Lloyd's List

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The editor's letter

LINTON NIGHTINGALE

A world on pause

As the coronavirus pandemic takes hold, no sector of the industry — from tankers and containers, to maritime events and even the IMO — is immune to its impact

A month ago, writing this very editorial, a global pandemic at the hands of coronavirus was considered likely. Fast-forward to today and this is now very much the case, according to the World Health Organization.

The world as we once knew it is on pause, as the impact of the virus continues to spread alarm and uncertainty in all walks of life.

Cities are in lockdown, schools and offices have shut, sporting fixtures, events and social gatherings have been cancelled, and global economies remain on standby.

Here in the UK, the 'stay at home' message could not be clearer, as the nation — like much of the rest of the world — battles to stem the tide of the contagion.

Like many of you, the Lloyd's List team are confined to the boundaries of our homes. Movements are restricted to essential trips to the supermarket and limited exercise. For those deemed most at risk, self-isolation is a must for the foreseeable future.

This is the new reality for most. It will take some getting used to in the weeks or even months ahead. I — and indeed everyone at Lloyd's List — wish good health to all our readers in these unprecedented times.

The impact on the shipping industry, too, continues to be far-reaching.

Needless panic buying — an all too common trait during the coronavirus outbreak — has also been a feature of the tanker market. Lloyd's List's Michelle Wiese Bockmann remarked how the frenzied mid-March chartering of very large crude carriers and panic fixing, skyrocketing rates 12-fold in a matter of days, was the market's equivalent to the "toilet roll and hand-sanitiser hoarding that has decimated supermarket stocks".

Container shipping, as you will read in this issue, is suffering a 'cashflow crunch'. Chief exporter China may slowly be regaining its feet, but paralysed economic activity in western countries and the resulting volume collapse will challenge the stoutest lines in the coming months. Even Maersk Line, on the day of writing, has been forced to respond, revealing plans to scale back tonnage in light of a demand shortfall.

Other sectors continue to feel equal strain.

Since our last edition, there has also been a major reshuffle — or decimation — of the maritime event calendar. TPM fell and so too, shortly afterwards, Singapore Maritime Week, before the biennial Posidonia event, Greece's — and indeed the Mediterranean's — flagship shipping gala. And this is only a few of the events that organisers have had to postpone.

The International Maritime Organization, too, has closed its head offices in London and cancelled all scheduled meetings, putting its regulatory timeline on hold.

Yet amid the crisis, shipping must be able to keep world trade flowing unimpeded.

News of government restrictions on vessels calling from high-incidence countries may seem an obvious and attractive no-brainer response to inevitable public clamour to 'do something'.

As Lloyd's List reporter David Osler highlighted recently, shipping is the basic industry to the basic industries.

Without what we do, many other business sectors simply will not be able to do what they do. Cargoes don't transmit coronavirus, and shipping will play an integral role if economies are to stay afloat.

Shipping, like us all, has enough on its plate without such draconian measures.

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MICHELLE WIESE BOCKMANN
Reporter

Mixed messages

The oil price slump and the tanker market's hoarding during the coronavirus outbreak has made it increasingly difficult to predict the course of earnings and rates in the months ahead

An oil price war and the COVID-19 pandemic are dramatically restructuring supply and demand fundamentals for the tanker sector as I write, sending mixed signals about the direction of rates and earnings for the remainder of 2020.

Firstly, oil demand destruction has been swift and unprecedented. The impact on crude tankers that transport about half of the 100m bpd of crude supplied to refineries is uncertain.

Although demand is sharply contracting, Saudi Arabia and other oil producers are flooding the market with crude exports. The only certainty is that there will be a global oversupply of crude and refined products on a scale that cannot yet be fully appreciated.

Secondly, the frenzied mid-March chartering of very large crude carriers at the highest rates since the Iraqi tanker wars of the 1980s is over.

The panicked fixing that saw rates rise 12-fold in five days was the tanker market equivalent of toilet roll and hand-sanitiser hoarding that has decimated supermarket stocks.

These VLCC rates gains cascaded down to smaller tanker sectors but the ultimate winners with available, positioned tonnage were few in number.

Nine of the 75 VLCCs reported chartered between March 13-23 by commercial tanker pool Tankers International had daily earnings exceeding $200,000 daily. Another 17 were chartered at rates that equated to earnings above $100,000 daily.

Record-breaking rate

The short-lived spike — caused when Saudi shipping company Bahri chartered 25 VLCCs in five days to ship extra crude — saw the 2012-built *Sea Splendor* earn a record-breaking $370,000 daily for owner Sinochem Corp.

Earnings fell back as quickly as they did in October, when a five-day surge lifted rates to similar headline-grabbing levels on the back of US sanctions on tanker entities of China's Cosco.

Other records have been set for tankers as the pandemic swept across Europe and the US from Asia over March: weekly volumes of tanker forward freight agreements reached the most since the commodities super-cycle 11 years ago; and crude floating storage is now the highest since at least 2009.

Furthermore, scrubber economics are scuppered, currently rendering billions of dollars invested in the sulphur abatement technology redundant.

The difference in price between compliant 0.5% very-low sulphur fuel oil and 3.5% high-sulphur fuel oil was measured at $29 per tonne in Singapore over late March. The spread had exceeded $300 per tonne at the beginning of the year.

Newbuilding delivery delays are now likely at shipyards, sale and purchase deals remain paralysed and scrapping is quickly slowing.

Owners are looking to short-term charters of six to 12 months to provide a floor for both clean and product tanker earnings.

> *"Owners are looking to short-term charters of six to 12 months to provide a floor for both clean and product tanker earnings"*

Grounded planes and travel restrictions make it entirely plausible that many of the VLCCs, suezmax and aframax or long range 2 newbuildings entering the market or without employment will be diverted to floating storage for surplus oil and products.

Demand for jet fuel and diesel and other transport fuels that represent 56% of crude consumption is freefalling.

As prices head to the lowest this century, it is now profitable for traders to buy refined products on the physical market, pay for storage on vessels, and take futures positions for later sale at a profit.

Commercial land-based storage is said to be strained but, like refinery utilisation rates, that may better inform tanker demand, current estimates can only be based on assumptions.

It is nigh impossible in such circumstances never before witnessed by our generation to say for certain how this will end for tankers.

Each day, estimates are torn up and revised as each new twist of the coronavirus outbreak is revealed.

Mercifully, the fullest picture may only emerge once the worst is over.

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- Dr. Anil Sharma
Founder & CEO

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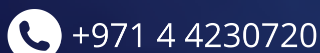

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RICHARD MEADE
Managing editor

Shipping hopes it's a case of V for victory

Even amid the cashflow crunch, there are those preparing for the upside that will come. We have to believe that Covid-19 hasn't structurally changed shipping markets

> *Container bosses may be struggling to see the upside right now amid the cashflow crunch that will likely take some casualties, but when the global supply chain eventually unplugs the current bottlenecks it is likely we will see something akin to a ketchup bottle splurge*

'Cautious optimism' used to be the standard executive non-committal phrase for forecasting the unforecastable in earnings calls.

Any chief executive currently venturing beyond 'limited visibility' or 'uncertain market conditions' in their apparently endless supply of vague synonyms is either a liar or delusional.

The more accurate response would likely involve an emoji screaming in terror.

When even the double-hulled optimism of container line bosses starts to buckle, you know you're in trouble.

The shape of things to come is the multi-trillion dollar question right now.

That we have lost the entirety of second-quarter economic output is pretty much a given as the economic tsunami of Covid-19 crashes through the global markets upending every aspect of the shipping industry in its wake.

But what next? The optimist hopes that the rest of the world follows the Chinese infection curve — there or thereabouts — and we are back up and running sometime in the third quarter.

Assuming the global government stimulus jumpstarts are delivered forcefully enough and infrastructure spending packages pay out with tangible results, the hope is we get a V-shaped recovery.

However horrific the disruption looks right now at a consumer level, we have to believe that the coronavirus pandemic is not going to structurally change the shipping markets.

Container bosses may be struggling to see the upside right now amid the cashflow crunch that will likely take some casualties, but when the global supply chain eventually unplugs the current bottlenecks, it is likely we will see something akin to a ketchup bottle splurge.

And we have to remember that bulk carrier markets are still driven by China, which still has plenty of domestic demand for iron ore, coal, foodstuffs, metals, fertilisers and pretty much everything that makes the global trade wheels go round.

Bouncing back

However, will this be a V-shaped recovery, with everything bouncing back to normal once the underlying infection has been dealt with? Or are we facing more of a U-shaped return as things take longer than the optimists are hoping for? God forbid it's a case of the dreaded L-shaped no recovery.

Right now, nothing is clear, but that won't stop many taking an educated punt on what happens next.

As Shipping Strategy's Mark Williams put it to us in a recent edition of the Lloyd's List Podcast, the old saw about buying when there is blood on the streets comes to mind.

Opportunities for bold moves will come for those with cash and conviction: No doubt the hard part will be to secure decent tonnage at sensible prices while we ride out the bottom of something likely to look somewhere between a V and a mis-shapen U.

In shipping, as in comedy, timing is everything.

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Top tips for entering the awards:

1. Check your entry meets the criteria

You'd be surprised how many entries get rejected due to a simple mistake such as being in the wrong category, year or region.

The judges will check your entry against the criteria. You should too.

2. Stick to the word limit

No-one wants to wade through an overblown entry full of frothy platitudes on why your entry is the absolute best.

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3. Provide online supplemental information

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Shipping in the crosshairs

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Controls on carbon emissions are likely to extend beyond European shipping companies, EU-flagged vessels and intra-EU voyages.

Shipping in the crosshairs of the EU emission strategy

An EU measure on shipping emissions is coming and its arrival will fundamentally change the future of maritime regulation, **Anastassios Adamopoulos** reports

During a panel discussion in London in early November 2019 on decarbonisation of the shipping industry, two officials representing two different countries were asked if governments were at all considering what the 2023 revision of the International Maritime Organization's initial greenhouse gas emission strategy would look like.

The two officials appeared almost bemused by the question. Their message was clear: the focus was on delivering short-term GHG reduction measures, as per the agreed timeline.

A few weeks later, European Commission president Ursula von der Leyen officialised her plan to regulate international shipping emissions and include it in the European Union's cap and trade scheme, the Emissions Trading System, a move that will alter the maritime decarbonisation debate as we know it.

Today it appears that what happens in 2023 on the global level will be largely affected by what happens before then on the European level.

And what will most likely happen on the European level until then are controls on carbon emissions that extend beyond European shipping companies, EU-flagged vessels and intra-EU voyages.

Despite not being the world's growth engine, the significance of the EU in global trade — and thus vessels voyaging around the world — cannot be understated.

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In 2018, the EU accounted for 15.2%, or €1.96trn ($2.12trn) and 15.6%, or €1.98trn of global imports and exports respectively. This includes the UK, which could be subject to future EU emissions rules, depending on the kind of post-Brexit deal the country makes — or does not — with the bloc over the next few months.

The EU also had 14 container ports among the world's 100 biggest in 2018 accounting for over 65m teu. Another three ports were in the UK.

Almost 12,000 vessels of 5,000 gt and above used EU ports in 2018, emitting 140.9m tonnes of CO_2 during their port stays and EU-related voyages, according to latest data from the EU's Monitoring, Reporting and Verification System.

Containerships accounted for the most emissions in EU ports in 2018, despite being the third-largest segment to use EU ports. Bulkers and oil tankers represented just under half of the vessels that called at EU ports.

The MRV database is no doubt a useful tool and will be the foundation for future EU regulations. Yet it also continues to be plagued by problems.

Despite companies being obliged to report their data by April 30, 2019, the list continues to be updated daily.

Meanwhile, certain data for various parts is missing. In other cases, the variation in the data among similar vessels seems improbable or is outright impossible; at least 20 vessels spent more than a year at sea during 2018, according to the MRV database.

If the EU wants to regulate shipping emissions and be convincing that it can do so effectively, it will have to rectify these shortcomings of the MRV database.

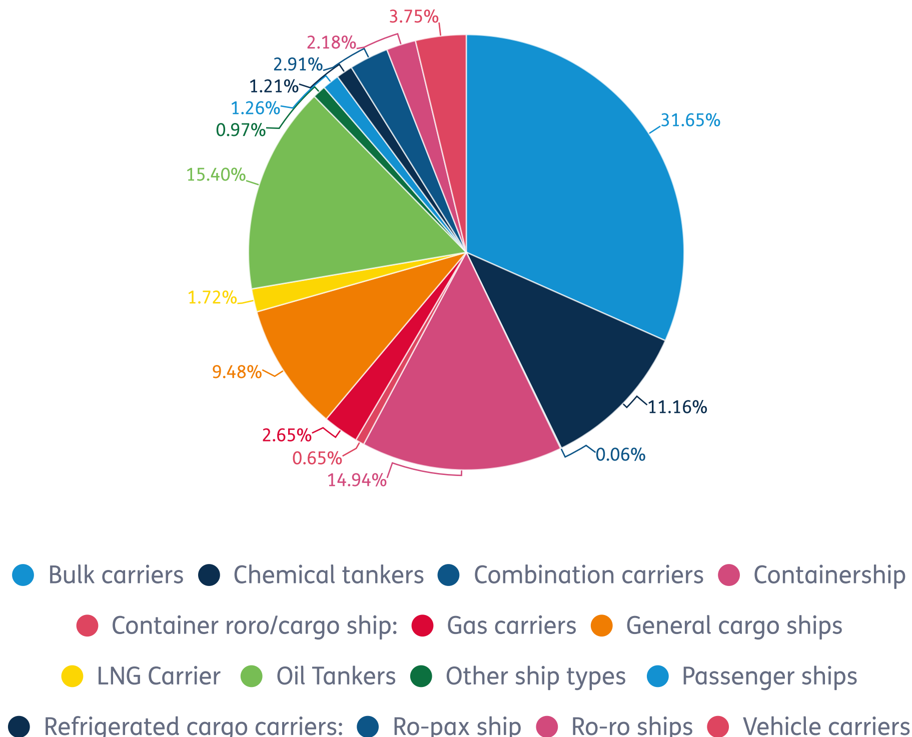
Such changes are indeed in motion. Greens MEP Jutta Paulus has taken the mantle on maritime emissions for the European Parliament, producing a thorough proposal for all ships under the MRV to reduce their carbon intensity by at least 40% by 2030 and forcing ships to contribute to a European decarbonisation fund.

The Directorate-General for Climate Action, responsible for the ETS, will lead the work on the Commission's part and the pressure will be on it to implement Ms von der Leyen's vision.

However, the directorate general for transport and mobility will also play an important role and this may be significant. Staffed by people who have long been familiar with the maritime sector, DG Move's contributions could prove vital.

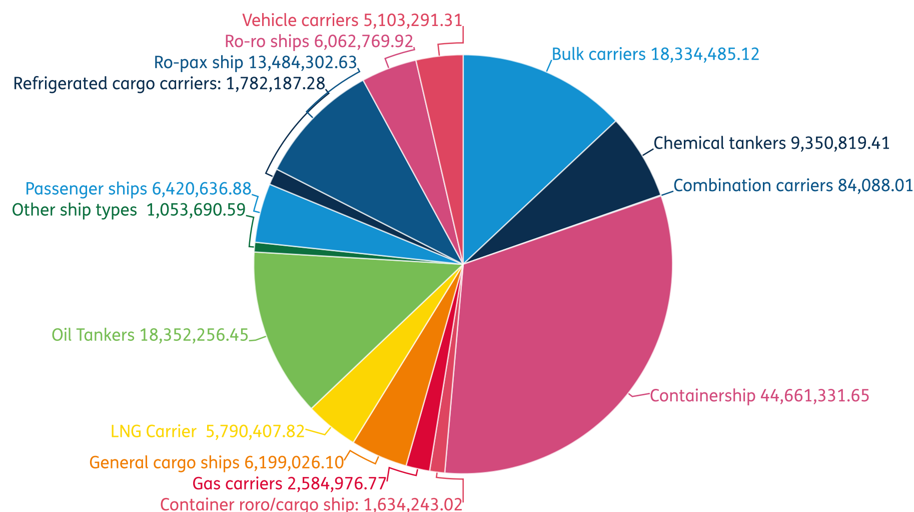
Likes Ms Paulus' proposal, suggested regulations will go through reviews and

Almost 12,000 vessels used EU ports in 2019 under the MRV



Source: EMSA

Total CO_2 emissions for 2018 (tonnes)



Source: EMSA

> *If the EU wants to regulate shipping emissions and be convincing that it can do that effectively, it will have to rectify these shortcomings of the MRV database.*

stakeholders will have a chance to chime in. Where the shipping industry can have an impact is in the final layout of the rules.

