern which solution will benefit the operator most. For the tanker sector, at present there are three major solutions to choose from - distillates, LNG and fitting scrubbers, thus sticking with HFO.

There are others, such as LPG, methanol, biofuels, hydrogen, batteries, renewables assisted power and even nuclear has been suggested. However, most of the others tend to be applicable to the more specialist ships, ie LPG for LPG carriers, methanol for a methanol carrier, etc.

For example, WinGD's Robert Stiefel told *Tanker Operator* at SMM that LNG as a fuel was always going to be cheaper than LPG. He also said that as Volatile Organic Compounds (VOC) collected in tanks on deck was used as fuel on shuttle tankers, so the gas has potential for large crude carriers going forward, especially for those that might be fitted with dual-fuel engines, giving them the option to burn LNG or distillates.

DNV GL said that the cost associated with the machinery, as well as the projected fuel price and availability worldwide, especially for tramp ships, will be the key barriers when selecting the type of fuel to be used.

As well as looking into its crystal ball, the class society has introduced what it calls a new perspective on alternative fuels - Alternative Fuels Insight (AFI) platform.

"Alternative fuels and propulsion technologies should be on the radar of every shipowner, especially those in the market for a newbuilding in the near future," said Knut Ørbeck-Nilssen, DNV GL – Maritime CEO. "The AFI platform has been developed to provide a clear picture not only of the fuels and the surrounding infrastructure, but to build links between suppliers and owners and charterers. The knowledge collected on the platform is expanding into a 360-deg view of the sector, allowing all stakeholders to make informed decisions."

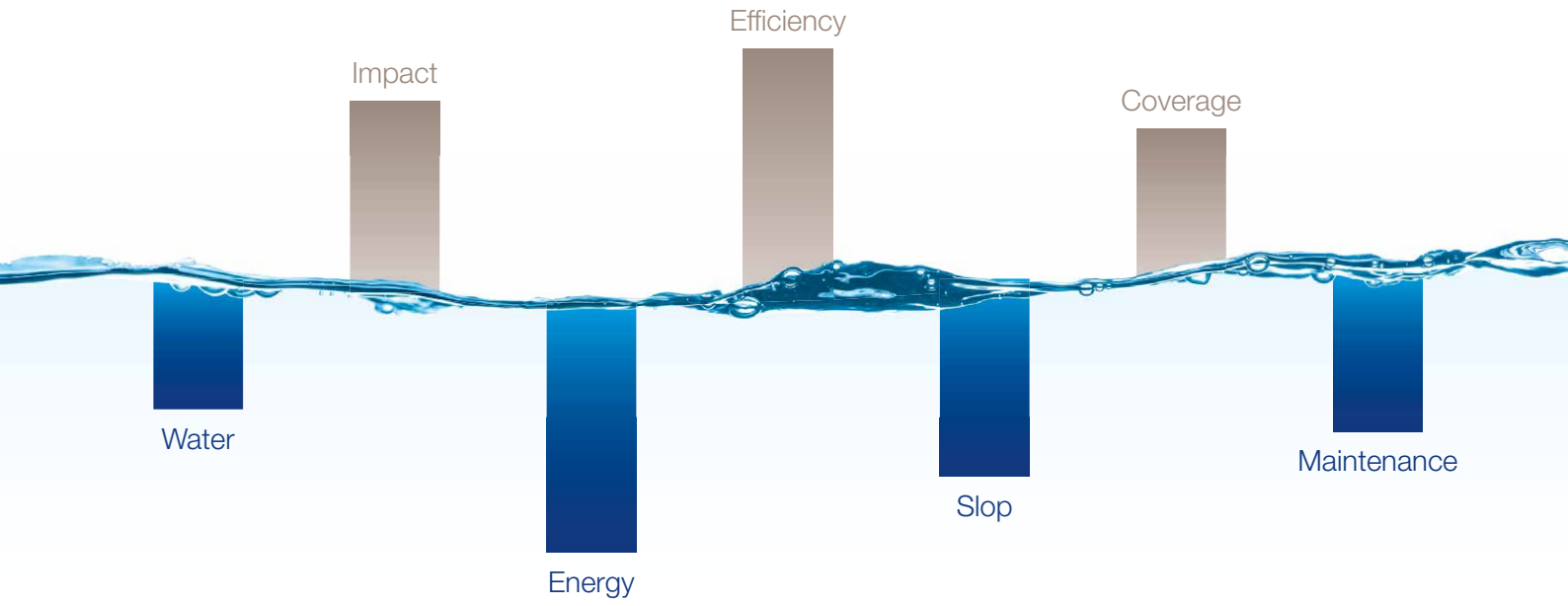
The AFI platform builds on DNV GL's LNGi portal, which it has now replaced. It has an expanded focus that covers LNG, LPG and methanol, as well as emission reducing technologies, such as scrubbers and batteries.

The platform consolidates detailed technical information on these fuels and technologies, including their bunkering infrastructure, and

| | Carbon intensity reduction (%) | Energy use reduction (%) (main engine) | (%) Aux |
|---|---|---|---|
| **FUEL** | | | |
| Switch to low sulfur fuel | - | - | - |
| HFO with scrubbers | - | 3 | 3 |
| LNG | 20 | - | - |
| Electricity | 100% | 50 | 50 |
| Carbon neutral fuels | 100% | - | - |
| **ENERGY EFFICIENCY** | | | |
| Hull form - newbuidings | - | 12-17 | - |
| Hydrodynamics- retrofits | - | 13-20 | - |
| Machinery improvements | - | 4-8 | 12-23 |
| Waste heat recovery | - | 0-8 | - |
| Hybridisation | - | 3-15 | - |
| Operational measures | - | 3-11 | - |
| Cold ironing | - | - | 30-70 |
| Renewable energy | - | 0-10 | 0-2 |
| Air cavity lubrication | - | 3-5 | - |
| **LOGISTICS AND SPEED** | | | |
| Speed reduction (5%) | - | 10 | 5 |
| Vessel utilisation | - | 3-20 | - |
| Increase vessel sizes | - | 4-14 | - |
| Alternative sea routes | - | 0-20 | - |

*Source: DNV GL*

# Performance is more than surface deep

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examines their capabilities and limitations, as well as giving practical insights into their implementation and operation, the class society claimed.

With much of the information free to access, the AFI platform is aimed at owners and operators who need to research and keep up to date with this rapidly moving sector. In addition, through the Fuel Finder tool, shipowners and charterers can submit requests for bunkering, specifying fuel type, location, volume and from which date they would like to bunker.

DNV GL will validate these requests and then makes them available to suppliers.

"The Fuel Finder tool makes it easy for owners and charterers to see how their decision to move to an alternative fuel could work out in practice," said Martin Wold, head of the AFI platform at DNV GL – Maritime. "With one request, they can see how the operational profile of their projects match the capability of multiple suppliers. We have also been working with several leading suppliers and equipment makers who have signed on as supporters of the portal and we have opened the portal to user contributions, so that we continually expand the platform by adding bunkering and infrastructure projects."

With interactive maps and data visualisations, it is claimed to be easy for users to see where infrastructure already exists or will shortly be developed, alongside the growing alternative fuelled fleet. The new tools also let users dig deeper into the data to analyse trends and screen the feasibility of their alternative fuel projects based on CAPEX, OPEX and fuel prices.

The AFI platform was developed in collaboration with Shell, Wärtsilä, Caterpillar, SEA\LNG, Skangas, WinGD and Yara Marine.

We have recently seen an upturn in the number of scrubbers specified for tankers, mainly newbuilding crude carriers.

However, the analysts claim that only around 2,500-3,000 vessels of all types will be fitted with exhaust gas cleaning systems out of 50,000 plus ships.

Some tankers are being prepared for dual-fuel operations and are being designed to be 'LNG ready' or are being fitted with dual-fuel engines. To be able to access LNG as a fuel, operators are being advised to lock into supply deals now well ahead of the implementation of the low sulfur cap, which the IMO is adamant won't be postponed or 'grandfathered'.

Turning to renewables and in particular wind, there have been several vessels retrofitted with sail technology down the years with limited success. It was generally thought that this type of technology was not applicable to tankers, however, those clever people at Maersk Tankers could prove us sceptics wrong.

At the end of August, Maersk Tankers announced that two 30 m tall Norsepower Rotor Sails were installed on board the LR2 'Maersk Pelican'.

Norsepower, together with project partners Maersk Tankers, Energy Technologies Institute (ETI) and Shell Shipping & Maritime are involved in the trials.

These Rotor Sails are large, cylindrical mechanical sails that spin to create a pressure differential - called the Magnus effect - that propels the vessel forward. They will provide auxiliary wind propulsion to the vessel, optimising fuel efficiency by reducing fuel consumption and associated emissions by an expected 7-10% on typical global shipping routes.

The Rotor Sails are the world's largest at 30 m tall by five metres in diameter and were installed on the product tanker while she was berthed in Rotterdam.

"This project is breaking ground in the product tanker industry. While the industry has gone through decades of technological development, the use of wind propulsion technology on board a product tanker vessel could take us to a new playing field. This new technology has the potential to help the industry be more cost-competitive, as it moves cargoes around the world for customers and to reduce the environmental impact," said Tommy Thomassen, Maersk Tankers CTO at the time of the announcement.

The sails were rigorously land tested, including thorough testing of various mechanical and performance criteria, and they are the first Rotor Sails to be class approved for use on a product tanker.

Extensive measurement and evaluation of their effectiveness will now take place to test the long-term financial and technical viability of the technology. Independent experts from Lloyd's Register's (LR's) Ship Performance team will acquire and analyse the performance data during the test phase to ensure an impartial assessment before technical and operational insights, as well as performance studies, are published.

Tuomas Riski, Norsepower CEO, added: "We have great ambitions for our technology and its role in de-carbonising the shipping industry. The installation of our largest ever Rotor Sails in partnership with these industry leading organisations shows that there is an appetite to apply new technologies.

"With this installation on the 'Maersk Pelican', there are now three vessels in daily commercial operation using Norsepower's Rotor Sails. Each of these cases represents a very different vessel type and operational profile, demonstrating the widespread opportunity to harness the wind through Flettner rotors across the maritime industry."

Dr Grahaeme Henderson, Shell Shipping & Maritime vice president, concluded: "The shipping industry faces a major challenge in how it can economically ship the increasing amounts of goods and energy the world demands, whilst lowering its environmental impact. We see significant advantages in embracing, testing and driving innovative technologies that we believe show real promise in helping the shipping industry meet this challenge."

**The Rotor Sails seen being fitted in Rotterdam**

# Cat fines cause claims

**Low sulfur fuel oils (LSFO) typically have a higher content of catalytic fines (cat fines) than high sulfur fuels.**

Fines end up in the low-sulfur by-products from refining processes and these by-products are blended with residual fuels to reduce their sulfur content, insurance and P&I service provider Skuld explained in a recent article.

ISO Standard 8217:2012 introduced a maximum permissible 60 ppm level of cat fines, expressed as Aluminium + Silicon, for marine residual fuels, a reduction from the 80 ppm levels in ISO 8217:2005. This is maintained in the latest published ISO 8217:2017 Fuel Standard.

Engine manufacturers recommend a maximum of 15 ppm level of cat fines in the fuel being used in their engines. As this level is significantly lower than those specified in the ISO Standards, it is essential to ensure adequate fuel handling and purification equipment and procedures are in place on board to effectively bring the levels of cat fines in the fuel to below 15 ppm.

As catalytic fines are very hard, they are embed in the softer metal surfaces of cylinder liners, piston grooves and rings. They are particularly damaging to cylinder liners, as their surfaces are not polished or smooth.

Skuld listed recommendations on what should be done to reduce the risk of damage to engines, due to catalytic fines in bunker fuel (Joint Hull Committee JH2013/006).

Sufficient numbers of empty clean tanks should be ready to receive the new fuel. There should also be sufficient existing fuel on board to allow time for testing and receipt of analysis reports, in order that any advice can be acted upon before the new fuel is used.

Drip samplers and equipment needed for taking representative samples of the fuel during bunker should be prepared and ready for use.

During and after bunkering, those involved should -

- Draw continuous and representative bunker samples from each bunker source, barge or tanker during bunkering.
- Arrange quickest possible dispatch of fuel samples from the bunker port to a laboratory for analysis.
- Testing should preferably be against the latest ISO 8217 specification.
- Await return of the fuel analysis report before using the new bunkers.

## Fuel storage

Newly received fuel should, as far as possible, be placed in empty tanks and blending of different parcels of bunkers should be avoided. If blending is unavoidable, it is strongly recommended that compatibility tests are carried out in advance.

Water and settled bottom sediments from fuel storage, settling and service tanks should be drained frequently. These tanks should also be cleaned regularly, at least once a year, to avoid long term build-up of cat fines and sediments at the bottom of the tanks (Maurstad Marine Consult 2018).

Cleaning of fuel oil storage tanks (bottom tanks) should be undertaken during each drydocking as a minimum.

Fuel oil settling tanks should be drained for water at frequent intervals during periods of operation on HFO, as cat fines are hydrophilic (dissolve/mix with water).

It is essential that oil drained from the fuel oil backwash filters is not reintroduced into the fuel treatment system.

**Fuel purification** - Never by-pass fuel filtering equipment! This could result in introduction of contaminated fuel to the engines.

- Monitor and optimise fuel separator performance.
- Where possible, run two purifiers in parallel with minimum flow.
- Keep the HFO fuel inlet temperature at the optimal temperature of 98 deg C to ensure efficient purification.
- In a conventional purification plant ensure the optimal gravity disc corresponds with the actual fuel.
- Purifier capacity should be sufficient to deal with daily consumption plus 10% allowing some recirculation of fuel in the settling tank.
- Arrange regular efficiency tests, by fuel specialist bodies.