One of the most important points that will need to be addressed clearly is how any new regulation incorporates the responsibilities of charterers play.

Industry often privately complains that EU rulemakers often do not seem to comprehend the limited control shipowners have on operational efficiencies in tramp sectors.

What the world should also be paying close attention to as the EU moves forward with its plans is how other jurisdictions in the world respond.

Will China be encouraged to take its own measures and would the US, under a different administration, go its own way too? Even if EU unilateral action does have the unintended knock-on effect of a more fragmented regulatory landscape, the impact on the global level will be hard to contain.

The IMO focus on short-term measures means EU member states have a degree of autonomy in supporting the options they want; Greece has partnered with Norway and Japan on a proposal, while Denmark, France and Germany have joined forces on another.

These alliances today largely reflect national maritime considerations, rather than political coordination on an EU level.

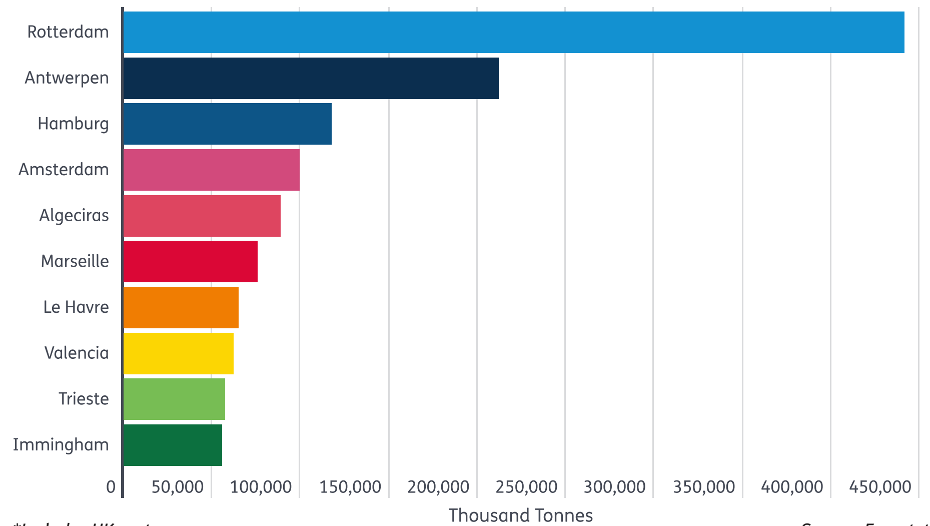
Yet when the time comes to discuss longer-term measures and the 2023 revision of the IMO strategy, high-level politics will come into play and the EU member states will take a bloc-wide approach, as they have done in the past.

However, this time the approach will have real rules and regulations to stand on and will inescapably have to be shaped by them.

A more environmentally ambitious Europe will push the IMO to be the same and, with a fixed template back home, the willingness to compromise may be limited.

How other governments that have been less willing to back strict emissions measures or are worried about the costs on their economy will react is also difficult to assess three years out.

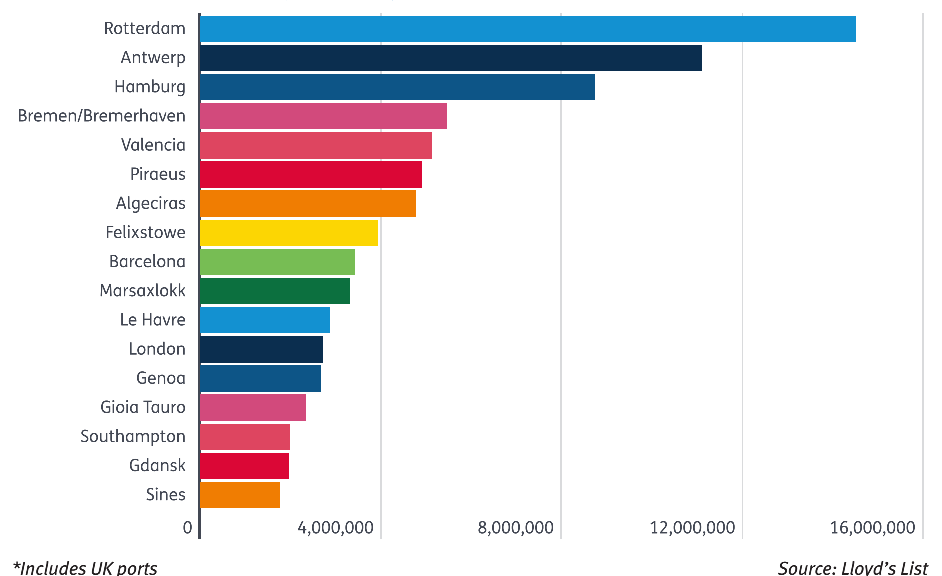
Top 10 EU ports* by cargo handled in 2018



*Includes UK ports

Source: Eurostat

Biggest EU container ports* by TEU in 2018



*Includes UK ports

Source: Lloyd's List

The coronavirus question

Global and regional efforts to decarbonise shipping — and any other industry, for that matter — will be defined by a factor far beyond the control of any single policymaker or company.

The outbreak of coronavirus and its impact on Europe has thrown the whole decarbonisation timeline into question.

The IMO has postponed its meetings, including those on environmental regulations, until further notice — something that also has implications for when and how new GHG measures come in.

In the EU, it is unclear how scheduled Parliament debates that will be necessary to progress the conversation onto the next step of negotiations with the Council will change.

Decarbonisation negotiations are of secondary importance in the face of a continually growing pandemic that has already claimed more than 16,000 lives this year and is putting livelihoods in immediate financial peril.

EU shipowners and seafarers have already asked the bloc to help protect the sector against the virus.

However, decarbonisation will require money — and a damaged economy will make that endeavour even more costly.

Reducing GHG emissions by at least 50% by 2050 would require $1trn to $1.4trn in investments from 2030 onwards.

That number becomes significantly more daunting under a recession — which has quickly become the expectation in many regions — where research and development spending may be tabled as a luxury rather than a necessity.

It will thus require policy and regulation to make corporate decarbonisation more than just a good-faith project that companies can voluntary undertake.

It remains to be seen what kind of financial assistance the EU will provide to enable the green transition and where the priorities will be. Its commitment to a green economy means it has more responsibility perhaps than any other political actor to help the maritime sector out.

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Singapore's developments in the maritime space have stood it in good stead to weather the proverbial storm.

Planning for the rainy day that chucked down buckets

Singapore's forward planning really brings the city to the fore in times of turmoil. Plans made far in advance of any of the current issues roiling the global economy have put it in good stead for the future, **Vincent Wee** reports

In an exceptional year, where a dramatic turn of events has caused massive upheavals in the global economic environment, Singapore's developments in the maritime space have stood it in good stead to weather the proverbial storm.

The moves, made to prepare the maritime centre for the future, and set out far ahead of any indication of the dark clouds now brooding over the industry, highlight the way Singapore operates and drives its success.

Led by the Maritime and Port Authority of Singapore, the industry has invested heavily in digital innovation and infrastructure, as well as in strengthening regulatory and trading conditions.

For example, the Eastern Pacific Shipping MaritimeTech Accelerator powered by Techstars aims to cultivate and mentor the next generation of maritime technology entrepreneurs by helping to cultivate start-ups that can leapfrog the maritime industry forward into the digital age.

Among the digital disruptors being encouraged to bring change to the industry are companies trying to increase fuel efficiency, as well as others that will enable maritime enterprises to automate business workflows by leveraging on cloud-based technologies and the internet of things.

This, however, is part of a broader initiative by the MPA and the Singapore government to develop digitalisation.

The MPA has its own schemes where it provides seed funding to technology start-ups under its Maritime Innovation and Technology Fund.

At an even more macro level, the Sea Transport Industry Digital Plan, a joint initiative with Infocomm Media Development Authority, enterprise development agency Enterprise Singapore and skills training agency SkillsFuture Singapore, aims to help small and medium-sized enterprises in the industry to adopt new technologies.

In the event, the move towards greater digitalisation is proving to be prescient.

While the flagship Singapore Maritime Week itself has been partially delayed to later in the year and partially postponed to next year, events focusing on Singapore and what it can offer are continuing — ironically in the digital realm.

This will not only leverage on the new technologies to overcome a serious physical and logistical issue as the coronavirus outbreak puts a major brake on all travel, but also use the opportunity to discuss how the very same technologies can improve the wider industry.

In addition to the digital sphere, Singapore also stands out in the regulatory space, where it has built a strong reputation in various segments of the maritime business.

> *In addition to the digital sphere, Singapore also stands out in the regulatory space where it has built a strong reputation in various segments of the maritime business*

In the bunker space, the steps Singapore has taken to develop its marine fuel sector are a shining example of how to better regulate bunkering operations at ports worldwide and how it can benefit the industry.

Building on the lead it took back in the 1990s, rolling out a bunker licensing scheme to better regulate a notoriously opaque industry, Singapore has since gone on to overhaul the industry's standards by introducing metered pipes to replace the arbitrary sounding method.

In the process, tightening regulatory controls have enhanced Singapore's standing as it forged ahead to become the world's top bunkering centre.

Insightful approach

However, perhaps the example of the Singapore Exchange's acquisition of and subsequent work to help build up the Baltic Exchange in Asia best illustrates the collaborative and insightful approach of the city to growing its maritime industry.

Taking the best of both worlds to combine the venerable institution's esteemed reputation and the access to big new markets in Asia that the city offers, new products have been created to meet clients' needs.

The development of Singapore as an international maritime centre is, like many other things in the city, a carefully planned process building on its strengths as well as the opportunities at its disposal.

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Singapore and shipping: facts and figures

4,500+ ships flying the flag of the Singapore Registry of Ships, which is among the world's top 10 largest ship registries

130,000+ ship calls in Singapore annually

The port of Singapore is connected to **600** ports in over **120** countries globally

37.2m teu handled in 2019, as the port of Singapore enjoyed its best year in containerised trade

30+ marine insurance players offering direct and reinsurance cover to all sectors of the maritime industry, including Lloyd's syndicates and the International Group P&I Clubs

47.5m metric tonnes of bunkers lifted in 2019, as the world's top bunkering hub

5,000+ maritime establishments contributing around **7%** to Singapore's gross domestic product, and employing more than **170,000** personnel

Source: Maritime and Port Authority of Singapore

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Singapore's moves to tighten regulatory control over its bunkering operation has helped, rather than hurt its international standing.

Singapore bunker industry thrives on regulatory controls

Efforts directed at maintaining a now decades-long bunkering licence scheme and rolling out a mass-flow meter bunkering regime have paid off, with Singapore smashing its own record in 2017 and luring volumes away from smaller ports, **Hwee Hwee Tan** reports

The unconventional approach Singapore has taken to develop its marine fuel sector is a textbook example now widely cited to back calls for regulating bunkering operations at ports worldwide.

Singapore took the lead way back in the 1990s to license its bunker players.

Three years ago, it rolled out the mass-flow meter (MFM) mandate, making the use of metered pipes to measure bunkers transferred from seller to buyer compulsory.

This helps minimise human intervention otherwise required in the conventional sounding method still used at most other ports in the world.

Contrary to popular expectations from the get-go, Singapore's moves to tighten regulatory control over its bunkering operation has helped, rather than hurt its international standing in a notoriously opaque industry.

It went on to smash its own record by posting over 50m tonnes of marine fuel sales during the first full year that its MFM mandate entered into force.

Many have since called out Singapore's journey as evident support to push for regulatory oversight in the bunkering industry.

At an annual dinner in February, International Bunker Industry Association's incoming chairman, Henrik Zederkof, spelt out this goal — uniting the 10 most important bunker areas under a licensing scheme and adopting the use of mass-flow meters.

In northern Europe, ports in the Amsterdam-Rotterdam-Antwerp region have already made their intent clear to launch a licensing scheme, making MFM bunkering mandatory as soon as possible.

IBIA, which has been roped in for the initiative driven by Rotterdam, held that these moves would benefit the ARA region just as they have improved confidence in lifting bunkers in Singapore.

The months following Singapore's MFM have seen premium market pricing on marine fuel oil products traded there over deals done in Rotterdam and elsewhere.

Significant lead

Singapore has held firmly onto its significant lead, even through the most disruptive transition imposed on the broader maritime sector.

With the International Maritime Organization's 0.5% sulphur limit on marine fuels coming into force on January 1, 2020, international shipping has been forced to switch to new, varied and more costly marine fuels.

Singapore posted 4.5m tonnes of bunker sales during the first month of this mandatory transition, up 7% over January 2019.

Trading sources noted that shipowners have shunned other ports in Asia over concerns of fuel availability, electing to refuel their ships in Singapore, where fuel options are said to be more readily available.

Shipowners have also drawn comfort from the presence of regulatory control over not just the quantity, but also the quality of bunkers delivered in Singapore.

This seems to be the vantage point for four influential industry bodies — namely the International Chamber of Shipping, BIMCO, Intertanko and the World Shipping Council — who took their tabled motion to the IMO last December.

The tabled motion called on all IMO member states to follow Singapore's lead in implementing and enforcing the licensing of bunker suppliers operating under their jurisdictions.

It argued that in so doing, member states can then help mitigate the safety risks posed by poor quality fuel oil entering the bunkering stream after the implementation of the IMO 2020 rules.

The motion came just weeks after Singapore's overarching maritime regulator further tightened its bunkering licensing scheme.

Ports in the Amsterdam-Rotterdam-Antwerp region have already made their intent clear to launch a licensing scheme, making MFM bunkering mandatory.

Singapore mulls JIT vessel operations to ease anchorage use

Singapore's maritime leaders face the constant challenge of having to think outside the box to ensure the sector stays relevant to both the local and international business community.

To begin with, competition for space — both in terms of land and sea — is stiff in a country where land is restricted.

Rising sea levels have certainly not helped this situation. The port nation now grapples with the likelihood of reclaiming more land along its eastern coastline to combat the threat posed by climate change.

Yet Singapore's eastern anchorage is one area where many a bunkering operation takes place.

Marine fuel players active in Singapore have sought to work around this constraint by offering concurrent bunkering services, which Lloyd's List understands are readily available for containerships. These are also being considered for tankers and other vessels calling Singapore.

Intertanko is one industry body roped in by the Maritime and Port Authority of Singapore in the tanker space to facilitate a so-called 'just-in-time' vessel traffic management initiative.

Concurrent bunkering is one operational aspect mooted for JIT tanker operations in Singapore.

The MPA said it is also working with the larger shipping industry and operators of oil and chemical terminals in Singapore on measures aimed at optimising the anchorage use while upkeeping navigational safety.

Intertanko's environment manager and assistant regional manager Elfian Harun viewed the MPA's JIT initiative as a window of opportunity to address some of the hurdles confronting its Virtual Arrival concept.

Jointly launched by Intertanko and the Oil Companies' International Marine Forum in 2011, the Virtual Arrival concept incorporates a system connecting a ship with its port of arrival.

In doing so, the ship would be alerted to any need to slow down ahead of its arrival. This can help ease port congestion, enhance safety, reduce ship fuel consumption and hence emissions.

This concept requires buy-ins from terminal operators and charterers, which may be more achievable through working with a regulatory body such as the MPA.

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Singapore lays claim to completing the first commercial ship-to-ship bunker transfer at its sole LNG terminal during 2019.

The Maritime and Port Authority of Singapore outlined, among others, one new prerequisite: suppliers are required to operate bunker tankers as well to qualify for new licences.