**Equipment maintenance -**

- Fuel system filters should be inspected and cleaned regularly – not only when alarms are activated.
- Fuel treatment heaters to be regularly opened and cleaned to maintain optimal purification temperature.
- Purifiers opened and cleaned at scheduled intervals, as per manufacturers recommendations.
- More frequent cleaning if fuel quality is suspected to be poor.
- If "dirty" fuels have been bunkered a few times, tanks should be cleaned at shorter intervals to avoid high concentration of cat fines at the engine inlet.
- Adequate stock of spares on board, necessary to maintain purifiers in good working condition.
- If in doubt, ship's staff should seek advice from their superintendent or technical department.

Seafarers should treat all residual fuel oils as if they contained cat fines. Bunker management plans should be available on board and responsible personnel should be sufficiently familiar and trained to fully and independently operate and maintain the fuel handling and treatment systems. Ships officers should also be familiar with requirements and recommendations by owners, operators and industry standards.

Take regular oil samples from the fuel oil settling and service tank(s) and forward these to a laboratory for analysis. The results received will give an indication of purifier performance and the fuel oil's condition when fed to the engine(s).

If engineers see any signs or have suspicions that damaging levels of cat fines have entered the engine(s), they must take immediate action to prevent damages or escalation of damages to the vessels machinery. In the event cat fines have contaminated the low-pressure fuel oil system, the piping must be thoroughly flushed. TO

# Diesel engine performance indicator introduced

**In its 'Safety and Shipping Review 2015' Allianz Global Corporate & Specialty warned that slow steaming shortens the life of an engine and increases polluting emissions.**

So rather than putting restrictions on, increased efficiency is more effective in order to reduce consumption and prevent permanent damage.

One solution is the 'indicating' of the engine – the dynamic pressure measurement in the combustion chamber of the diesel engine at the indicator valves, provided by the PREMET X measuring device presented by CM Technologies at this year's SMM in Hamburg.

It can precisely determine the cylinder pressure at every cylinder position, the actual injection and ignition timing, as well as other aspects of the combustion process. Based on the results, the injection can be optimised and thus fuel consumption reduced.

Furthermore, nearly all wear processes can be monitored and maintenance planned accordingly.

"The actual values of a diesel engine do rarely correspond to the set points, which translates into performance losses," explained Matthias Winkler, CM Technologies managing director. "This manifests itself as increased need for fuel and thus increased operating costs. A poorly balanced engine often consumes up to 2% more fuel. That is why it makes sense from an economic point of view to regularly check the condition of an engine, " he said.


**Premet C with display web**

Dynamic pressure measurement is particularly suitable for slow or medium-speed engines.

Indicating also enables damage detection, such as blow-by or worn injectors early. With the third generation PREMET X indicator, adjustments on the diesel engine can be made while measuring.

CM Technologies, which acquired the PREMET production and brand rights at the end of 2016, has integrated numerous new features.

"The new PREMET X has an innovative PiezoSmart pressure sensor that dynamically records the pressure curve over time in the cylinder of an internal combustion engine," explained Winkler.

The measurement can be carried out in a few simple steps. First, briefly open the indicator valve on the cylinder head during operation to blow out any blockages. The sensor must then be placed on the indicator valve and the indicator valve must be re-opened. The measurement starts automatically and ends according to the presetting after 1 - 20 cycles. No input is required on the measuring device – it only serves as a display unit. Finally, the valve is closed again and the sensor is removed.

Other cylinders can also be measured without any interruption. In all, the internal memory can save the values from up to 20 engines with 20 cylinders each. The touch display allows all measurement results to be read directly from the device and compared with set points.

The latest PiezoSmart sensor generation is provided by Kistler Switzerland. This sensor guarantees an accuracy of <0.1%, which is further improved by advanced calculation algorithms. Both torsional vibrations within the engine and pulsating pressure in the indicator valve are compensated for. At the same time, the new sensors have a long service life of about 8,000 operating hours, which, with an average operating time of three minutes, means up to 160,000 measurements per sensor.

Furthermore, to meet the increased demands of modern engine technology, pressures up to 350 bar are now possible.

## One step further

The new version of the PREMET X has been comprehensively upgraded by CM Technologies and equipped with additional features.

"As a central extension, we decided to use smart sensors, making it easier for the sensors to exchange data. All the calibration and sensor data is stored electronically within the sensor and can be read using the device," explained Winkler.

Another innovation is the ability to store data in both local and global clouds, allowing the results to be accessed from any PC worldwide.

A basic software package is available as both a single-user as well as an office version with multiple accounts for comparisons between different ships. Furthermore, the device supports various cloud services.

In addition to a cloud solution developed by CMT, there is also a connection to DNV GL's ECO Insight. This makes it possible to compare the performance data of different ships in a fleet without detours, enabling weak points to be found faster.

In addition to the pressure sensor, the PREMET X can also be expanded with other sensors. This includes a simple TDC sensor for the XL version that, with the TDC, provides another orientation point to determine the crankshaft angle.

The XLMS version also includes a sensor that detects the exact angle of the crankshaft. "This is particularly useful in the context of fuel savings. If the combustion is just 1° late, consumption increases by about 2%," he explained.

"Of course, if required, we also support our customers with data analysis and optional evaluation service," Winkler added. TO

# Selecting the right luboil

**As well as the question of compliant fuels for the low sulfur cap, there is also the question of lubes.**

With the increasing number of fuel types on offer, luboil suppliers have had to adapt accordingly. Long gone are the days when around a BN 90 lube was claimed to be the cure for all engine cylinders.

The major suppliers are now addressing the concerns being expressed over claimed compliant fuels.

For example, Shell said that marine lubricant choices to address the IMO's restrictions on the fuels used by ships from 2020 must be based on verifiable cylinder oil performance data and engine testing to cover all operating conditions.

This was the message from the new General Manager of Shell Marine, Joris Van Brussel, speaking at a presentation in Hamburg last month.

Based in Singapore, he has gained experience across Shell's fuels, lubricants and renewables businesses worldwide, with roles in licensing, branding and retail activities, as well as group strategy, product marketing and distribution.

"Recent months have seen some movement by mainstream shipowners towards exhaust gas scrubbing to meet the 2020 marine fuel sulfur cap," said Van Brussel. "These customers will continue using high sulfur heavy fuel oils with 2-stroke engines, and demand lubes that are proven to protect cylinders against cold corrosion under extreme stress, such as Shell Alexia S6 or the higher BN Shell Alexia 140.

"However, with just over a year to go before the new restrictions enter into force, a significant part of the market will shift to fuels with less than 0.5% sulfur, where other cylinder oil formulations with a lower BN number are expected to deliver optimum performance.