Industry veteran Simon Neo explained what this prerequisite suggests is that only suppliers able to demonstrate control over the supply chain can qualify for bunkering licences with the MPA going forward.

These would come from holding positions — on both cargo and storage fronts — as well as owning and operating bunker tankers.

> *Notwithstanding the traction LNG bunkering has gained in Singapore and elsewhere, investments in LNG-fuelled vessels have yet to take off significantly*

Quality and quantity

Henceforth, bunker suppliers licensed with the MPA after the new rules were spelt out would be fully accountable for the quality and quantity of bunkers they supply in Singapore.

To be clear, however, Singapore's updated bunkering licensing rules have already gone beyond addressing the more immediate operational issues linked to bunkering of conventional fuels.

The new rules also call on applicants to pledge investment towards owning and operating dual-fuelled bunker tankers.

These go towards promoting the use of cleaner and greener fuels to power Singapore's bunkering fleet, aligning with the IMO 2020 regulation, the MPA said when prompted on the regulatory update.

One MPA-licensed bunker supplier saw this coming. In September 2019, Sinanju Tankers announced the launch of its first liquefied natural gas dual-fuel bunker tanker.

Singapore's proactive move to embrace LNG as a marine fuel would have also backed Sinanju's calculated bet with its newbuild investment.

The MPA has issued the first pair of LNG bunkering licences and dished out co-funding or incentives to help defray upfront construction costs on bunker tankers and LNG-fuelled vessels.

Singapore now lays claim to completing the first commercial ship-to-ship bunker transfer, which took place at its sole LNG terminal during the first half of 2019.

Notwithstanding the traction LNG bunkering has gained in Singapore and elsewhere, investments in LNG-fuelled vessels have yet to take off significantly. Only a few hundred of such vessels are on order and in operation.

Industry sources consider such a lukewarm response from shipowners as telling of the limited influence any regulator may wield over the uptake of alternative fuels.

Early movers in containers

That said, Lloyd's List understands early-movers on this future fuel option in the container shipping space — CMA CGM, Eastern Pacific Shipping and Hapag-Lloyd — now consider Singapore favourably as the bunkering port of call for their LNG-fuelled vessels.

The MPA nonetheless expanded the remit of its Green Ship Programme last year, which seeks to reduce the environmental footprint of the shipping industry. The programme provides a 50% reduction on an initial registration fee and 20% on the annual tonnage tax for qualifying ships registered under the Singapore flag.

Maritime and Port Authority of Singapore

> *The MPA's Green Ship Programme provides 50% reduction on initial registration fee and 20% on the annual tonnage tax to qualifying ships registered under the Singapore flag*

These benefits previously applied to LNG-fuelled tonnage and are now extended to those ships equipped or to be equipped to run on alternative fuels with a conversion factor equal to or lower than LNG.

Methanol and ethanol are two fuel options meeting the now updated criterion of the MPA's GSP.

The revised GSP no longer covers ships installed with exhaust-gas scrubbers approved by the MPA.

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Nation works on tightening the screws to maintain bunker lead

Heeding feedback on the ground, the leading bunkering port has stepped up on enforcing MFM mandates on its licensed players. It has revoked several licences but is still ahead of the pack despite running on a smaller pool of licensed suppliers, **Hwee Hwee Tan** reports

There is no room for complacency at all if Singapore wants to retain its crown as the world's busiest bunkering hub.

The island nation has already taken the lead in mass-flow metre (MFM) bunkering but, as International Bunker Industry Association director Unni Einemo pointed out, what is more important is the follow through.

"MFM bunkering has certainly helped by providing accurate and transparent measurement of delivered bunker volumes, reducing the risk of human error and improving efficiency during the delivery process," he said.

"But there needs to be checks in place to ensure they remain tamper-proof … all proven cases of abuse should be dealt with as swiftly as possible in order to retain confidence in their use."

The Maritime and Port Authority of Singapore, thus far, bears the onus of demonstrating the resolve and ability to enforce the MFM mandate in a timely fashion.

That has proved to be a tall order, even for arguably the most dedicated regulator; errant bunker players have already managed to detect the first cracks in Singapore's MFM bunkering system, just months into its implementation.

So the battle against fraud and malpractices that have long tainted the larger bunkering industry is still ongoing.

Einemo: there needs to be checks in place to ensure [MFM bunkering] remains tamper-proof.

> *Errant bunker players have already managed to detect the first cracks in Singapore's MFM bunkering system, just months into its implementation*

Yet there is no denying the merit of broadening the use of MFM bunkering.

In July last year, the MPA extended the MFM mandate to the delivering of distillates bunker.

Distillate bunkers was one fuel option shipowners had at their disposal to comply with the International Maritime Organization's 2020 sulphur rules, which entered into force six months later, on January 1, 2020.

The MPA is expected to finetune its MFM bunkering regime to cater for compliant fuel oil products now on offer in the market.

It confirmed that work is in progress on a verification meter to validate the accuracy of mass-flow meters installed on board bunker tankers.

Bunkering industry veteran Simon Neo said this initiative, dubbed the 'Master Meter', is expected to ensure installed MFMs are calibrated to suit the purpose of assessing the quantities of fuel oil products with wide-ranging viscosities and other specifications.

Others seek clarity on the regulatory regime for the future bunkering mix, which is still evolving.

Timothy Cosulich, chief executive of Italian family-run company Fratelli Cosulich, said one question begging an answer is how and whether Singapore may replicate the success it has with fuel oil to gas and other future fuels.

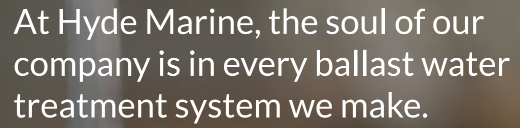
Fratelli Cosulich has embarked in earnest on its fleet expansion in Singapore after the port nation enforced its MFM mandate.

Mr Cosulich viewed the MFM mandate and other regulatory moves made by the MPA as helping to "weed out opportunities and encourage bona fide players to ramp up investments in Singapore".

Following the recent spate of revocations, Singapore's pool of licensed bunker players has shrunk to 44, about half the peak levels seen two to three decades ago.

That has not stopped Singapore from drawing bunker volumes from other ports.

More recently, trading giants Vitol, Mercuria and Trafigura have also reportedly sought to break into Singapore's bunkering scene.



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The Baltic Exchange has built on its strong heritage and new opportunities from the Singapore Exchange's acquisition to expand into Asia.

Best of both worlds as Baltic Exchange expands in Asia

The venerable institution is leveraging on the combination of its strong heritage and its new dynamic Asian parentage to ride the growing markets to greater heights, **Vincent Wee** reports

The Baltic Exchange has built on its strong heritage and the new opportunities from the Singapore Exchange's acquisition to expand into the fast-developing markets in Asia.

However, chief executive Mark Jackson said while there are a number of exciting new services under development, the Baltic was not quite ready to announce them.

"They will, however, build on the Baltic Exchange's trusted position in the market and our ability to provide oversight of a range of products and services," he revealed.

Among the Baltic Exchange's recently launched services is escrow, which is operated from Singapore and has continued to gain traction, with new transactions completed during the fourth quarter of 2019 and the first quarter of 2020.

The advantages of offering this service in Singapore were highlighted by the head of Baltic Exchange, Asia, Lu Su Ling.

She pointed out that it benefits from the large number of shipping players, including shipping lawyers and financiers in the city-state, as well as its sound legal and banking system.

Ms Lu also noted that the Baltic LNG indices have attracted a lot of interest from liquefied natural gas players and from exchanges keen to offer trading and clearing of forward freight agreements based on these indices.

"We launched the indices in response to feedback from the market, which indicated that there was demand for visibility over the prices of LNG freight as an increasing proportion of the LNG market is shifting from long-term to spot trades," she said.

Ms Lu also highlighted the FBX container indices, which have recently gone live, as another way in which the Baltic Exchange has been able to make an impact in an area where there has historically been limited transparency of prices, despite the huge size of the market.

Additional value

The LNG and the container markets are good examples of the ways in which Singapore has been able to bring additional value to the Baltic Exchange.

As the world's largest transhipment hub, there are many potential users of the FBX index in Singapore, while having many LNG stakeholders is useful for efforts to promote the BLNG indices.

SGX's investment in the Baltic Exchange has allowed it to strengthen the team, adding regulatory support, marketing and freight market reporting resources, said Mr Jackson.

The Singapore presence has opened new doors for the exchange, he added.

"Thanks to our Singapore team and close co-operation with the wider SGX network, we have been able to gain new members across the Asia region, from Indonesia to Japan," Mr Jackson said.

In addition, the Baltic has been able to build on its traditional strengths.

"More than ever before, shipowners, brokers and charterers across Asia are realising the benefits of working under the Baltic's code of conduct and using our data," he said.

The role of Singapore and its maritime cluster has also been highlighted as an advantage of the linkage between the Baltic Exchange and SGX.

"Singapore commands a strategic position as a leading maritime hub in the regional and global arena," said Ms Lu.

She noted it is the region's premier commodity trading hub, with many international and regional companies having a significant presence in the city and their key decision-makers either based there or visiting frequently.

"The Baltic has benefited from increased visibility in Asia due to its SGX parentage and enlarged presence in Singapore," Ms Lu said, adding that this is reflected in the growth of new members from Asia.

She pointed out that 30% of new members each year since the SGX's acquisition of the Baltic Exchange in 2016 have been Asian — a figure which is higher than the overall current composition of Asian members, which make up 20% at the moment.

> *Thanks to our Singapore team and close co-operation with the wider SGX network, we have been able to gain new members across the Asia region, from Indonesia to Japan*
>
> **Mark Jackson**
> Chief executive
> Baltic Exchange

Of note, this includes members from new markets such as Indonesia and Thailand. The Baltic Exchange has had more prominent Asian shipping, commodity and financial institutions coming come on board as well, Ms Lu said.

This is echoed by Mr Jackson, who said: "We have seen Singapore grow as a chartering centre. That's why we now report more Asian routes than ever before and provide data assessments directly from our Singapore office."

He added that in response to increased activity and demand, the exchange has also recently appointed a senior freight market reporter based out of Singapore.

Other benefits include a faster pace of innovation at the venerable institution made possible by the resources enabled by the SGX investment, as well as leveraging on the latter's regulatory expertise.

Mr Jackson sees technology and digitisation as areas that offer both exciting new opportunities for the Baltic Exchange and its members, as well as challenges.

"Thanks to the ever-increasing computer power available at ever lower costs, we are able to work with larger datasets than before," he said.

Geo-spatial partnership

The shipping veteran said the Baltic's partnership with the geo-spatial big data firm Geospock is a good example of how it is able to leverage this power.

"By combining our status as a trusted, neutral organisation and Geospock's powerful data analytics, we are looking to become a repository for vessel emission data," Mr Jackson said.

"The marriage with SGX has also allowed us to leverage on its significant regulatory expertise. This is adding value to our benchmark administration process with enhanced quality control measures," said Ms Lu.

Going forward, Mr Jackson expects to see even closer engagement with investors while maintaining its focus on derivatives.

"There has long been a strong emphasis on derivatives: after all, the Baltic's assessments underpin the highly liquid multi-million dollar dry bulk and tanker FFA markets," he said.

Mr Jackson pointed to the recent launch of the Baltic Exchange OPEX Index ship operating expenses index as adding to its portfolio of products, now giving the exchange a suite of tools which allows shipping investors to calculate residual values.

With Asia continuing to be the engine for global economic growth into the foreseeable future, the importance of the region to shipping will only increase, said Ms Lu.

"As shipping and commodity players in Asia develop and internationalise further, I expect that they will increasingly rely on market data such as the Baltic's indices to support their freight pricing and hedging decisions," she said.

"I am very optimistic about the Baltic's growth prospects in the region," she concluded, adding that China and India offer great opportunities, in addition to the Asean market, as well.

Singapore leads by example as tech start-ups make their mark

In the shipping industry, — as in so many others — it is a matter of survival of the fittest. Technology can play a big part in establishing who will be the winners, **Inderpreet Walia** reports

As Charles Darwin was quoted as saying: "It is not the strongest of the species that survives, nor the most intelligent, but the one most adaptable to change."

For shipping, technology has evolved to the point where change is nigh impossible to avoid.

Digital disruption has already shaken the status quo of this notoriously conservative industry, with shipping's plodding giants now racing toward greater technology adoption, phasing out legacy operational processes from vessel operations to ship design to shipbroking, as the sector seeks greater efficiency and output.

Singapore-based operator Eastern Pacific Shipping, led by Idan Ofer, has been at the forefront of these digital advancements, joining hands with Techstars in 2019 to launch the world's first global maritimetech start-up accelerator, the EPS Maritimetech Accelerator powered by Techstars.

The first batch of digital disruptors, which gathered in EPS's Singapore headquarters in Singapore in November last year, held an online demonstration day for the nine companies that took part in its effort to back technology development in shipping.

The start-ups attracted a lot of attention. Some obtained significant contracts, as well as offers for funding.

Eastern Pacific Shipping head of open innovation Gil Ofer said: "We knew that by partnering with Techstars, this would be a mentor-driven programme whereby our staff would be in constant, close communication with the start-ups."

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The industry's giants are now racing toward greater technology adoption.

> *Under the programme, the start-ups were granted access to develop products in an onboard and onshore environment to innovate and solve problems such as fuel consumption, operational efficiency, fleet performance and improving life at sea for seafarers*

"What we did not expect was the amount of openness and collaboration from the wider maritime community. More than 160 external mentors came in to meet and establish relationships with the teams — who were all aligned in the desire to bring the shipping industry to technological relevance."

Under the programme, the start-ups were granted access to develop products in an onboard and onshore environment to innovate and solve problems such as fuel consumption, operational efficiency, fleet performance and improving life at sea for seafarers.

The batch of nine start-ups included C-Log, which recently moved its global headquarters to Singapore; US-based Volteo, which has spun off Volteo Maritime as a Singaporean company; and Nautilus Labs, which plans to establish a permanent office in Singapore while keeping its headquarters in New York City.

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Other start-ups include Cyberowl, Enermo, F-Drones, QuantShip, Saara and SeaMiles.

"The key to innovation is collaboration," Mr Ofer stressed.

"Gone are the days of working in silos and behind closed doors."

"If we want to move forward as an industry, we need to be willing to discuss pain points and challenges openly. By being transparent, we can identify problems and develop solutions instead of wasting time on solutions for problems that do not exist."

Ripe for change

Although not everyone is convinced that digitalisation is going to transform the shipping world beyond all recognition, it seems clear that this time around, shipping companies will have to adapt to stay in business.

New York based Nautilus Labs, a software company focused on increasing shipping fuel efficiency and one of the nine start-ups under the EPS Maritime Tech Accelerator, noted that the industry has become fatigued with flash-in-the-pan "disruption".

"What we are finding is that our clients do not want disruption; they want co-operation, partnership and evolution," chief executive Matt Heider said.

Nautilus Labs has a unique platform that provides decision support based on vessel-specific machine-learning models and customises recommendations for each ship.

"More and more, owners and operators are trusting us with their assets because we have not only proven that we can generate actualised savings but because we develop and release feature updates to our platform based on their continuous feedback," said Mr Heider.

In April 2019, Nautilus Labs secured $11m in Series A funding from M12, Microsoft's venture fund and Root Ventures. Together with other investors including Quiet Capital, Trail Mix Ventures and Amplifier, Nautilus Labs has raised a total of $14.5m.

Quantship chief Kaushik Reddy said: "It is challenging for sure, but we observed that if you are solving the right problem, the resistance is not that bad."

Quantship has developed a price-prediction technology for freight and charter rates for bulk shipping companies. It helps in fixing the freight and chartering vessels at the right time to maximise revenue by leveraging market volatility and inefficiencies.

Idan Ofer's Eastern Pacific Shipping has been at the forefront of the digital advancements.

> *What we are finding is that our clients do not want disruption; they want co-operation, partnership and evolution*

Creating values

EPS MaritimeTech Accelerator start-ups have developed an entirely different way to handle the process of serving the maritime industry by providing valuable additions to the shipowner's toolbox.

Most of these maritime tech start-ups believe disruption is not the only way forward; they are also about helping the sector evolve into a better version of itself.

"We focus exclusively on maritime shipping, because ocean vessels consume as much fuel in a single day as Tesla has saved in that company's lifetime," Mr Heider acknowledged.

"That presents a massive opportunity to affect meaningful change by driving efficiency and creating competitive advantage for our clients."

He said the start-ups work in direct partnership with the owners and operators that comprise their growing global client base, by deploying state-of-the-art machine-learning technology in a user-friendly data platform that can interoperate with any existing shipping hardware or software.

Another EPS MaritimeTech Accelerator programme start-up is Volteo. Volteo offers technology solutions to enable maritime enterprises to automate business workflows leveraging Cloud, internet of things and mobile maritime.

Ships and terminals across the globe still rely on manual and paper-based processes, resulting in countless number of wasted hours, escalated costs and poor experience.

Volteo Maritime, a Singapore firm specifically set up to address this massive problem, built Wayship as part of Techstars' programme.

Wayship is a smart digital workspace, delivered via several handheld devices, that reimagines ship operations management.

With Wayship, ships' crew can save hundreds of collective hours enabled by intelligent data sourcing, bringing ease in capturing electronic logs, checklists, drills, inspections and crew work-rest hours in ways that adapt to their work patterns.

"We believe digital workflows deliver great experiences and can unlock productivity for the entire maritime trade," said Volteo.

Key ingredients

Shipping is still a very fragmented industry and the real challenge is to overcome the inconsistency in how different owners and operators approach decisions.

The key ingredients for a shipping entrepreneur are "deference and respect", according to Mr Heider.

"Shipping is still — and will continue to be — the backbone of the global economy. It is a modern miracle of physics, engineering and human endeavour to get a vessel from one port to another, every day, while keeping crew safe and cargo intact," he told Lloyd's List.

"Without an appreciation for the difficulty, sacrifice — and, frankly, danger — involved, entrepreneurs will be disconnected from the spirit, mission and evolution required to participate."

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Fuelling the debate over LNG

The chairman of SEA/LNG counters the environmental backlash against gas-fuelled ships, **Michelle Wiese Bockmann** reports

Keller: 'We believe LNG does provide a viable gateway for the future to 2030 and beyond.'

Ship engine and propulsion technology has not always had the highest profile, but the serious decarbonisation challenge facing the global fleet of 60,000 vessels is quickly changing this.

Headlines that the world is in the middle of a climate-change emergency underscore the many unanswered questions over how vessels can best transport more than 11bn tonnes of commodities a year with the least possible damage to the environment.

As a result, the suitability and sustainability of liquefied natural gas as a commercial alternative for marine propulsion is now under attack from environmental groups as maritime regulators debate moving to a zero-carbon future.

These groups, some with consultative status at the International Maritime Organization, are co-operating in a campaign to discredit LNG's adoption as a clean and green "transitional" marine fuel.

They claim that replacing one fossil fuel with another undermines the IMO's emissions targets. These are to reduce the global fleet's carbon intensity by 40% by 2030 and cut greenhouse gas emissions by half by 2050.

The debate has elevated Peter Keller, based in Florida, to the role of de facto spokesman and main defender of LNG.

Mr Keller is chairman of the board for SEA/LNG, which, along with the Society for Gas as Marine Fuel, are the world's two industry groups lobbying to accelerate the uptake of LNG fuel in shipping.

While environmental groups claim LNG leaves a carbon footprint no better than conventional marine fuel oils, Mr Keller is adamant this is not the case.

As the former executive vice-president for the Jones Act container line Tote, Mr Keller oversaw the introduction of the first LNG-powered vessels in US waters — the 2016-built, 33,127 dwt *Perla del Caribe* and the 2015-built, 33,106 dwt *Isla Bella* — at a shipyard in San Diego, California.

> *The idea that the industry is going to wait for this major breakthrough that no-one can identify, that no-one can cost, that no-one can time, is frankly not good*

"We believe that LNG does provide a viable gateway and viable pathways for the future to 2030 and beyond," he tells Lloyd's List in a phone call from his office in Florida.

"We believe the introduction of bio and synthetics into the mix certainly will work towards the 2050 goals."

There is no question that LNG "takes care of shipping's air quality and global health issues", he says.

Mr Keller is obliquely referring to studies from the past decade showing that sulphur dioxide and nitrogen dioxide emissions from ships were responsible for 400,000 premature deaths worldwide.

The lower-sulphur marine fuel regulations introduced on January 1 are part of the efforts to reduce this figure.

However, aside from LNG, no commercially viable replacement fuel has emerged that can be used for marine engines — at least before 2030.

Even then, LNG can sit alongside the possible bio and synthetic replacements under development, such as ammonia and hydrogen, because they would use the same bunkering infrastructure, he says.

Mr Keller rejects any suggestion that newly built LNG-fuelled vessels may become "stranded assets", left behind by technological and regulatory advances before their 20-year lifespan is reached.

Over the past year LNG's "clean" reputation has been challenged by a coalition of environment groups, including the US-based International Council on Clean Transportation.

The ICCT argued in a study released in January that LNG was a poor substitute and, if shipping were locked into the technology, it would be harder to transition to cleaner fuels.

"There is no issue of stranded assets going forward," Mr Keller says.

"The idea that the industry is going to wait for this major breakthrough that no-one can identify, that no-one can cost, that no-one can time, is frankly not good.

"Inaction is not a plan. We have available today, as an industry a safe, reliable, proven energy source that reduces greenhouse gas emissions and takes care of the air pollution issues. So that starts to move us forward.

'Magic elixir'

"The longer shipowners wait for this magic elixir, as I refer to it, this magic change that is going to happen with some other kind of alternative fuel, the longer the problem will continue to exacerbate and just get worse."

The ICCT's own study provided alternative findings to an original SEA/LNG and SGMF-funded Thinkstep study released in April 2019 that concluded LNG fuel results in a 21% fall in greenhouse gas emissions.

By contrast, the ICCT found a 15% reduction in GHG emissions measured against marine gasoil. That was based on the same 100-year timeframe but only if a high-pressure, two-stroke, dual-fuel engine was used.

It found that some of the commonly used low-pressure, dual-fuel, four-stroke engines offered even lower reductions — and, in some cases, none at all if measured over a 20-year period.

The ICCT is also one of the non-governmental organisations behind an IMO submission calling for methane emission targets for LNG-fuelled vessels. This had been due discussed with the Marine Environment Protection Committee in March.

Tote Maritime

One of the first LNG-powered vessels in US waters was the 2015-built, 33,106 dwt Isla Bella.

Mr Keller declines to go into detail about why SEA/LNG believes its peer-reviewed study is more accurate by directly comparing facts against that of the ICCT.

Asked if he thinks the science underlying is incorrect, he does highlight that Thinkstep worked closely with engine manufacturers, while the ICCT did not.

Some 30 of the 116 members of both SEA/LNG and SGMF actively collaborated on the study.

Mr Keller also says the ICCT's assumptions did not focus on a "deepsea environment" for LNG-fuelled vessels.

"We stand by our study," he says. "What others may wish to do as naysayers we can't control that and frankly, we're not asked to. We don't feel appropriate to critique their work."

He says that others within the industry could critique the work generally "but to get into the specifics in the science doesn't make any sense. The Thinkstep study is the definitive study. It's the one that's based upon the most current and broadest data available today".

There is also the issue of methane slip in engine technologies from incomplete combustion, often at low loads, an area in which Mr Keller says there have already been significant changes since he launched the Marlin class LNG-fuelled containerships for Tote.

The Thinkstep study is getting updated later this year to incorporate changing data from marine engine manufacturers, according to Mr Keller.

The ICCT is not the only challenger to the Thinkstep study — nor the first to point out that while LNG reduces sulphur dioxide emissions, methane slip is also bad for the environment.

"Within that global deepsea fleet, the two-stroke technology really dominates," says Mr Keller.

"It is not a four-stroke world; it is a two-stroke world and that's a basic issue of understanding the maritime world.

"Their [ICCT's] other concept that vessels operate at low loads as a common practice is also just not a viable issue as anyone who does a lot of work in the maritime industry will likely know.

"Owners, when they build vessels, build the vessels to be as efficient as they possibly can be, given the work that those vessels are going to do."

Slow uptake

So far the uptake of LNG fuels and bunkering infrastructure has been slower than anticipated. LNG is used by 170 ships, or 0.2% of the fleet, based on SGMF information as of November 2019.

At that time, 185 LNG-fuelled ships were on order and more than 9,000 bunker transfers undertaken. Since then, additional LNG newbuildings have been ordered.

Mr Keller says he supports methane slip targets for LNG vessels.

"Our number one view within the engineroom and the vessel and the best design was 'thou shalt not release'.

"You do not vent gas if at all possible; you only do that in an emergency and you do everything you can to maintain your gas and to use it efficiently with a 100% combustion rate."

Denholm: 'Shipping has been my life since I was a child... But I had lots of choice in the matter. I chose to come in.'

Following in family footsteps

The incoming Chamber of Shipping president, a fourth-generation shipowner himself, explains his mission to Make Britain Shipowner-Friendly Again, **David Osler** reports

Make Britain Shipowner-Friendly Again. You can almost see the Trump-style promotional baseball caps now.

And this will be the main goal of one of Britain's few remaining traditional domestic shipowners in his coming year as president of the Chamber of Shipping.

John Denholm takes the post as he prepares to hand over the reins as chief executive of his family-owned Denholm Group, now a diversified business following the demerger of its oil division.

On the shipping side, it remains active in the dry bulk market and is the main shareholder in Hong Kong-based Anglo-Eastern Univan, one of the world's largest shipmanagers. It also has interests in industrial services, fishing and logistics.

Mr Denholm's immediate inbox will be dominated by the big headline-grabbing issues of the moment — at least in the first instance.

For a start, there is Brexit, which is still by no means 'done'. It is increasingly clear that our borders will be nowhere near as frictionless as the industry had been hoping.

Then there is coronavirus, something that has come to the fore in the period between when this interview was conducted and its time of publication. Decarbonisation is another massive challenge.

However, the big prize, he believes, is the one-off, post-Brexit opportunity to reshape the business environment in a manner that could transform the UK into the go-to place for shipping companies.

That is a huge challenge. Piraeus and Oslo remain Europe's big shipping clusters, while Vancouver and Singapore both dangle tantalising incentives before the footloose. Yet Mr Denholm is unabashed.

"Actually, the business and fiscal environment here is pretty good for shipowners. You have a tonnage tax. For your business assets, you have business property relief," he reasons.

"A lot of shipowners would love to come to London. They like it as a place to operate. They like the legal system. They like the social environment. What they're put off by is the taxes — and sometimes the regulation that applies.

"Will we ever match Singapore in terms of our fiscal regime? I'd love it if we could, but we can move that way."

All of this might seem a 'big ask', given the levelling-up agenda on which the Conservatives won a sweeping majority in December last year.

However, Mr Denholm stresses the potential benefit from an influx of shipowners — not least in terms of jobs.

Ironically, his own company mainly employs Indians, many of them the products of a magnificent English-style former boarding school in Maharashtra state that Anglo-Eastern uses as a training establishment. There are only a handful of British cadets, in line with tonnage tax requirements.

"Would that we could justify employing British officers and crew," he laments.

"But the reality is, we own bulk carriers that trade in the international market, and it would be a significant cost disadvantage to employ British officers.

"In fact, one wouldn't be in the business. It's sad, but that's the reality. You have to do the right things to survive. At least we're still there."

Mr Denholm obviously loves holding office in trade associations and voluntary organisations. He is, for instance, past president of BIMCO and current prime warden of the Worshipful Company of Shipwrights, one of the ancient livery companies of the City of London.

He is also a previous deacon of the Incorporation of Hammermen, a Glasgow-based body originally set up to protect silversmithing and blacksmithing, now largely focused on promoting engineers and engineering.

While it is obviously nice to give something back to an industry in which you have spent a lifetime working, surely extensive extramural activities tend to interfere with the day job?

"Well, yes, it does. However, I'm coming up to the end of my day job, I'm coming up for retirement. I have my successor working behind me and I can spare the time. I'm going to guess it's going to take a couple of days a week."

Normally at this point I quiz interviewees about their upbringing and whether they had any family connections with the sea. Yet with a fourth-generation owner, heading a company founded in 1866, that would have been superfluous.

"When you're asked to run a family company, you have the duty to hand it on in at least as good shape — if not a better shape — than when you took it on," he says.

"And yes, there is social pressure when your shareholders are your sisters and cousins and aunts. It's very important to them that the business succeeds.

"However, there are huge advantages in

> *"If you come into a family company as a young member of the family, you have to be better than other people. You can't gain respect without performing. I would say to the next generation, this is not an easy ride"*

being a private company. We don't have to respond to the stock exchange, we can invest long-term. Public companies can't take the rise and fall of shipping markets."

So did Mr Denholm have any choice in all of this? Could he have turned around when he was 18 and say: "Sorry dad, I want to be a struggling artist,"?

"Shipping has been my life since I was a child. I was taken on trial trips of ships. I was going to launches. But I had lots of choice in the matter. I chose to come in. I trained as a chartered accountant. I could easily have followed a career in finance or banking or even accountancy," he reveals.

Higher education was at Glasgow University, with a degree in accountancy, graduating in 1977. There followed an apprenticeship with a firm called Whinney Murray, now swallowed up by professional services giant Ernst & Young.

"I used this as a period of industrial espionage. It allowed me to get an understanding of the drivers of different businesses, what made them work and different management styles. And I saw the good, the bad and the ugly. But it was a really fascinating three or four years."

While he was toying with a move to London to take a job with an investment bank, his father rang to say that the accountant at Denholm Ship Management had handed in his notice.

"Well, it's a bit like rugby. When you see a gap, you've got to go for it. I took the view that coming into the company in a real role was much better than coming to the company in a role created for me."

Being the boss's son must have made his experience as a 20-something trainee manager unusual. How, I asked, did colleagues react to the reality of the situation?

"Different people behaved differently. There are always some people that are out to do you down. And there are also other people who suck up to you.

"The ones I really admired were the ones who treated me properly and just said: 'You're just another person, I'm going to work with you like I would with anyone else in that job.' They were great. And I was very lucky.

"Generally, if you come into a family company as a young member of the family, you have to be better than other people. You can't gain respect without performing. I would say to the next generation, this is not an easy ride."

The succession now falls for the first time to a family member who doesn't share the family name. Mr Denholm's first cousin, Ben MacLehose, will take the top job at the end of this year, while he steps back into a non-executive chairperson role.

From his first marriage, Mr Denholm has four children now in their early-30s and six grandchildren all under three. He also has five stepchildren from his second marriage.

It must be hard remembering all the birthdays, but as he quips: "Electronic diaries are great. You get the two-week reminder as well!"

He has homes both outside Glasgow and in the north London district of Muswell Hill and, at the moment, spends more time south of the border.

His main leisure interest is sailing off the west coast of Scotland — not in the standard shipowner superyacht, but in a 50ft wooden boat he describes as "nothing fancy".

Mr Denholm is also a keen skier. The lack of snow in the Cairngorms these days compared to his childhood was, he says, one of the things that really brought the reality of climate change home to him.

He adds: "I love music. It's pretty central to my life." Favoured listening is the post-romantic composers, particularly Rachmaninoff.

"There's not a lot of time for reading in my life," he says, with evident regret. "By the time I've read the board papers, the only time I actually really read is when I travel internationally.

"I like a nice Jeffrey Archer thriller, a real gripping story. I can eat my way through one or two of those on a trip to the Far East. That's my pleasure. But when I retire, I hope I get more time to read books."

His chosen sport is rugby, and it isn't a coincidence that Mr Denholm is among the corporate sponsors of Glasgow Warriors, a rugby union side that play in the international Pro14 league.

"The Scots are the best rugby players in the world," he assures me. "We just let the English have a chance of winning in the recent championship."