"The 2-stroke product portfolio for 2020 is largely in place, but we expect that there will be a requirement for significant volumes of higher BN cylinder oils to be replaced by BN 40 or BN 70 grades," he explained.

He also said that, with engine makers still developing technology aggressively, and the fuels market mix evolving, sulfur emission-free LNG is also securing a position as a marine fuel requiring widespread distribution.

Shell continuously uses test engines installed at its Marine & Power Innovation Centre (MPIC) in Hamburg, putting formulations through their paces in the most extreme conditions oils can face before field trials and OEM validation tests.

The latest project at MPIC involves the final tests of a new BN 40 cylinder oil for 2-stroke engines that is already undergoing field trials and is expected to be available in the market in the early part of next year. "OEMs are demanding viscosity," he said

"Today, the work we do at MPIC has to be part of that multi-faceted strategy for customers that has developed into MILES, where we address the most pressing operational concerns customers have," Van Brussel continued.

Shell's Marine Integrated Lubrication and Expert Solutions (MILES) programme aims to combine purchasing options, services and an extensive lubricant range into a strategy that addresses these pressing operational concerns.

As well as providing optimal port lifting recommendations, a MILES package can include the entire vessel lubrication management, combining stock levels and demand planning for a given operating profile, feed-rate optimisation, and even 'flexi pay' schemes.

"Shell Marine has also been concentrating on developing its technical services for a world where there is much more uncertainty and the likelihood is that the quality of fuel will vary," Van Brussel added. Better monitoring of lubricant performance for engines in service, for example, backed by advanced technology to communicate data from ship-to-shore improves decision-making when it comes to lubricants logistics.

"Our tests and customer feedback show that reductions in feed rates can be achieved with an overall cost reduction to customers. In another case, a customer had seen the use of our Shell LubeMonitor was able to cut their cylinder oil costs by 25% whilst still complying with the engine maker's recommendations," he said.

**Shell's Joris Van Brussel**

At the presentation ahead of SMM, Van Brussel said that Shell had extended its reach by opening up in Chile, New Zealand and India, among other places.

The supplier's Alexia BN 40 lubes have been tested on 11 ships for 18 months on 2-stroke engines.

Shell also offers the LubeMonitor testing facility for new fuel analysis on board ship. Feedback can be given in around eight hours.

He recommended that come 2020, every bunker stem should be tested to ensure it meets ISO 8217 until the quality settles down into a known pattern. "operators should look carefully at bunker stems," he said. "There is a need for new services, advice, etc to maintain compatibility."

## New lube range

As for Chevron Marine Lubricants, this supplier has developed a new range of cylinder lubricants claimed to be compatible with virtually all available global sulfur cap 2020 compliance options.

As the global shipping industry prepares for the arrival of the global sulfur cap in January 2020, the operation of ships in a multi-fuel future is a fast approaching reality. Lubricants are essential to the smooth operation and service life of propulsion machinery, but their optimal use is highly dependent on fuel sulfur content. A diversified marine fuel mix demands tailoring lubricant selection to fuel

sulfur content to ensure compatibility with fuels bunkered across a fleet, Chevron said.

Chevron's patented Taro Ultra range of lubricants deliver the same high performance and protection expected from Chevron's Taro engine lubricants, with the added benefit of being compatible with almost all engines, marine bunker fuels and abatement technologies, the company said.

The full range of Taro Ultra products covers the needs of the vast majority of vessel owners, from Taro Ultra 25, which is compatible with low sulfur fuel, distillates and many alternative fuels, to Taro Ultra 140, which is claimed to be ideal for applications using high sulfur bunker fuels that require scrubber emission abatement technology.

"A key driver for launching Taro Ultra is to ensure the product availability and the flexibility to meet the demands of the changing sulfur global landscape, recognising the need for more diverse fuel options we expect to be available both now and post-2020.

"This enables customers to make clear and concise choices that suit their unique operating requirements, ensuring the right products are available in the right places," Chia Yoo Soon, General Manager, Chevron Marine Lubricants, said.

"We are performing a rigorous and extensive programme of field testing with leading OEMs, demonstrating the strong performance of our lubricant offering. In addition to our trusted supply network, we are delivering the reassurance and supply security our customers need during the transition," said Luc Verbeeke, Senior Product Development Engineer, Chevron Marine Lubricants.

The new range of Taro Ultra lubricants will be phased in throughout 2019.

### Seminar insights

ExxonMobil is holding a series of 'Journey to 2020' symposiums around the world to help operators optimise vessel performance in readiness for the IMO 0.5% global sulfur cap at the beginning of 2020.

The events are aimed at providing essential insights and help on fuels options and choosing appropriate cylinder oils, for safe and efficient vessel operation.

The first symposium will be held at the Equinox Complex in Singapore on 26th October, followed by events in Hong Kong, Taipei, Athens, Tokyo, Imabari, Copenhagen and Hamburg. The series will continue into the first quarter of 2019.

While ExxonMobil said that it anticipated the vast majority of the industry will initially choose low sulfur fuels, there is no single route to compliance. The 'Journey to 2020' symposiums will enable operators to discuss the most practical compliance choices for them with a team of ExxonMobil experts.

These events will also provide the ideal opportunity for operators to explore the cylinder oil options that best fit their fuel choices, ExxonMobil said. For the majority of vessels bunkering a 0.5% sulfur fuel, a BN 40 cylinder oil will be the best choice. Vessels fitted with scrubbers will continue to burn HFO and will solely use a high BN alternative.

ExxonMobil's options will be available for:

- Low sulfur distillates, such as marine gas oil (MGO).
- New low sulfur fuels.
- Premium Emission Control Area (ECA) fuels.
- Continued use of HFO in conjunction with scrubbers.
- Liquefied natural gas (LNG).

"The 2020 sulfur cap will fundamentally change how the marine industry operates," said Iain White, Global Field Engineering Manager, ExxonMobil Aviation and Marine Lubricants. "Our symposiums will share essential information and guidance to help the marine industry safely and effectively comply with the changing emissions regulations.

"Backed by our extensive marine industry knowledge and expertise, operators should expect insights, advice and the opportunity for in-depth discussion with our teams to help them make the most informed choices possible ahead of 2020," he claimed. TO


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# Eliminating energy waste through ship propulsion automation

**Most vessels currently sailing the world's oceans are wasting energy, no matter how sophisticated the machinery is on board.**

Inadequacies in the overall management of vessel speed and fuel consumption are to blame.

Usually, a vessel is given a speed or rev/min order, which it maintains throughout the changing conditions along the route, with the result being varying power and wasted energy. A commercial vessel is usually working towards achieving a specified estimated time of arrival (ETA).

To achieve optimal fuel consumption, keeping a real time eye on the vessel's output power and adjusting propulsive parameters according to the vessel's specific operational best practice, is required throughout a voyage.

A vessel equipped with a controllable pitch propeller can present much wasted energy in operation. These vessels typically run on a fixed propeller rev/min and let the angle (pitch) of the propeller blades dictate the propulsive power, or in a combinator mode with static setting of different pitch and rev/min.

As most vessels rarely need full engine power, and operate in varying load and weather conditions, they consistently operate with lower pitch, which has been shown to be a large source of hydrodynamic energy waste.

Therefore, there is a lot of potential to save fuel by letting the two parameters, pitch and rev/min, be separately controlled while aiming to produce the most amount of propeller thrust for the least required amount of power. Operating in this way is also likely to improve the specific fuel consumption of the vessel's main engine.

The development of hardware to automate the real time monitoring and control of propulsion parameters was a challenge adopted by a group of Swedish innovators with extensive experience in shipbuilding, naval architecture, propulsion and marine control system technology.

The result of research and proprietary work conducted by the group was a technology called 'FuelOpt', which was launched onto the market in 2012 by Gothenburg-based Lean Marine.

Lean Marine's FuelOpt technology is claimed to be a unique control system that is installed as an addition to the existing traditional systems on board. The technology optimises a vessel's performance in real time.

Whenever the vessel is in transit (and using most of its power for propulsion) FuelOpt will step in and subtract costly variations in speed and power, due to human operational factors and optimise propulsion parameters, such as pitch and rev/min for maximum efficiency. The technology can be installed into any vessel during operations in just a few days and no time off-hire is required.

"FuelOpt offers owners the ability to have the cruise control system found in their cars, installed on board their vessels," claimed Lean Marine's managing director, Nicklas Karlsson.

## Dynamic tuning

In addition, in the case of a controllable pitch vessel, FuelOpt acts as a dynamic tuning system for the propulsion machinery, continuously ensuring it is tuned for the least possible fuel consumption.

Lean Marine's product portfolio is based on two separate technologies. In addition to the FuelOpt technology, the company offers a data analysis tool called Fleet Analytics, which allows for both verification of fuel use reduction results achieved by FuelOpt and to increase the shipowner's knowledge of their vessel operations.

Fleet Analytics incorporates a large amount of sensor data from the vessel to give the user a powerful overview of the vessels situation and performance via a clear web-based interface.

"With access to all these data sources on the vessel we're also helping the crew create very quick and powerful reports for many different purposes. Internal voyage reports and the EU mandated MRV report being two examples," said Karlsson.

Since 2012, Lean Marine has installed FuelOpt on nearly 100 vessels, with the milestone 100th installation due to take place this year.

**Stenersen has fitted FuelOpt across its fleet**

Bergen-based chemical tanker owner/operator Rederiet Stenersen, has installed FuelOpt and Fleet Analytics across its entire fleet of 15 vessels, which comprises tankers already operating efficiently by design.

John Stenersen, said: "Simply, we've seen that the fuel optimisation system has delivered the fuel savings promised. In addition to the automated fuel saving, we can now also follow up on our vessels using Lean Marine's powerful Fleet Analytics tool."

As the fuel optimisation system is used continuously during vessel transits, FuelOpt has now clocked up almost 4,000 days in operation across the Stenersen fleet.

With a previously estimated saving potential of up to two tonnes per 24 hours, LeanMarine has, to date, helped Stenersen save in excess of 8,000 tonnes of fuel. TO

# Underwater cleaning standard in the offing

**Underwater hull cleaning is subject to various national rules, resulting in the operation being banned in many areas within territorial waters.**

This puts severe restrictions on owners and operators ability to clean hulls, propellers and rudders to gain that little bit extra efficiency and thus cut fuel consumption and save on emissions.

BIMCO is investigating the possibility of introducing an underwater cleaning standard and is already in talks with owners, coatings manufacturers and other stakeholders.

The aim is to create an ISO standard for afloat hull cleaning, possibly within a couple of years.

Deputy secretary general, Lars Robert Pedersen told *Tanker Operator* that the work would also include looking at the equipment involved in underwater cleaning.

Of course it not only the hull that needs regular cleaning, as rudders and propellers also require regular attention.

A little while ago, Hydrex developed a new approach to propeller cleaning. The traditional approach was to let the propeller become fouled with the build up of calcareous growth and maybe polish it in the water once or twice a year or in drydock.

This polishing is undertaken using a grinding disk, which can be quite damaging to the propeller. By using a grinding disk, a substantial amount of metal is removed from the propeller itself, which can alter its shape and efficiency, cause roughness and increase rather than reduce friction.

It can also be a source of pollution, which as mentioned is a problem in a number of ports.

Hydrex discovered that more frequent, lighter cleaning of the propeller using a different tool to a grinding disk, and catching the propeller before a calcareous layer builds up, is the optimum approach to propeller cleaning.

If undertaken correctly and regularly it can result in 5% or even more in fuel savings. Obviously for a ship that has even a medium level of fuel consumption, the savings far outweigh the cost of the propeller cleaning.

Because the propeller is being attended to regularly, the cleaning is relatively light and quick. No material is ground away, which is good for the propeller and the environment. The propeller is kept in an ultra-smooth condition (Rubert A or A+), which is where the real fuel savings can be achieved. This finish can only be achieved by in-water propeller cleaning.

Fuel prices are climbing. As new low sulfur fuel requirements come into force, costs are going to escalate. A 5% fuel saving for the ship can make a huge difference to the bottom line.

Using a network of offices and service stations, Hydrex can offer propeller cleaning worldwide. These operations are carried out using underwater equipment designed and developed in-house specifically for propeller maintenance.

## Inspections offered

Hydrex also combines this service with underwater inspections where this is of an economically advantage to the shipowner or operator.

As for hull cleaning, the unique design of the Hydrex series of underwater hull cleaning units provides the efficiency and durability demanded by the harsh underwater environment, the company claimed.

All systems are carefully designed so that those hull coatings, which are suitable for underwater cleaning, are not damaged, while still completely removing all types of fouling. This restores a vessel's performance to as close to its optimum condition as possible and offers shipowners considerable savings in fuel.

Hydrex's policy is not to carry out underwater cleaning activities, which result in an increase of pollution by spreading large amounts of toxic materials used in many underwater hull coatings.

Many of the machines used for hull cleaning, propeller polishing and inspections are diver operated.

However, one company that operates ROVs is HullWiper. This company was launched in Dubai in December, 2013.

Since then, the company has seen a rapid expansion take place and today, HullWiper operates in ports worldwide, including Sweden, Singapore, Spain, Netherlands, Norway, Egypt and the UAE. The company will also offer a cleaning service on an ad hoc basis at key locations across the Middle East, as the machines can easily be moved.

Another use for diverless machines is cleaning up after oil spills. Following the oil spill from the chemical tanker 'Bow Jubail' in Rotterdam, Dutch company Fleet Cleaner has helped the authorities by cleaning ship's hulls which were fouled by the spilled heavy fuel oil, in order to minimise the environmental impact.

After the spill, Fleet Cleaner loaded the equipment on an oil spill response vessel. By installing specialised heating equipment, the high pressure water cleaning robot was made ready for high pressure steam cleaning.