Port of Rotterdam Authority

Rotterdam has been working on port call optimisation definitions with a number of players to define terms of engagement.

The shape of ports to come

Ports are slowly becoming smarter, but work remains to be done on gaining the advantages digitalisation of port processes can achieve, **James Baker** reports

The concept of the smart port is alluring. It conjures up the slick marketing videos of technology vendors that show smartly dressed executives swiping transparent screens to move containers seamlessly from automated ship to automated truck via automated crane.

Add in a few drones and some computer-generated images promising personalised factory-to-consumer delivery, and you have a picture of the port utopia waiting just around the corner.

However, one does have to ask whether the creators of this vision have ever passed the perimeter fence of any existing terminal.

Those that have would realise this utopia is still a long way off and that ports — for the most part — remain dirty, noisy, often dangerous and very analogue places.

Moreover, these digital dreams often skip the real work that is being done in ports and terminals towards becoming 'smart'. The inverted commas are there for a reason, as the terminology is vague at best. There is no clear definition of what a 'smart port' is, or of how to become one, other than some nods in the direction of digitalisation and communication.

Analysts at Drewry made an attempt at defining the main features of smart ports, and insist it means more than just removing the human element and automating.

"There is a significant amount of jargon surrounding digitalisation and smart goals, and it is difficult to separate the hype from the reality," Drewry said.

Nevertheless, there are features that could identify smart ports, which include connectivity to the outside world, the use of technologies like blockchain, a focus on standards, cybersecurity and data integrity.

This was followed by connectivity inside the port, focussing on port community systems and the use of equipment connected via sensors that concentrates on real-time information to enable optimised and efficient operations.

The use of data analysis for continuous performance improvement and an overall culture of innovation and forward-thinking, focussed on organisation and planning, also marked out a smart port, Drewry said.

Setting standards

As the fragmented component parts of the port ecosystem become increasingly digitalised, there is a greater possibility of bringing everything together.

However, there are risks to consider as well, not least when it comes to compatibility and factoring in potential future changes.

Yet for ports — even for players within the same port — to talk to each other, they must be speaking the same language.

Rotterdam, for example, has been working on port call optimisation definitions with a number of players to define terms of engagement. “We already have language differences, but if you have different definitions for the same concept, for example the draught of ship, there will be problems,” Port of Rotterdam digital business director Monica Swanson says.

Mikael Lind, an associate professor at Swedish research facility RISE Viktoria, says that stimulating and enhancing internal communications are critical. “We need somehow to enable the different actors there to provide and share data benefits,” he says.

A study conducted by RISE Viktoria found that the further through the port process one moved, the less predictable the outcomes were.

“The arrival time of ships is a piece of cake,” he says. “The predictability is usually high and there are communication channels there. But when you get into the terminal operations, it gets worse.”

What is needed is a standardised data exchange for information transparency. “There are a number of events that need to be shared and nothing is stronger than the weakest link in the process,” Mr Lind says.

“We would have mooring operators, shipping companies, terminal operators and port authorities, where it is extremely important that they share their data in terms of time stamps.

“What we have seen is that the degree of maturity is growing when people come together and collaborate.”

This gives operators in the port a “situational awareness” that gives rise to enhanced integrated operations between actors involved in the port call.

“Port collaborative decision making takes the self-organised nature of ports for granted and accepts there is no controlling mind orchestrating processes,” he says.

Community effort

Ports are also complex organisms, often made up of scores of companies and authorities all with different tasks. These include the top-level roles of the harbourmaster and VTS, through to pilotage, customs and bunkering, and stevedoring, storage and distribution.

All these elements together make up the port community, but often that community is little more than a collection of individual entities, each working to its own agenda and timelines, independently of the other cogs in the wheel.

Yet new technologies and new ways of thinking about the port environment are seeking to change that. Ports can no longer just be the interface between the land and the sea and are finding ways to bring value-added services to their customers, whether they be the shipping lines that call there, business tenants or shippers and cargo owners that depend on them.

Bringing it all together requires standards, data and communication between the whole port community. With equipment becoming increasingly digitalised, that is becoming possible, but there is still some way to go.

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Carriers face tough technology decisions amid coronavirus impact

With carrier revenues set to be affected by the coronavirus outbreak, there are concerns the sector's efforts to digitalise will be put on hold, **James Baker** reports

Bagge: consequences of the coronavirus outbreak 'more than you might expect'.

The spread of the coronavirus is having an impact even in areas beyond the well-known effects of blanked sailings and falling demand, as meetings between operational teams are reconsidered.

In an interview with Lloyd's List in Long Beach, Digital Container Shipping Association chief executive Thomas Bagge said the consequences of the disease were "more than you might expect".

"Depending on how it progresses — and there may be some improvement now as we're coming into spring — you have to take into consideration what is happening when you bring groups of people together to work on projects," said Mr Bagge.

DCSA's operational model involves bringing teams of technology specialists from its individual carrier members together to work on standardisation projects. The fear of spreading the virus between these teams is already being taken into consideration.

Moreover, the impact of the coronavirus on carrier revenues could lead to some cutbacks in its future developments, said Mr Bagge.

"There is no doubt that right now carriers are feeling the pressure. Cargo coming out of China is a lot lower than what it has been and you've seen all the blank sailings.

"Lines are focused on the cost game. That could, of course, have an effect on some of the work we do.

"But we hope that they will see that maintaining one [application programming interface] is cheaper than maintaining 20,000 [electronic data interchange] connections."

> *"Carriers have to stop competing on creating an electronic data exchange connection with customers and instead focus on competing on product offerings, price and customer service"*

Both API and EDI are used in software solutions by companies to exchange business data, with the former said to have some more innovative features, such as real-time connections, that can improve efficiency.

"Hopefully, they will be smart about their decisions and realise that what it takes to fund DCSA is marginal," Mr Bagge added.

However, he remained optimistic that carriers would stay involved.

"There may be some bigger things they do not want to kick off. We'll have to see what their appetite is. But I can't see them not doing anything in the bill of lading space."

He maintained that the carriers will benefit from the establishment of standards that DCSA was set up to define.

"Carriers have to stop competing on creating an electronic data exchange connection with customers and instead focus on competing on product offerings, price and customer service," he said.

"They are still an old-fashioned industry, but I think you will see things coming up like a consistent BoL across the industry."

The DCSA's next general assembly will have a proposal to become involved in establishing a BoL standard for carriers.

"The BoL is one out of a series of documents, but it is a critical one," said Mr Bagge.

"It is frustrating for our clients to have different versions with each carrier. There is nothing in the technology space that would prevent the carriers from having products that are as simple to use as e-banking is today."

Mr Bagge pointed towards Swift's IBAN code, which allows direct payments between bank accounts around the world.

"In our industry, however, we send shipping information to the carriers and then on to other people, instead of having straight-through communication." he said.

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'Standards are needed globally. If we want to collaborate openly, with all the benefits that come from that, we need to have a common language.'

Ports face standardisation challenges

Port systems need to be able to share information beyond their own communities for effective collaboration, **James Baker** reports

Ports face having standards applied to them by their shipping line customers if they fail to set their own in an effort to make their services more transparent.

"Standardisation in general is absolutely critical in order to get companies and parties within a port speaking the same language," PortXchange managing director Sjoerd de Jager told the Informa Connect's Smart Ports Summit, held in London in February.

"But it is also important for port communities to exchange information, which becomes complex."

Compared to aviation, there are few standards in shipping, according to Matthew Wittemeier, marking manager at logistics software developer Inform.

"Regulation has forced standardisation in aviation, and created an interesting ecosystem for those standards," he said.

"Part of the problem lies in the fact that ports are domestically or regionally regulated, rather than having a global framework."

Ultimately, it was in ports' interests to pursue standards, because they helped reduce barriers to entry and remove costs.

"If we all agree on a set of minimum definitions, such as what an estimated time of arrival means, we can then use those to build the platforms that any party can use to share data and become collaborative," Mr de Jager said.

"Standards are needed globally. If we want to collaborate openly, with all the benefits that come from that, we need to have a common language."

He cited an example in Rotterdam, from which PortXchange was spun off, of a shipping company and a terminal operator that had been working together for 50 years but which both had different understandings of what was meant by the ETA timestamp.

Paperless documentation at least a decade away

Efforts to digitalise box shipping documentation have moved ahead, but forwarders will need to find ways of dealing with paper for years to come, **James Baker** reports

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Visions of a digital-only future for box shipping have some way to go.

THE idea of paperless documentation in container shipping is a least a decade away, according to the chief executive of digital documentation start-up Expedock.

"Given that you need to get governments of countries that we import from — basically all the Southeast Asian countries — involved, how quickly do you think we can get them on an electronic bill of lading?" said King Alandy Dy.

"We can expect the US or European countries to do it, but importing from China will still require documentation. It is a lofty goal, but I don't think it is going to happen that quickly."

Until that does happen, however, Expedock is seeking to reduce the burden of paper transactions by offering a cloud-based system that uses artificial intelligence to take the contents of scanned documents and emails and transfer them into forwarders' tracking management systems.

"Freight forwarders spend a lot of money on data entry," said Mr Dy.

"Estimates show that it eats 12% of their revenue in data processing. You see forwarders sending documents by email, then having to manually enter that data into their TMS. Sometimes these systems do not have integration with customs websites, so they will need transcribing again."

Using AI algorithms, Expedock extracts the relevant information from documents, ranging from shipping orders to bills of lading, and uses it to populate forms.

"We are extracting the information in plain text from the email. A lot of forwarders will outsource that data entry to Southeast Asia, but we allow them to do it in-house without the cost of data entry."

By operating as a cloud-based system, it can integrate easily with whatever internal systems the forwarder operates, he added.

While the company has only been in operation for a few months, it has received unspecified venture capital funding and has support from a number of Silicon Valley luminaries.

Early customer reactions had been positive, Mr Dy said, as Expedock's service requires no integration into existing systems and has no up-front costs, instead charging a $0.70 fee per document, allowing forwarders to digitalise their documentation without an expensive initial outlay.

However, he warned that lines feared a proliferation of standards emerging.

"They need to operate with systems around the world, not just regionally or locally," Me de Jager said.

"For them, it could become costly and not achieve any of the objectives of digitalisation."

While there were advantages to defining standards through niche working groups that understood the issues, they needed to percolate up to the international level, he added.

"All ports have been working on regional and local solutions, but we follow the industry that is touching all those ports," he said.

"If there is a system that is already in place, we simply adapt to interoperate. That is what the end customer wants; it's not just about what we want at Rotterdam."

However, to avoid the emergence of standards imposed from outside the sector, either by bodies such as the Digital Container Shipping Association, or by "implied standards" such as those adopted by services such as TradeLens, the port sector needs to bring its various standards together, Mr Wittemeier said.

"[Lines] need to operate with systems around the world, not just regionally or locally. For them it could become costly and not achieve any of the objectives of digitalisation"

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5G will cut the cost of automation at container ports.

Go private, 5G smart port hopefuls told

5G will cut container port costs, but uneven access and vulnerability to hacking are causes for concern, **Declan Bush** reports

Port operators should consider installing their own 5G systems as the technology is rolled out amid a lack of standards and cyber-security fears, the Informa Connect's Smart Ports Summit was told.

Speakers at the conference in London said 5G would cut costs and boost automation at container ports, but also bring security threats as more systems and objects came online.

Nick Chubb, managing director at marine tech consultancy Thetius, said private networks "could put you streets ahead of competitors" since the mainstream rollout of 5G would be uneven and common standards were not yet in place.

Greig Paul, research engineer at Strathclyde University, said going private would let operators control the supply chain and ensure their systems were compatible with those used at other ports.

Dr Paul said ports would have different needs depending on their remoteness and other factors. The walls of steel containers could, in effect, become Faraday cages and thereby block signals, he warned.

Mr Chubb said 5G systems could bring a range of benefits. The Port of Antwerp had trained an algorithm to spot damage to bollards and fenders without the need for inspection teams, he said.

> *Everything is on the network now and anything that is on the network can be attacked*
>
> **David Nordell**
> Director
> Synapse Cyber Strategy

Smart watches could alert controllers to accidents on site, stop workers operating machinery they were not trained for, or alert forklift drivers to people or objects in their path.

Mr Chubb said 5G would bring up internet speeds from an average 10 megabits per second to 50Mbps.

It would allow the use of 1m devices per square kilometre and bring latency — the time taken for a signal to travel from a phone to a network — down from 50 milliseconds to 10ms, allowing remote operation of gantry cranes and tugs. "As an enabler for technology in ports, it's huge," Mr Chubb said.

"On top of radar, on top of AIS, now all of a sudden, AI-driven visual traffic control systems are becoming a reality."

However, Synapse Cyber Strategy director David Nordell warned: "Everything is on the network now and anything that is on the network can be attacked."

Mr Nordell said as more objects were digitalised, the potential for hacking by thieves, terrorists or governments grew.

"Although there are great security tools out there, most of them are not yet updated for 5G," he added.

Dave Happy, managing director of consultancy Telint, cited the NotPetya cyber attack of 2017, which temporarily brought down Maersk's computer systems.

He said technology made large-scale attacks possible and the industry had to be prepared. "You need to be able to test your stuff; it needs to be resilient," he said.

Mr Happy, a former vice-president of research and development at Samsung, said old networks would eventually be switched off and the industry needed to prepare for the future now.

Qatar's emerging cluster wants to be taken very seriously

The lasting impression from the first Maritime and Logistics Summit is that Qatar has developed a regional presence that shows every likelihood of pushing out beyond the Middle East, **Richard Clayton** reports

It is a sign of the increasing maturity of the Doha maritime cluster that the transport minister of Qatar, His Excellency Jassim Bin Saif Ahmed Al Sulati, attended the Lloyd's List Maritime and Logistics Summit in February, together with more than 100 ambassadors, Ukraine's minister of infrastructure and other dignitaries from overseas.

Qatar has been heavily dependent on LNG for its national revenue. However, the government has led a spirit of diversification that has seen the number of cruise passenger visits increase tenfold over five years; the opening of phase one of the new Hamad port, with container throughput pushing towards 2.5m teu; and the professional services sector expanding.

Reflecting that diversification, the summit's opening session also heard the chief executive of Qatar National Bank, the largest lender in the Middle East and North Africa region, commit to ethical investment in maritime.

This was confirmed on stage by Bader Al Mulla, joint ventures manager at Nakilat, who said the bank and the shipowner were working closely on projects that showed sustainable goals.

Qatar's cautious reach overseas saw QTerminals win a contract in Ukraine, which was why the infrastructure minister was in Doha and the chief executive of QTerminals was missing the summit because he had to fly to Ukraine.

There are other projects under discussion, which might or might not involve the state of Georgia, whose Maritime Agency director Tamara Ioseliani had arrived from Batumi.

Above: Qatar's transport minister, His Excellency Jassim Bin Saif Ahmed Al Sulati, addressing the summit in Doha.

Right: Nakilat's joint ventures manager Bader Al Mulla.

Below left: Lloyd's List's chief correspondent Richard Clayton.

Below right: Lloyd's List Intelligence managing director Christopher Pålsson.

Milaha's chief executive Abdulrahman Al Mannai on the podium.

This was not a summit of the downtrodden or the left-behind. On the contrary, this event showed a spirit of adventure that welcomed technological innovators, encouraged thought-leadership and has the funds to back sensible, ethical projects.

The final session of the day heard IR Class managing director Suresh Sinha from India; Lawrence Barchue, assistant secretary-general at the International Maritime Organization, from Liberia via the US and World Maritime University; Masahiko Furuichi, secretary-general of the International Association of Ports and Harbors from Tokyo; and Mwani Qatar executive vice-president Captain Abdulaziz Al Yafei from Doha, deliver an overview of the challenges and opportunities of the next 10 years.

"This was not a summit of the downtrodden or the left-behind. On the contrary, this event showed a spirit of adventure that welcomed technological innovators, encouraged thought-leadership and has the funds to back sensible, ethical projects"

Cyber-security is top fear

Cyber-security comes out as the top fear for the industry, followed by regulation that accompanies climate change obligations.