Using the 1 MW installed power, a special oil skimmer, as well as the necessary oil booms and PPM's, the Fleet Cleaner team undertook round the clock cleaning of the affected vessels.

The cleaning was undertaken together with the main contractor Hebo, which was contracted to clean and co-ordinate the cleaning of the entire Rotterdam port area.

Fleet Cleaner assisted in cleaning 12 oil-fouled vessels. Where standard oil spill cleaning is undertaken above water, the company's robot was also able to clean under water. The robot was also used to remove oil at heights up to 10 m above the waterline.

An optional package will be included in future Fleet Cleaner installations for oil spill situations in other Dutch ports, the company said. TO

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# Orolia Maritime launches with new solutions

**Orolia Maritime was officially launched at SMM, at which the company showcased its portfolio of marine technology and introduced a host of new products across its four technology solutions - Fleet Management, Data Capture & Analytics, Emergency Readiness & Response and Navigation Safety.**

Orolia Maritime is the maritime arm of Orolia's resilient positioning, navigation and timing (PNT) solutions. Its technology is delivered through McMurdo, Netwave and Kannad brands.

Chris Loizou, Orolia's Chief Business Development Officer, said, "We are proud to present such a rich heritage of proven marine technology under the umbrella of Orolia Maritime, including a portfolio of new products and services that we know will transform the commercial marine industry. Our powerful technologies will ensure safer and more reliable navigation, accelerated rescue in emergencies, and the ability to communicate and track fleet activity in a consistent, real time and cost-effective way."

The portfolio showcased at SMM included:

**Navigational Safety-** Introduced for the first time at SMM, Navigation Safety Solutions (Broadshield, Anti-Jam Antenna, SecureSync and VersaPNT) protect critical bridge navigation with resilient PNT, enabling vessels to protect their core navigation systems to help prevent errors and malicious attacks. This Orolia Maritime solution can detect anomalies in GNSS and offer alternative secure navigation signals until the GNSS has been restored.

**Fleet Management** - The McMurdo OmniCom Global is a new fleet management solution that offers global communications, tracking and reporting services. With a 20-year US heritage and National Oceanic and Atmospheric Administration (NOAA) accreditation, the fleet management solution offers an always-connected, secure, easy to use communications beacon and PRISMA software to support operational efficiencies in fleet tracking, reports and communications.

**Data Capture & Analytics** - Another first at SMM was Seawise, a new vessel optimisation analytics tool. The Seawise Gateway and Cloud SaaS platform tool uses existing Lightweight Ethernet (LWE) and VDR electronics infrastructure, along with the on board sensor information network, to enable shoreside data access and analytics for greater vessel optimisation insight.

The Data Capture & Analytics portfolio also includes the Netwave analogue microphone & hub, compatible with the NW 6000 VDR. The VDR system architecture is claimed to be unique in that the various components throughout the ship are interconnected by one single Ethernet cable. Both power and data are provided over the same single cable, eliminating the need for extensive, complex and costly cabling requirements.

**Emergency Readiness & Response** - Continuing Orolia Maritime's role in Medium-Earth Orbit Search and Rescue (MEOSAR) activation, the McMurdo FastFind 220 and Kannad SafeLink Solo PLB's have been upgraded to include Galileo GNSS receivers. With the addition of the European Galileo GNSS, alongside the existing GPS GNSS, the 220 and Solo are now the world's first PLB's using Galileo, which means accelerated location detection.

SMM also saw the launch of a new AIS SART range. Complementing Orolia's involvement in localised rescue technology, the new McMurdo SmartFind S5A AIS & Kannad Rescuer 2 SARTs offer a range of benefits over traditional radar SARTs, including greater signal range and accelerated detection, GPS co-ordinates for clarity of position, and a signal ID that prevents 'rain fade effect' as seen in Radar SARTS.

Orolia Maritime has recently partnered with Marine Electricals (India) and the KDU Group for search and rescue, cyber security, ocean surveillance, and resilient PNT. In addition to Orolia's existing partners, Marine Electricals will cater for the India and South Asia region, whereas, KDU will be a partner for the Middle East and Africa region.

Loizou, said, "This partnership is a clear demonstration of our continued growth and global position in the market and we are proud to be working and have our name associated with two prestigious companies to supply a portfolio of products to shipping, government and infrastructure projects across the globe. Together, we can combine our experience and expertise in search and rescue, navigational safety, and fleet management, and deliver the best service to international markets."

Shailendra Shukla, Group Managing Director at KDU Group and Director at Marine Electricals, said; "Partnering with Orolia is the cornerstone of MEL-KDU, focusing on delivering innovative turnkey solutions in maritime domain awareness, which enhance security of national assets, improve navigational safety and provide SAR infrastructure across Africa, Middle East and South Asia.

"We are expanding our footprint in the region with new offices in Saudi Arabia, Bahrain, Nigeria and Kuwait. This will help us provide locally based expertise in each of the key markets to provide the full spectrum of our services and solutions," he said.

Orolia Maritime team launched new technologies at SMM

# Rethinking STS transfer safety

**Whether reducing vessel weight prior to docking, exchanging guardianship of offshore cargo, or embarking on bunker operations, ship-to-ship (STS) transfer is a cornerstone of many shipping operations.***

STS transfers are increasing throughout the industry, particularly in regions, such as the Middle East. This has given rise to many new operators and companies specialising in this field, which has put pressure on multiple parties – operators, owners and crew – to ensure that this process is conducted safely and efficiently.

Examining existing STS legislation, a Master Mariner and partner at Clyde & Co explained the potential difficulties inherent in common riders that augment the requirement that STS transfers adhere to the latest ICS/OCIMF Transfer Guidelines.

He cited the example of wording that states; "Charterers shall provide, at their expense, all necessary equipment and facilities including fenders, hoses, mooring masters, etc for safe operations to owners/Master's satisfaction, which shall not be unreasonably withheld."

However, this opens the door for potential issues, such as - if the Master is not satisfied, is he really going to interrupt commercial operations to say 'I want better hoses,' 'the fenders aren't very good' and 'that supply vessel is not good enough'?

It demonstrates the need for the parties involved to carefully examine all aspects of STS transfer. In particular, it illustrates the need for suppliers to ensure that they are playing a role in raising standards by contributing their expertise, as much as their products.

In any oil transfer, equipment not only needs to improve efficiency while operating safely and function in a way that is easy to operate, but must also exhibit resilience in the face of environmental challenges.

In the case of oil transfer floating hoses, they are often at the front line of operations. A hose's endurance will be tested by wave height and frequency, wind direction and shear, not to mention current strength, with these stresses impacting the longevity of equipment.

When it comes to hoses used in STS transfers, operability is a major factor, with past conferences on the subject lamenting lost time, due to crew being unable to install and connect hoses. It is therefore vital that suppliers examine the standards used, and whether alternative equipment may deliver better results.