There was only one mention of coronavirus, a no-show who had been in China within the previous two weeks. While that may have changed in recent weeks, what will not change is the Qatar government's ambitions for maritime.

What jumped out wasn't the strength of the existing commitment to LNG; rather it was the vision of a Qatar as a world-class maritime cluster. That's the lasting impression of this first Maritime and Logistics Summit.

Members of the audience attending the summit.

The Lloyd's List Podcast: Qatar brings a fresh perspective for the Gulf

Qatar's Hamad port with its next-generation terminals and free zone form the foundation of a maritime cluster that draws on best practice elsewhere. It's rare for such expertise to be gathered in a new location and, as our podcast speakers show, the future for the Qatar cluster is exciting.

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The new VLSFOs have been called into question in a report submitted to the International Maritime Organization by Finland and Germany.

Are VLSFOs really that bad for the climate?

A recent study suggesting very low-sulphur fuel oil blends are not friendly to the environment was based on too narrow a set of data collection; more tests would clarify the situation, **Lars Robert Pedersen** of BIMCO reports

A report submitted to the International Maritime Organization by Finland and Germany suggests the new very low sulphur fuel oils, which comply with the 0.5% sulphur limit introduced on January 1, are bad for the climate.

It claims VLSFOs are predominantly aromatic because of their chemical composition and, when burned in engines, produce elevated levels of climate-forcing black carbon.

Let us start with the engine used in the study: a medium-speed, four-stroke diesel (these are predominantly ships' auxiliary engines).

This type runs at relatively high speed and with limited stroke. It means injected fuel has a restricted time to burn and requires better ignition-quality fuel compared with bigger engines to ensure complete combustion.

Most fuel oils used by ships are burned in the engines that drive ships' propellers. A smaller amount is burned in auxiliary engines, driving electricity generators. An even lesser amount is burned in boilers to produce steam for heating purposes.

The vast majority of marine fuel is used for propulsion. Propulsion engines in ships vary significantly but, when we assess the share of each engine type, based on the amount of fuel burned in each, significantly more is used by the slow-speed, two-stroke diesel engines.

These large engines operate with long piston strokes and at slow speed — less than 150 revolutions per minute. This means that oil injected into the combustion chamber and ignited can burn for longer, compared with smaller engines operating at much higher rpm.

The time available to burn the fuel oil is critical to avoiding the formation of unburned hydrocarbons and soot, also known as black carbon.

In tests, burning fuel oil with a high aromatic content in slow-speed diesel engines has, however, shown that aromaticity has little influence on the formation of black carbon.

Levels of black carbon formation in these engines are also generally below those seen in four-stroke, medium-speed models.

The ability of a fuel oil to burn fast is linked to its chemical composition and it is well documented that highly aromatic fuels are not as willing to burn as paraffinic fuel oil.

Calculated carbon aromaticity index

Fuel oils used in ships are usually assessed for their ignition quality by means of their Calculated Carbon Aromaticity Index rating. This value, calculated from the density and viscosity via a complex formula, will normally be between 800 and 880.

Fuel-oil testing companies make this calculation as a matter of routine when samples from bunkering are sent for analysis. A CCAI of 860 and above indicates that ignition problems may occur.

The high-sulphur fuel oils widely used up until January 1, 2020, before the sulphur regulation came into effect, were normally quite aromatic, with CCAI values between 850 and 870.

The study we were discussing used samples of VLSFO blends made at some time during 2019 — thought then to be representative of those the industry would be bunkering now to comply with the new sulphur regulation.

The fuels were then burned as described above in a medium-speed, four-stroke diesel engine, and the exhaust gases analysed for black carbon emission.

Higher levels of black carbon

Unsurprisingly, the study found a correlation between aromaticity and combustion quality, with the highly aromatic fuels emitting higher levels of black carbon.

Little can be concluded from the study, other than the fact that burning highly aromatic fuels in medium-speed engines can give rise to increased black carbon emissions. This is nothing new.

What we cannot do is assume the conclusion will be the same when it comes to black carbon emissions from all engine types burning compliant fuels that were delivered post January 1, 2020 under the new sulphur regulation.

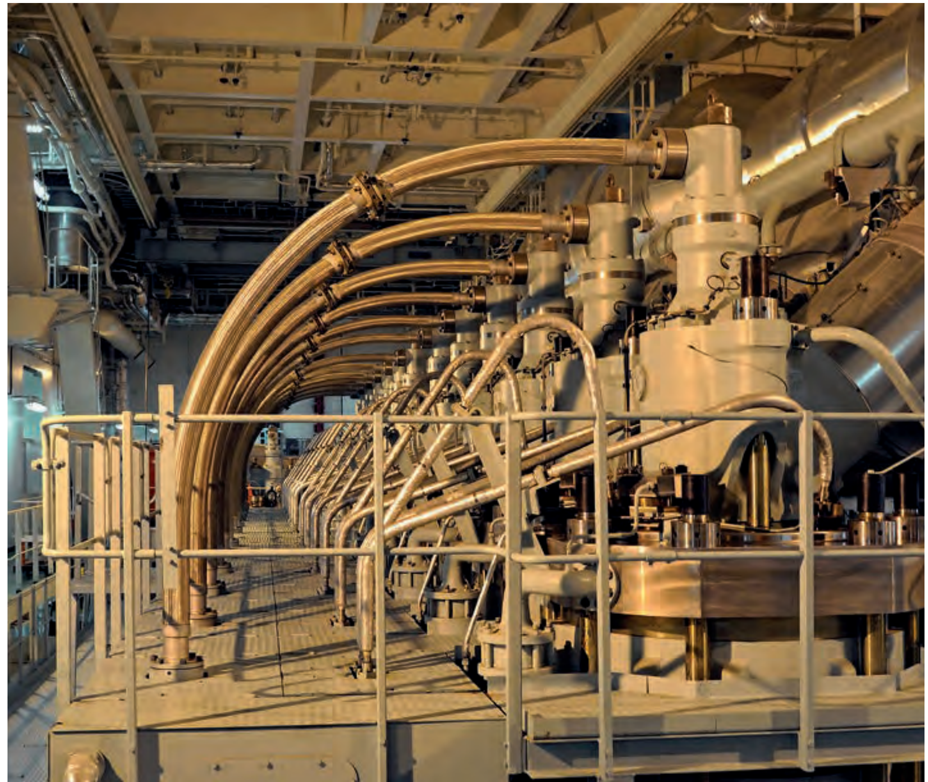
Therefore, examining and understanding the chemistry of the new VLSFOs is a necessary first step on the way to making black carbon conclusions post-January 1, 2020.

Step two is to investigate black carbon emission levels from large bore, slow-speed, two-stroke engines, in addition to the medium-speed, four-stroke diesel engines (auxiliary engines) used in the study, for correlation between fuel oil aromaticity and black carbon formation.

The third — and last — step is to compare the situation post-January 1 to that of pre-2020.

Once these steps have been taken and results published, I would not be in the least surprised if the conclusion is that black carbon emissions from ships have actually dropped because of the shift to 0.5% VLSFO.

Lars Robert Pedersen is deputy secretary-general of the international shipping association BIMCO



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Slow-speed, two-stroke diesel engines operate with long piston strokes

> *Little can be concluded from the study, other than the fact that burning highly aromatic fuels in medium-speed engines can give rise to increased black carbon emissions. This is nothing new*
>
> **Lars Robert Pedersen**
> Deputy secretary-general
> BIMCO

Contship Italia said facilities at La Spezia were operating as normal but had adopted measures to minimise the impact of coronavirus.

Coronavirus spread threatens further pain for box terminals

After seven quarters of slowing growth, terminal operators had hoped the calming of the trade war would see a return to positive figures. The spread of coronavirus to consumer markets means volumes are set to remain low, **James Baker** reports

The global spread of coronavirus into European and North American consumer markets and the resultant softening of demand is likely to result in an ongoing reduction in sailings as carriers look to control costs, leading to reduced port volumes, according to Drewry senior analyst Eleanor Hadland.

The coronavirus outbreak comes at a bad time for terminal operators, who were already suffering the impact of the US-China trade dispute.

Listed stocks of port companies had already fallen by 14% by early March and that figure was boosted by the high price of outstanding shares in DP World, which is being taken private. If DP World is excluded, the fall would have been 17%.

"What we've seen is a drop in valuation from an enterprise value/earnings ratio of 10.5 at the end of the fourth quarter, down to 9.5 as of [March 9]," Ms Hadland said.

Port throughput trends showed slowing growth, with little sign of respite, she added.

"This quarter, we have seen a further slowdown in port throughput. Our rolling average growth rate had picked up after 2016 but since the second quarter of 2018, growth rates have started to fall again.

"This continued to slow down in the fourth quarter of 2019, dropping to 2%, compared to the 3.1% growth we had reported in the third quarter."

This meant the fourth quarter was the seventh consecutive quarter of slowing growth, with little chance of an upturn this quarter.

"With the impact of the coronavirus filtering through the global ports system, our original forecast for a relatively robust 3.3% growth this year is being downgraded as we speak," Ms Hadland said.

"We'll need to see how the pandemic pans out in terms of major consumption economies being locked down well into the second quarter, then the demand side shock could tip us into a recession and there will be a slowdown in volumes."

Terminals face being regulated if they fail to decarbonise

Container terminals need to raise their game if they are to avoid being regulated into meeting net-zero emissions targets by 2050.

Despite only accounting for a tiny amount of maritime emissions, terminals still contribute to shipping's greenhouse gas outputs.

"For a container moving between Shanghai and Prague, the container terminal operations account for just 1% of the total emissions generated," said Drewry senior analyst Eleanor Hadland.

"For shipping, which generates the majority of supply chain emissions, the efforts to reduce carbon emissions will be led by the International Maritime Organization. But there is no global body with the power to regulate the port sector."

To date, port operators had pursued a range of technological and operational solutions to reduce GHGs, but since terminal operations are concerned with moving the container between the ship and the gate, switching out yard equipment to utilise low-carbon fuel sources is the only solution that will achieve a material reductions necessary to achieve the net-zero goal.

"Investment decisions within a container terminal are not yet focused on GHG emissions," Ms Hadland said.

"Most operators are still following the tried and tested route when it comes to their replacement capital expenditure cycles. Looking at equipment that is on order, diesel rubber-tyred gantries are still the most popular choice for replacement or yard equipment."

However, when looking at the length of yard equipment cycles and the operating life of equipment, operators would need to be selecting low- or zero-emission options within the next decade in order to reach net-zero by 2050.

Regulation would likely be the next step, Ms Hadland said.

"To date, the primary driver of change has been in pursuit of cost savings, which is a major pull factor for most terminal operators," she said.

"But while this will lead to a slow and steady reduction of equipment as processes become more efficient, if we are to achieve net-zero globally, then regulation seems almost certainly being required, and probably by the end of the decade if it is going to be effective."

This would either lead to higher capital costs as the infrastructure was built out for electric operations, or higher operating costs from using bio-fuels.

But she added that container terminals should be able to pass on these costs to customers in the form of surcharges, the same way they had done with Verification of Gross Mass rules and the International Ship and Port Facility Security Code.

"We expect to start seeing carbon emission surcharges on invoices to shipping lines in the near future," she said.

Nevertheless, the port sector was more protected from a downturn than the shipping sector, Ms Hadland said.

"When we look at operational costs, there is a degree of variability, which mitigates margin impact, but there is some concern for the highly leveraged operators," she said.

"They are going to be exposed if there is an extended downturn."

Moreover, a change in shipper sourcing patterns could eventually lead to more investment in the sector.

"Shippers have already started to reassess their supply chains in the light of the past two years due to the trade war," she said.

"We had already seen an expansion of sourcing in Southeast Asia after a growing concern over single-country sourcing. Coronavirus is going to lead many to continue down that route."

Yet from a boxshipping perspective, there would be some difficulty finding ports that would have the right facilities to serve larger ships, leading to an uplift in feeder vessels calling at major hub ports.

"This could also lead to a pick-up in port infrastructure investment in Southeast Asia and South Asia as emerging production centres arise and shippers look to diversify their sourcing," she said.

"Coronavirus is accelerating us on a path we were already on."

Business as usual

Meanwhile, ports around the world are emphasising the fact that they remain open for business as many countries introduce increasingly strict lockdowns on their populations to reduce the spread of coronavirus.

In Italy, the first European country to be affected by the virus, the Italian Ports Association was pushed to clarify that operations in ports were still being carried out as normal.

"Ports are fully operational, with all their regular services guaranteeing complete functionality of all those offices dedicated to control and verification, ie, port authority, customs, harbour master, health department offices and so on," association president Daniele Rossi wrote in an open letter to the shipping industry.

Contship Italia, the country's container terminal and intermodal operator, said facilities at La Spezia, Ravenna and Melzo/Milan were operating as normal, but they had adopted measures to minimise the impact of coronavirus through continuous cleaning and taking efforts to maintain distances between staff.

The ports of Genoa, Pra', Savona and Vado Ligure, which fall under the control of the Western Ligurian Sea Port Authority, said they will continue to remain fully operation to "guarantee the smooth movement of freight across the country, without disruptions to the supply chain".

In northern Europe, Germany's main import hub in Hamburg is also seeking to calm fears of disruption to the supply chain. The Hamburg Port Authority said it was a "top priority" for the port to remain fully operation "in the best interest of the population".

Port of Antwerp chief executive Jacques Vandermeiren said the port was keeping Belgium supplied during the outbreak after the government announced special measures to limit the spread of coronavirus.

"Our mission for the coming weeks is clear, namely to keep the port operational. All the employees who keep our operations going are keeping the port literally running," he said. "Locks are manned, ships are tugged and moored by people who cannot work from home."

In Europe's largest container port, Rotterdam, terminals remain operational.

"Cargo handling and production will continue unabated," the port said.

"The Port of Rotterdam Authority is carefully complying with the recommendations of national authorities. It has become clear in recent days that the situation relating to the spread of coronavirus is changing very rapidly."

It warned, however, that "new and unexpected developments", including those requiring additional measures, were likely in the days and weeks to come.

Ask the Analyst with Sebastian Villyn

Lloyd's List Intelligence's team of experts on the issues shaping shipping

Market shockwaves

Pandemics, missile strikes, sanctions, or a simple tweet. Where will the next shock to the market come from — and how can we prepare for it? asks **Sebastian Villyn**

Lloyd's List Intelligence is continuously tracking the impact of the coronavirus on the shipping supply chain, and finding how data can be used to prepare for and react to the risk of short-term tremors and larger shocks to the market.

These market shockwaves occur frequently and typically stem from sudden unforeseen incidents, whether natural disasters or geo-political tensions, resulting in short- to medium-term impacts.

Take the bunker price in Fujairah and the global oil markets as an example.

In 2018, Twitter threats delivered intermittently by US president Donald Trump of US sanctions on Iran prompted concerns over crude supply outages and pushed the price of Fujairah IFO380 from a low of $380 per tonne in January 2018 to above $500 per tonne by early October that year.

The spike was shortlived and the bunker price dropped sharply again. It fluctuated between $340 per tonne and $450 per tonne until September 14, 2019, when Saudi Aramco's oil processing facilities at Abqaiq and Khurais were targeted by drone strikes.

Over the course of a week, the Fujairah IFO380 moved from $380 per tonne to $503 per tonne. The continued US shale boom, however, meant the tremor ebbed out.

By November 14, 2019, the average IFO380 price in Fujairah had fallen to $250 per tonne. As of mid-March, this year, it was at $200 per tonne.

These market tremors are keenly watched by Lloyd's List Intelligence's oil and commodities analysts and credit risk team. Fluctuations in bunker prices can be the make or break of a shipping company or refinery's operating profit — and, ultimately, its viability.

The bunker price in Fujairah and the global oil markets were impacted by Trump's tweets.

"Fluctuations in bunker prices can be the make or break of a shipping company or refinery's operating profit — and, ultimately, viability"

Marie Bates, cargo analysis manager at Lloyd's List Intelligence, noted: "Smaller oil companies, typical 'mom and pop shops', still need to pump, even though prices are low and a prolonged period of a plunge in oil prices might mean the end of these, some of which are heavily mortgaged.

"With the current oil price shock and the Opec+ group failing to agree on production cuts, this will cause a huge downward trend in the US. And there are questions of how long the US's smaller producers can last."

Tracking which of these companies are at risk of bankruptcy or payment defaults can best be assessed by regular due diligence.

Long-term shocks

A virus emerging in one of the world's largest trading nations and spreading to become a global pandemic and financial crisis, however, does not impact one market; it affects them all. It is these long-term shocks that demand a comprehensive assessment

Since the coronavirus outbreak, Lloyd's List Intelligence and Lloyd's List have set up a working group of analysts and journalists to proactively cover how this event will impact the shipping markets, ensuring the right questions are asked and the most appropriate set of data is collected.

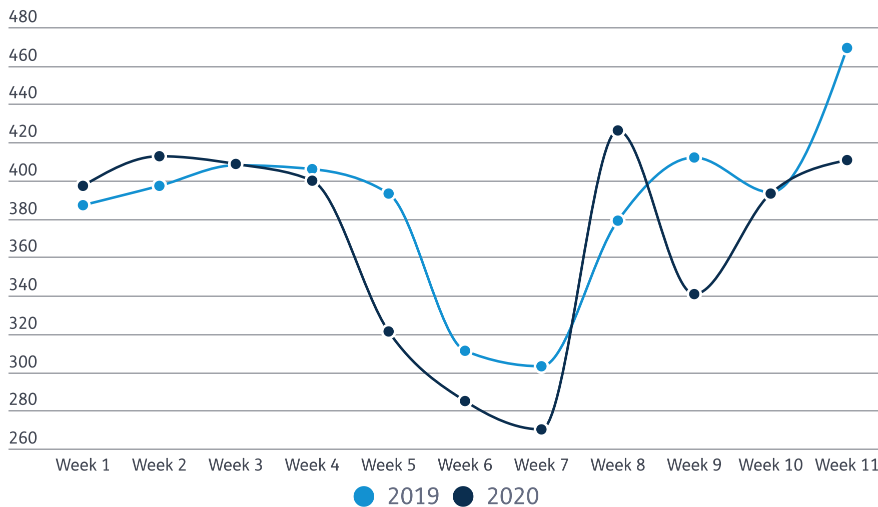
The disruption has seen a period of idle fleet capacity, container backlogs, congestion at storage yards, delays to shiprepairs, labour shortages, and the quarantine of crews and passengers.

Our oil and commodity analysts have investigated oil on the water waiting times against previous import/export trends, and our ports and AIS teams have been tracking changes in vessel movements.

Lloyd's List Intelligence's consultancy team has also produced a series of reports on the potential impact of the coronavirus on shipping markets. For more details on bespoke market reports, please contact: Mike.Ellicott@informa.com

Lloyd's List Intelligence

Shanghai and Yangshan port calls (2019 vs 2020)



Source: Lloyd's List Intelligence

Yangtze River port calls

In response to an Ask The Analyst query from a commodity company, the Lloyd's List Intelligence team was asked to look at whether a decrease in port calls on the Yangtze River in January 2020 was due to the Chinese New Year holidays or the outbreak of coronavirus.

Our team measured the volume of vessel trade in the Yangtze River from November 2019 to March 2020, comparing ship calls with the previous Chinese New Year period.

The findings showed that during the peak of the COVID-19 outbreak in Wuhan, there was a marked increase from the previous month of reported estimated time of arrival (ETA) changes via the vessels automatic identification system (AIS).

The other noticeable trend was the slight decrease in overall vessel traffic trades, which mirrored a consistent trend across the rest of China. Mid-March trends, however, started to show an increase again in China, evident in the containers trade.

As Lloyd's List containers editor James Baker said: "The number of container-related vessel calls at the major container hub of Shanghai and Yangshan have picked up and are again tracking figures seen this time last year." (*see graph above*)

This uptake in container port callings in China shows some promise for the rest of the shipping industry for a swifter recovery once the peak of the virus in other nations has passed and restrictions are lifted.

However, Europe, the Americas and Africa have still to witness the peak of the virus.

> *"What has been evident in the COVID-19 case is that you cannot always predict the world's reaction"*

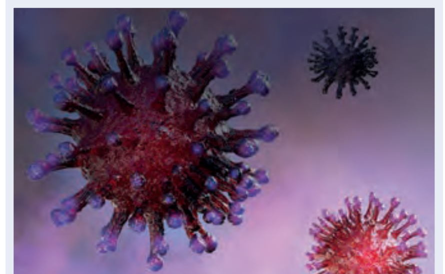
Data analysis can often be reactive, but access to real-time AIS tracking of ships' trading patterns enables shippers and traders to swiftly identify where port congestions are likely to occur and map out alternative options, especially as the rest of the world locks down.

By using AIS data, you can see where cargoes are held, as well as the congested areas, and whether there have been any changes to the ETA or draught. Analysis of this large dataset can, over time, aid companies in forecasting and risk planning.

Predictive models can help companies plan for other natural disasters or shocks. What has been evident in the COVID-19 case is that you cannot always predict the world's reaction to that shock and the myriad of uncertainties that goes with it.

This is where our data can help you assess the risk in the immediate aftermath — and to plan for similar events in the future.

Sebastian Villyn is an entity analysis manager at Lloyd's List Intelligence



More on coronavirus

COVID-19 cases are rapidly increasing around the world. The virus is already having a detrimental impact on the global economy and the effects on the shipping industry could be far-reaching.

In our dedicated section online, the Lloyd's List team of expert analysts guide you through what it means for global trade, shipping and maritime, with daily updates

http://lloydslist.maritimeintelligence.informa.com/hot-topics/coronavirus

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P&I clubs must address the pricing problem

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Clubs should look carefully at the wide variety of risks facing the sector when making pricing decisions, **Alex Barnes,** of BDO, reports

The protection and indemnity (P&I) club sector is a breed apart from the rest of the international specialty market.

Its mutual structure creates a very different operational dynamic as the members they serve are also the de facto owners of the club itself.

The debate in the months leading up to renewal season will focus on pricing, and history tells us that the battle for a sustainable premium level is one clubs rarely win.

Research by BDO found the average overall insurance premiums paid by shipowners for the year to December 2018 fell 7.1%, yet there were areas of the world fleet that saw even larger reductions.

The same period saw the P&I clubs showing an average combined ratio of around 110%.

> *The question has to be asked whether better investment returns and falling claims costs are driving pricing decisions or whether it is simply a reflection of pressure from members to avoid premium increases*

In real terms, the cost of P&I cover has been falling significantly for more than a decade. Generally, the clubs are well reserved and the pressure on rates may well be down to the fact the clubs do not need to deliver significant profits, but rather provide their owner/members with the products to protect their tonnage.

While the investment markets have been depressed for some time, returns are increasing and the additional investment income may have some influence over the decision by many clubs to set no general increase for the 2020/21 year of cover.

The lack of a general increase in real terms delivers a reduction in members' premium costs as it does not factor in claims inflation or the rise in operating costs.

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The question has to be asked whether better investment returns and falling claims costs are driving pricing decisions or whether it is simply a reflection of pressure from members to avoid premium increases.

While the threat of major losses is a constant, the costs of attritional claims are falling. However, clubs need to be cognisant of the fact that they need to ensure their reserving strategy is sufficient to meet the demands of the regulators and allows them to absorb a major loss without impacting on solvency levels.

The increasing size of vessels creates new exposure levels and the International Group pooling system necessitates that all clubs share the burden of a major loss.

Other pressures

There are also other pressures on the market at present and these should be factored into the underwriting decisions.

The outbreak of coronavirus in mainland China is set to have multiple implications for clubs and their clients.

Chinese shipyards have closed owing to infection concerns and that has impacted the ability for tonnage to be fitted with scrubbers to aid their compliance with new low-sulphur fuel requirements.

Fears have been raised over the threat to ports in the world's second-largest economy and the country that provides a significant amount of the world's goods.

A closure of a major port for any significant period will cause delays and, in terms of perishable cargoes, may well have a more lasting effect.

Delays to voyages have the potential to disrupt the market. Any slowdown in the Chinese or global economy could see a drop in the amount of goods shipped across the world.

In Asia, we have already seen passenger vessels denied access to ports for fear of infection and those stranded holidaymakers may seek compensation for their confinement.

The virus threatens the global supply chain and the ability of vessels to transit the seas. Owners will need to ensure their crews remain healthy and out of harm's way. We may well see vessels avoiding areas were the virus is established.

The risk remains that vessels will be refused permission to berth if they have arrived from an area where there are high infection rates.

Steve Heap/Shutterstock.com

Some Chinese shipyards have closed owing to infection concerns.

Barnes: difficult time for shipping.

The virus threatens the global supply chain and the ability of vessels to transit the seas. Owners will need to ensure their crews remain healthy and out of harm's way. We may well see vessels avoiding areas were the virus is established

New liabilities, particularly in relation to environmental protection, are emerging every year and clubs need to be aware of the new risks and their impact.

A clear example is the introduction of the low-sulphur regime in January by the International Maritime Organization. While no fines for breaches of the rules have been levied as yet, the opinion is that regulators are hunting for a firm that can be used as an example.

The fundamental issue is how clubs can manage the demands or the regulators, while meeting the demands from members not to seek to push premium rates at a time when the expectation is that shipping will fall into a coronavirus-induced economic slump because of the reduction in the supply of goods.

It is a difficult time for shipping, with the green shoots of recovery threatened. However, clubs need to ensure the continued erosion of premium rates is offset by other earnings.

If not, then the challenge of sustainable long-term pricing has to be addressed, however unpalatable it is for the members.

Alex Barnes is partner, insurance services, at BDO

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Fitting crewless vessels into traditional shipping concepts

Michael Biltoo, at Kennedys, provides 2020 vision on the prospects for the marine industry in a technology-driven world

Much has been written and discussed about automation in the shipping industry and, as with automation across other industries, it is only a matter of time before it becomes commonplace in the carriage of goods around the world.

Automation is already very much part of the shipping industry — from vessels able to sail with an automatic pilot (which has been around since the 1920s) to fully automated ports. However, the idea of automation allowing for vessels to be crewless is now drawing closer.

The crewless vessels envisaged can either be controlled from on shore, by "crew" who remotely operate the vessel, or by computers and algorithms, which requires no crew at all.

The benefits of such automation have been widely reported. These vessels should be more efficient and cheaper to run, experiencing fewer accidents.

However, at the same time, traditional shipping concepts that have moulded shipping law for centuries will be tested by this new type of vessel.

Seaworthiness

One of the oldest shipping concepts, which underpins most contracts of carriage, is that of the seaworthiness of the vessel.

Seaworthiness was described in Carver's Carriage of Goods by Sea as a requirement that a vessel "must have that degree of fitness which an ordinary careful and prudent owner would require his vessel to have at the commencement of her voyage having regard to all the probable circumstances to it.

"To that extent the shipowner... undertakes absolutely that she is fit, and ignorance is no excuse. If the defect existed, the question to be put is, would a prudent owner have required that it should be made good before sending his ship to sea had he known of it? If he would, the ship was not seaworthy within the meaning of the undertaking."

donvictorio/Shutterstock.com

If the 'crew' remotely operating the vessel on shore are considered the same as crew on the vessel, their skillset will need to be very different.

This was approved in *McFadden v Blue Star Line [1905] 1 KB 697* and has now become the "classic" definition of seaworthiness. There is an obligation on a vessel owner or carrier to provide a seaworthy vessel.

However, that absolute obligation can be reduced to one of "due diligence", for example by the application of the Hague or Hague-Visby Rules seen as an equivalent to the common law duty of care (per Lord Devlin in *Union of India v NV Reederij Amsterdam [1963] 2 Lloyd's Rep 223 at page 235*).

This obligation of seaworthiness has been refined by the English courts through the years, but it should be kept in mind that as a matter of English law, the concept of seaworthiness is relative.

In *F C Bradley & Sons Ltd v Federal Steam Navigation Co Ltd (1927) 27 Ll L Rep 395*, seaworthiness was said to be relative to the state of knowledge and the standards prevailing at the material time.

Some years later, in *Empresa Cubana Importada de Alimentos "Alimport" v Iasmos Shipping Co SA (The Good Friend) [1984] 2 Lloyd's Rep 586*, it was held that seaworthiness will vary according to the nature of the ship, the cargo and the voyage contracted for.

Even though traditional seaworthiness concepts may not fit today, English law will take into account the changing times and developments in crewless vessels.

'Competent and adequate' crew

See, for example, *Hongkong Fir Shipping Co Ltd v Kawasaki Kisen Kaisha Ltd (The Hongkong Fir) [1961] 2 Lloyd's Rep 478*, and *Alfred C Toepfer Schiffahrtsgesellschaft GmbH v Tossa Marine Co Ltd (The Derby) [1985] 2 Lloyd's Rep 325*.

A vessel having a "competent and adequate" crew brings obvious problems to the crewless vessel. Can no crew members be considered adequate, if there are remote crew on shore? Or will the definition of "crew" be expanded to include those who navigate and control the vessel remotely?

This latter solution is of no help to the fully autonomous vessel, which will have no crew on shore either and so will this seaworthiness

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requirement be dispensed with in the case of fully autonomous vessels?

The competency of the "crew" will also have to be expanded in the face of these developments. If we are to assume that the "crew" remotely operating the vessel on shore are considered the same as crew on the vessel, their skillset will need to be very different, with greater IT training than has been needed before.

Attributes of the ship itself

The seaworthiness of the vessel is limited to the ship, its equipment and the crew.

In *A Meredith Jones & Co Ltd v Vangemar Shipping Co Ltd (The Apostolis) [1997] 2 Lloyd's Rep 241*, it was held: "For a ship to be unseaworthy, or more strictly uncargoworthy, there must be some attribute of the ship itself which threatens the safety of the cargo.

"If a hold is dirty, that is properly considered as an attribute of the ship. But the fact that a hold contains cargo which threatens damage to other cargo stowed in proximity is not an attribute of the ship and does not render the ship unseaworthy."

Crewless vessels are going to start removing much of its equipment from the vessel to the shore and the entirety of control may be transferred to computer equipment on shore, which will navigate the vessel from many thousands of miles away.

Equally, in the case of remotely operated crewless vessels, the vessel's "crew" will be on shore doing just the same.

In time, it may be that a vessel's seaworthiness will not be limited to just the vessel and where parts of her equipment or crew are detached from the vessel itself, they will nevertheless be considered part of the vessel. This would mean that failures in the equipment on shore, or the competency of the operating crew on shore, would render the vessel unseaworthy.

Cargoworthiness

The concept of seaworthiness relates not just to the vessel being able to sail safely but also includes the concept of "cargoworthiness" — the vessel must be suitable for carrying the cargo on the voyage (*Rathbone Brothers & Co v D MacIver, Sons & Co [1903] 2 KB 387 at pages 386 and 389*).

This means that the crewless vessel must have cargo holds and controls that can operate remotely or automatically and ensure that the cargo is safe for the voyage without the need for crew to care for the cargo.

Biltoo: law has to evolve with technology.

Obligation to maintain vessel

In addition to ensuring seaworthiness, charters will often impose an obligation on the owners to "maintain" the vessel, for example clause 1 of the NYPE 1946 states: "That the owners shall … maintain her class and keep the vessel in a thoroughly efficient state in hull, machinery and equipment for and during the service."

Such a clause requires preventative maintenance by the owners (ie, they must keep up a prudent programme of inspections and surveys and replacements and renewals) and remedial maintenance, so that in the event that the ship, its machinery or equipment becomes inefficient during the charter period, there is an obligation to take reasonable steps within a reasonable time to effect repairs.

It is the latter which is likely to be problematic for crewless vessels, which will not have the crew on board to remedy problems that occur at sea. Getting a repair crew to the vessel may take a significant amount of time and any unreasonable delay in remedying a problem could leave an owner in breach of the maintenance obligation.