**Trelleborg's new hose seen being connected during an STS**

Typically, EN 1765 is used to qualify STS hoses. However, the GMPHOM 2009 standard mandates tougher requirements, increasing resilience and service life beyond what is typical. This higher level of assessment guarantees a superior level of certainty and confidence when it comes to STS transfers, in line with best practice regulations, with more accurate performance predictors including service life and resistance.

CAPEX investment in this higher specification will ensure an increase in operations, a decrease in maintenance, and ultimately fewer expensive replacements over a project's life-span.

## Unique hose range

With over 40 years experience in transfer solutions for the shipping industry, Trelleborg Oil and Marine has used this standard when developing a unique solution for STS transfers - the KLELINE STS.

Due to the nature of their use, STS hoses can be subject to accidental kinks or crushes as a result of external forces – which in this case necessitates the use of a dual-carcass design, using technology initially designed for truck tyres. It is applied in the form of two carcasses made up of steel cables.

The first carcass provides resistance to internal pressure, up to five time that of the working rated pressure (WRP), with the second carcass responsible for generating resistance to STS inherent stresses and loads.

Unique to Trelleborg, a so-called 'nippleless' design proves its worth when it comes to the KLELINE STS. A perfect sealing solution is achieved with a continuous inner liner and integrated gasket – unlike the standard nipple hose, there are no stiff metal connectors in between sections, which means that the hose is more flexible, both increasing its operational lifespan, and increasing performance potential.

At the same time, installation is simplified, as this design does not require a gasket for each connection, culminating in a more resilient hose when it comes to managing stresses and strains. A more flexible design also allows hoses to be built from fewer, longer segments, decreasing the number of connections needed and simplifying installation.

What is essential is that suppliers, operators, owners and crew can work together to ensure that the correct standards are being used to maximise safety and performance – making the decisions that ultimately dictate the success or viability of an offshore project. TO

**This article was written by Nicolas Landriere, Product Manager, Trelleborg Oil and Marine.*

# Remote inspections will soon be commonplace

**The boom in technology over the past few years has resulted in the creation of revolutionary solutions.***

This has converted the previously faced 'challenge' of communication between the ship and its operator into a simpler and more efficient process. Once the boundaries and limitations in data transmission were lifted, computer terminology that is familiar and used in daily life also entered the world of shipping.

Alongside these changes, innovative and technologically advanced tools are constantly being developed with the aim of simplifying and standardising the traditional work flows and services currently in place.

For example, the idea of replacing the most commonly used, and up to now, traditional ship data inspection methods requiring the physical presence of the inspector, to the design and creation of efficient and cost-effective alternative ship inspections is being debated.

A rough calculation estimated that about 110,000-120,000 traditional physical inspections take place on board ships every year requiring the presence of an auditor or inspector.

These physical inspections are very time-consuming. A lot of time is wasted in reviewing the same records during every inspection, especially as daily rates of inspectors are high. These inspections also contribute to crew fatigue and may result in unattended ship operations as crew need to be present during these physical inspections or audits, which sometimes result in crew frustration.

Apart from this, it has also been evidenced over the years that despite the existing legislation and the significant number of inspections, which are carried out on a yearly basis, the number of accidents on board ships is still increasing.

Current technology allows for the design of alternative ship inspection solutions, even for the most demanding kind, such as risk assessments on board. Equipment, techniques and tools, such as cameras, dedicated software to compress and analyse images, videos, real-streaming, etc are now readily available and can all be used by the seafarers on board with the aim of submitting to the onshore risk assessor convincing evidence for conducting remote risk assessments.

Since 2013, Prevention at Sea has been providing risk prevention services to shipmanagers and charterers as an LR certified risk assessor and developing software products for the industry to help prevent incidents, such as non-compliance, off hires, delays, and penalties, as well as environmental and safety accidents, by using dynamic risk assessments rather than relying solely on old fashioned traditional risk assessments, which depend upon past records and do not take into account the changes in processes on board.

## Working together

By undertaking risk assessments for quality assurance in line with BIMCO guidelines, the aim over the last two years is to ensure that charterers and ship operators work together and are able to take advantage of the technical knowledge currently on hand, as well as the findings and experience gained from traditional risk assessments carried out on board, provided through our LR certified marine risk assessments for quality assurance purposes.

Due to the scepticism that exists between charterers and shipowners, the idea of 'working together' seems a very foreign notion but also a very promising one. In a few years time a scenario could exist where both parties may communicate with the key aim to ensure that risky conditions, identified through the remote risk assessment by a certified risk assessor, are addressed effectively by keeping both parties in the loop prior to the charter commencing or during the whole charter period.

When analysing the notion of remote risk assessment, there are many challenges to be considered or to be overcome. Certain standards must be predetermined under which an item under remote inspection will be verified.

For example, to assess the condition of a vent head, by sending a picture or a video, which is taken from a distance more than 50 cm away without evidencing its smooth working condition, should not be accepted. Another issue would be that when taking a video or pictures from drills carried out and sending them as evidence, may be subject to rights protection regulations and this case should be further investigated for compliance by our legal advisors.

Following stringent analysis and consideration, we are now in the process of equipping our risk auditors with tablets to simplify and standardise our risk assessment process to ensure consistency and increase efficiency.

By the beginning of next year, our risk assessments (and possibly other inspections/ audits) will be carried out remotely up to a certain point with the aim of reducing the cost and time spent on board. By the end of next year, we expect that we will have reduced the time of our physical presence on board required to carry out a risk assessment by 60% and by the beginning of 2020, remote risk assessments, not based on past records but based on real-time records submitted by the ship, will be a fact. TO

**Prevention at Sea Sea CEO Petros Achtypis**

**This article was written by Petros Achtypis, Prevention at Sea Ltd's CEO.*

# VIKING acquires Norwegian lifeboat manufacturer

**Safety equipment manufacturer and global service provider VIKING Life-Saving Equipment has acquired Norsafe, the Norwegian lifeboat manufacturer.**

Established in 1903, Norsafe produces a full range of free-fall lifeboats and fast rescue boats with davits and have supplied over 28,000 lifeboats to the shipping market. Its lifeboat products are manufactured in accordance with the latest SOLAS requirements and approved by national and certifying authorities for both ships and offshore use.

This move follows the recent acquisition of the company behind the innovative and now widely installed Nadiro lifeboat patented Drop-in-Ball hook, now known as VIKING Nadiro.

"This is a very close operational and cultural fit," commented VIKING CEO Henrik Uhd Christensen. "Like VIKING, Norsafe has been family-owned for generations, which creates strong and lasting relationships with customers – and it places the same emphasis on quality, on the use of advanced materials and on technological innovation as we do."

**Viking's Benny Calsson**

With the Norwegian manufacturer's 24/7 service network providing lifeboat maintenance from over 300 ports worldwide, the Norsafe acquisition adds further fuel to VIKING's focus on answering new demands for solutions by providing the world's most comprehensive safety solutions, encompassing everything from products and services – including long term shipowner agreements - to design, installation and training.

VIKING also expects new efficiencies to be gained not just from integrating the two companies' product lines and widening customer choice, but also from joining complementary supply chain and production capabilities.

"Adding Norsafe's current network to VIKING's extends our already impressive global reach," said Uhd Christensen. "And on the training side, with Norsafe's specialised centres in Norway and Greece offering product and STCW courses, VIKING's training arm will also receive a boost to its ability to help vessel and offshore asset owners manage crew competencies."

Norsafe's CEO, Dag Songedal, added. "Under the VIKING umbrella, we are creating a more robust and more capable business model that will ensure we can continue to advance our ability to protect people at sea with compelling lifeboat solutions. The safety equipment industry is consolidating to offer shipowners and offshore asset owners greater economies and efficiencies of scale."

Closing of the deal was expected on 1st October, 2018.

## Shipowner agreement

Claiming to have a unique track record as the original holistic solution for global maritime safety management, sourcing and servicing, the VIKING Shipowner Agreement covers a fleet's safety compliance needs in a variety of predictable fixed-price structures.

In addition, it can be easily and flexibly adapted to suit shipowners' needs and the operational environment, providing several advantages in the way of cost-efficiencies and significantly reducing administrative hassles.

"Liferafts, personal protective equipment, marine evacuation systems, life saving appliances, marine fire equipment, lifeboats, hooks and davits and training are among the offerings that can be covered by a VIKING Shipowner Agreement, and with 98% of customers renewing their contract upon expiry, there's plenty of testimony to support the fact that we deliver on our promises," said Benny Carlsen, VIKING's senior vice president, global sales.

VIKING has also upgraded its range of personal protective equipment (PPE) - now united under the global patented VIKING YouSafe brand.

"VIKING YouSafe represents a holistic approach to PPE. We offer the most comprehensive range of any supplier and while this position is realised through proactive focus on quality and performance, VIKING PPE is about design, features, comfort and style, too. In fact, it's the sum of excellence across all these factors that drives our unmatched value proposition," said Carlsen. "Personal safety is at the core of our mission and VIKING YouSafe embodies our full commitment to this agenda. After all, PPE is often the 'last line of defence' when it comes to enduring the many perils at sea that have inspired our product names.

Expanding and uniting our portfolio, we've achieved a global one-stop-shop of PPE for any application and budget - and that's good news for shipowners aiming to combine safety compliance, cost-efficiency and simplicity," he added.

Introduced at SMM, the patented VIKING ServiceConnect is a new, purpose-built digital service hub featuring an intuitive customer portal for direct service booking and global online 24/7 access to information about safety equipment servicing, notifications and much more.

VIKING has further expanded the company's marine fire servicing network worldwide, with fixed pricing and boosting expertise and certification levels in all regions for a more consistent service offering.

# Survitec ready for re-hooking deadline rush

**The clock is ticking for a significant number of vessels who have not yet met the re-hooking regulations (IMO MSC.1 / Circ 1392).**

This specifies that all non-compliant Lifeboat Release and Retrieval Systems (LRRS) must be replaced at the first scheduled drydocking after 1st July, 2014 but no later than 1st July, 2019.

"There is no reason to suggest this deadline will be extended," warned Paul Watkins, Survitec's regulatory and compliance manager. "Although, we are aware that some flag states are already being contacted by vessel owners, looking to extend the period. These dispensation requests are due to stated, future plans to scrap the vessel shortly after the deadline, or a delayed scheduled drydocking shortly after the 1st July 2019 deadline."

He said that flag states do have the flexibility to allow this, if they wish, within the confines of the circular. "Controversially, we may see vessels looking to re-flag to registers, which will give them this flexibility," he added.

According to the IMO, there are 160 hooks on the market and only just over half of these are compliant, with a further 30% becoming compliant after modification. This leaves a huge number of vessels under pressure to meet the deadline in the next nine months, according to the figures taken from the IMO's Global Integrated Shipping Information System (GISIS).

Survitec said that it was seeing an increase in demand on a regional basis, as over 60% of drydockings are carried out in Asia and the Middle East, mainly China and Singapore.

Watkins commented; "Currently, it's predominantly the large cargo vessels, which still require their LRRS to be replaced. We enter into discussions carefully with customers to understand their needs and work with them to ensure their compliance is met at the due docking stage."

While annual inspections usually take place on board the vessel, most of the five-year inspections and load testing will be carried out during drydockings. Survitec's global lifeboat offer and re-hooking offer has clearly defined lump sum prices covering world ports, using either local technicians or flying squads to cover the required inspections.

In accordance with the latest re-hooking regulation update with reference to lifeboat release hooks, Survitec said it is able to replace lifeboat hooks to ensure compliance with the new SOLAS approval standard (MSC.320 & 321(89)).

The Safelaunch and RocLoc hook replacement options are robust, easy to maintain and unambiguous operation. As a class approved re-hooking service provider the company said it can fit the hooks onto any lifeboat.

In addition, Survitec officially launched SOLAS 360 at last month's SMM exhibition.

Terje Borkenhagen, Vice President, Marine Sales, commented, "SOLAS 360 represents a real market first and an exciting time for Survitec, its customers and the future of the marine safety industry. We feel this will dramatically benefit vessel operations."

Customers who sign up for SOLAS 360 can benefit from a number of cost savings and efficiency gains when arranging their safety equipment and servicing.

In summary, Survitec can now offer SOLAS 360 customers the following:

- Service completion guarantee.
- Fixed, predictable pricing models.
- Dedicated global support.

SOLAS 360 covers the total safety equipment needs, including but not limited to - fire, rescue and safety service (FRS), liferaft rental, lifeboat inspections and safety products.

# WesCom Signal and Rescue showcases training

**Marine distress signals supplier, recently re-branded WesCom Signal and Rescue, has been supportive of its many distributors and partners worldwide for over 100 years.**

The company has developed a range of bespoke programmes to enhance training facilities. In the last 12 months, this has included providing more than 1,000 dummy products, as well as creating detailed animations and guidance materials for over 120 training establishments.

It has also worked closely with Survitec Viscom to develop a series of training animations for its branded SOLAS and non-SOLAS products. These assist maritime training establishments both with classroom training, offering an alternative information source, and for the increasingly popular use of web-based training courses.

They can also be included within ships' digital training manuals on board and offer a highly effective method of teaching compared to traditional pictorial training manuals, the company claimed.

The animations are being trialled with the UK's RNLI, and can be accessed by all of the 6,000 plus volunteer crews as part of their initial and ongoing training.

Chris Feibusch, Director of Global Marketing and Communications at WesCom Signal and Rescue, commented, "It's vital seafarers know how to physically handle these devices, to understand how they work, improve realism without the need for live-firing and practice using them, should an emergency at sea occur. Our brand is committed to safety training and exceptionally high standards of products, and SMM provides the perfect platform for us to speak to a global audience."

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