There may be a bigger question raised when the problem could have been avoided with a crew on board — for example, the many fires which start on board vessels are put out by the crew. Should a cargo be lost because of a fire on board a crewless vessel — which could have been extinguished by a crew on board — are the owners then in breach of their maintenance obligations?

Deviation/negligent navigation

An owner has a duty under a voyage charter not to deviate from the normal route for a voyage between the ports in question. This effectively means there can be no deliberate diversion from the normal route, which will be the route specified by the contract (*Beatson v Haworth (1796) 6 TR 531*) or the usual commercial route (which will usually be considered to be the direct geographical route).

However, in the case of fully autonomous crewless vessels, which are navigated by computers, it may not always be clear why the algorithm has decided to take a particular route.

Unlike the master of a vessel, the computer cannot be called to give evidence to justify the route that he has taken. This could, in time, give rise to deviation claims.

At the same time, where the Hague/Hague-Visby Rules apply, there is an exception for negligent navigation in article IV, rule 2(a): "2. Neither the carrier nor the ship shall be responsible for loss or damage arising or resulting from: (a) Act, neglect, or default of the master, mariner, pilot, or the servants of the carrier in the navigation or in the management of the ship."

This applies to "master, mariner, pilot, or the servants of the carrier" and so could very feasibly extend to shoreside crew remotely operating the vessel.

However, where the vessel is fully autonomous, it is difficult to see this exclusion applying to a computer that navigates the vessel, or the perhaps negligent programmer that input the algorithm that led to an incident.

Carriers are therefore likely to lose an exclusion that has greatly benefited them through the years.

These are just some of the examples of concepts in shipping law that will be challenged as crewless vessels, in either form, begin to take their place in the carriage of goods by sea.

The law and industry are going to have to evolve with this new technology. English law has always been adept at doing so, but an entirely crewless vessel will bring some of its biggest challenges in shipping law for quite some time. Along with the new technology is bound to come new law.

Michael Biltoo is a partner at Kennedys

This article was first published in MRI, an Informa publication: www.maritime-risk-intl.com

Yard Talk with Cichen Shen

A regular column that looks behind the news headlines, adding analytical value to coverage of the big Asian shipbuilders and yards around the world

New orders target is a tall order

Demand for both LNG carrier and large containership newbuildings this year may fall short of expectations due to the coronavirus outbreaks

Shipyards are still seeing various reasons for optimism, despite a fully-fledged outbreak of coronavirus. It appears the reality will take time to sink in.

A raft of orders expected for liquefied natural gas carries was the foremost positive factor, among others, cited by two major South Korean builders in their latest results presentations published last week.

Both Daewoo Shipbuilding & Marine Engineering and Samsung Heavy Industries pointed out that the demand for more LNG carriers will be prompted by a string of new or expansion LNG export projects — from Qatar to the US — that are scheduled to come online in the next few years.

DSME quoted Clarksons' forecast in September 2019 as saying that 2020 was expected to see orders of 88 LNG tankers — an area in which South Korean yards are predominant.

However, the prediction will likely need a revision.

Large LNG projects — even the ones that have reached the financial investment decisions — have experienced construction delays in the past.

History may well repeat itself amid shrinking demand for the supercooled fuel, as well as a coronavirus-led global recession.

Even if the projects press ahead as scheduled, the number of LNG carrier orders attached will rely on progress on offtake negotiations.

That progress may well be disrupted by reduced purchasing power of the importers unless project owners choose to take the LNG volumes under their portfolio.

For China, which accounted for 40% of the world growth in LNG demand since 2015, the writing is already on the wall.

The Independent Commodity Intelligence Service estimated in February that the virus outbreak will cut the country's LNG imports by 4.2% for 2020, after state giant CNOOC reportedly deferred some shipments.

Daewoo Shipbuilding & Marine Engineering had expected orders for LNG carriers and mega containerships to rise this year.

For China, which accounted for 40% of the world growth in LNG demand since 2015, the writing is already on the wall

Global pandemic

However, that was before the disease turned into a global pandemic and when most economists expected China's GDP growth to slow to about 4%-5% in the first quarter.

Now China's leading investment bank CICC forecasts the world's second-largest economy to contract 9.3% in January-March and expand by only 2.6% for the whole of 2020.

With the big consumer countries in the west under lockdown, China's overall exports might plunge by about 18% this year and that is seen as the main factor to drag down its growth rate in the remaining nine months, the bank said.

If true, that can blow up another hope of shipbuilders, that carriers will build more mega containerships.

SHI said in its results presentation that the container shipping alliances ordered vessels over 10,000 teu to sharpen their edges last year and the trend will continue in 2020.

"The Alliance owns fewer mega ships among major shipping alliances, so it could consider new orders," it added.

Obviously, the builder has the inside story. Talk has already circulated since late last year about some carriers floating newbuilding tenders.

However, that was also before the coronavirus outbreak developed into a global pandemic.

Now many carriers are probably

Yangzijiang Shipbuilding faces labour crisis

China's largest privately-run shipbuilder has fallen victim to the coronavirus outbreak, according to research by OCBC Bank.

Yangzijiang Shipbuilding's workforce level dropped to 30% in February as a result of restrictions imposed by local government on the return of subcontracted workers, according to equity analysts at the bank covering the Singapore-listed company. They warned the impact may persist during March.

"It is estimated that at least 80% of the workforce has to return by March for the group to hit its target delivery of 51 vessels this year." the bank said.

"There are also delays in the shipbuilding supply chain across the region."

Shipyards in China have been impacted by the public health outbreak, with force majeur reportedly even declared to owners in some cases where newbuilding or repair projects can not be delivered on time.

Yangzijiang executive chairman Ren Yuanlin said in a financial results statement the company is doing its utmost to "prevent the coronavirus fiasco from affecting the yards and production activities".

"We will also optimise production resources to minimise any disruption to the delivery schedule," he said.

He added that Yangzijiang is resilient and prepared to deal with unknown situations having kept improving its operational efficiency during the past years.

The bank analysts said the shipbuilder's outstanding orderbook, which stood at $2.9bn at the end of 2019, can still keep its facilities at a healthy utilisation level up to 2021 and provide a stable revenue stream for at least the next one and a half years.

Yangzijiang Shipbuilding remained profitable in 2019 despite challenging conditions.

However, they expected its new orders to reach only $1.3bn this year, even though the company maintains its target of $2bn after seeing good demand for large containerships.

Despite challenging market conditions, Yangzijiang recorded a 2% increase year on year in revenue to Yuan4.8bn ($694.8m) for 2019 and a 1% growth in net profit to Yuan3.1bn, which are within the analysts' expectations.

Mr Yuanlin returned to office in December, having been on leave to assist a confidential government investigation since the middle of last year.

striving to avoid a cash crunch likely to be inflicted by the paralysed economic activity in western countries and the resulting volume collapse in the coming months.

True, Orient Overseas International Ltd, now part of Cosco Shipping, has chosen to carry on with its $780m orders of five 23,000 teu ships anyway. But few of its competitors enjoy the backing of a state-owned conglomerate and $1.1bn gains from a terminal disposal.

> *"Now many carriers are probably striving to avoid a cash crunch likely to be inflicted by the paralysed economic activity in western countries and the resulting volume collapse"*

Market uncertainty

At least Hapag-Lloyd chief executive Rolf Habben Jansen told Lloyd's List recently that his company "will not be going back to the yards in the next few months" amid extraordinary market uncertainty from the virus impact.

Such hesitation will also hurt builders in China and Japan, who are keen to grab a slice of the orders from their South Korean rivals.

All in all, the coronavirus pandemic will rub salt into the wounds of most shipbuilders.

The cash-strapped shipowners and the bleak economic prospects imply further dulled appetite for new orders, which have already been subdued by the green fuel uncertainty since last year.

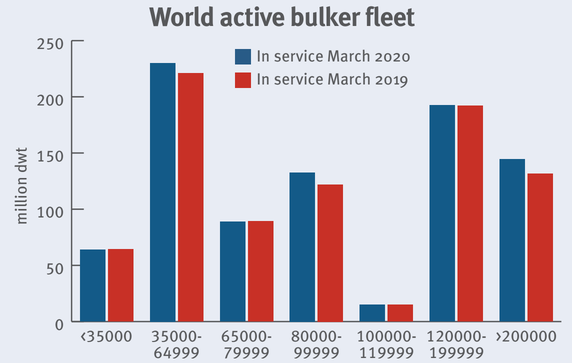
MARKETS

DRY BULK

The global active fleet of bulkers totalled 11,918 vessels comprising 867.8m dwt in early March, according to Lloyd's List Intelligence. In terms of carrying capacity, this represented a rise of 3.9% against last year.

Ships with a capacity greater than 20,000 dwt remain the principal driver of fleet growth, up almost 10% on the year-ago level. This was in addition to an 8.7% jump in smaller dry bulk units in the post-panamax sector, or between 80,000 dwt-99,999 dwt, on 2019 levels.

The dry bulk orderbook stood at 1,011 units at that start of March, with a combined capacity of 99.8m dwt. In 2020, 750 more ships are due for delivery, with an additional 238 vessels due to hit the water next year and a further 23 vessels from 2022 onwards.



Can dry bulk markets recover from the impact of coronavirus?

The biggest concern for the dry bulk shipping industry is centred around logistics and supply chains, with port restrictions and quarantine rife, writes **Nidaa Bakhsh**

As China seems to be coming out of a coronavirus-led slump, the rest of the world is falling victim, with many lockdowns in place to contain the spread of the deadly infection.

Market participants have observed activity slowly resuming in the Far East, with the Atlantic basin now facing headwinds. It is a rapidly evolving situation and, as such, predictions will vary about the precise impact on dry bulk shipments.

For the most part, analysts are downgrading forecasts, imagining a "worse-case" scenario, at least in the short term.

Most expect some sort of recovery in the second half of the year, depending on whether the virus is contained or not.

Brazilian mining giant Vale warned that its operations could be affected.

It put its Canadian Voisey Bay operations in care and maintenance for four months, while it also ceased activity at its coal-processing plant in Mozambique. It has also temporarily halted its Malaysian iron ore distribution centre.

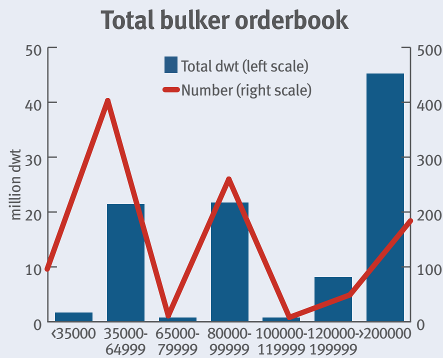
Mining operations in Brazil could also be at risk should the virus spread further. With South Africa and India in lockdown, there may be a knock-on effect on mining abilities there too.

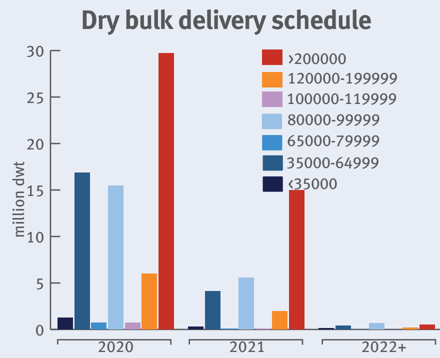
Port restrictions and quarantine efforts may impact the supply chain, although resultant delays and congestion could actually be good for dry bulk rates as vessels are taken out of the market for longer.

And it is not just physical product that may be unavailable. Port restrictions and quarantine efforts may impact the supply chain, although resultant delays and congestion could actually be a good thing for dry bulk rates as vessels are taken out of the market for longer.

According to Torvald Klaveness' head of research Peter Lindstrom, 13% of panamaxes have been idle for more than 14 days as of March 24, the highest level since 2017, while 9% of capesizes look to be idled.

This is less than the amount idled after the Brumadinho event in Brazil last year, which sent rates spiralling to near all-time lows. The figures take into account vessels waiting for scrubber installations.





Data from:
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"The market has definitely soured, but we see stimulus measures supporting shipping, and we believe that there will be a sustained recovery in the second half of the year," he said, adding that China's industrial activity is gradually returning, and has reached 80% to 85% of normal levels.

For Maritime Strategies International, no stimulus measures are expected from China until the government there knows that the virus is under complete control.

That could take up to a year or longer, according to the London-based consultancy's dry bulk specialist Will Fray, who expects a demand contraction of about 4% in 2020 as a result of the virus impacts.

> *The market has definitely soured, but we see stimulus measures supporting shipping, and we believe that there will be a sustained recovery in the second half of the year*

Demand picture

Vital grain trades, which have been supporting smaller bulk carriers this year, may be in danger in what was tipped to be a strong South American export season.

Problems will arise if trucks cannot get to terminals or port workers refrain from shifts to lessen the risk of catching the virus.

Argentina's Timbues port was reported to have reopened after all activity ceased on March 20 as union workers wanted to isolate themselves in line with government policy.

Santos Port Authority in Brazil said operations were normal, with no restrictions to road and rail access, after stevedores there had requested exemptions to working amid coronavirus concerns.

How long operations can continue, though, remains to be seen.

In any case, there is the encouraging news that China will purchase quantities of wheat and corn from the US under the terms of the Phase One trade agreement. This development is holding some promise for a dry bulk recovery.

Coal shipments are also somewhat positive.

According to UK-based consultancy Shipping Strategy, seaborne coal imports into China are likely to increase after Mongolia closed its border, benefiting Indonesia and Australia.

Volumes in the first quarter are projected to reach a record 79.6m tonnes, up from 64.8m tonnes a year earlier.

However, entry restrictions at Queensland ports are casting a shadow, as the region represents one of the largest for thermal and coking coal exports, according to shipping association BIMCO.

For steel, Braemar said the fact that inventories were starting to decline in China indicated a recovery in demand. It also suggested that logistical bottlenecks were easing.

Steel production in the rest of the world would, however, take a hit as automobile makers and other end-users were halting operations, it said.

Iron ore shipments could bounce back later in the year, if mining operations were not too badly affected.

However, China's focus on electric arc furnaces using scrap metal could limit its need for high-quality imported ore.

Volumes from Australia to China in January and February reached 67.2m tonnes, almost 2% lower than the same period last year, statistics from Port Hedland show, while Brazilian sales were expected at 63m to 68m tonnes in the first quarter.

China has plenty of storage and "buying the dip" in commodity prices may keep iron ore on trend, according to Shipping Strategy's founder Mark Williams.

He expects "a good deal of" unusual trade disruption and volatility this year for the dry bulk market.

Coping with disruptions

At the time of writing, dry bulk owners and operators said they were coping with virus-led disruptions, adapting to the evolving landscape.

Most had contingency measures in place, with employees largely working from home, and seafarers required to stay on board vessels until April, at least in line with widespread advice.

However, they were also worried about potential port closures should the virus situation worsen.

One idea was to "ringfence" vessels to avoid any contact between crew and port employees, to reduce any contamination risks, which needed greater co-ordination between owners and authorities.

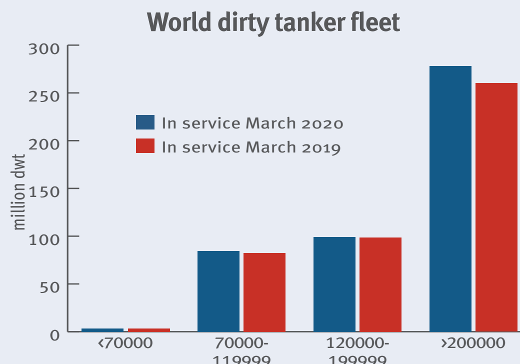
MARKETS

CRUDE TANKERS

The active crude carrier fleet comprised of 2,432 ships, equivalent to 465.2m dwt, at the start of March, according to Lloyd's List Intelligence. This represented a 4.8% increase over last year.

Very large crude carriers, of 200,000 dwt and above, continue to lead the growth, with numbers up nearly 7% on year to 277.6m dwt. Aframax tankers of between 70,000 dwt and 120,000 dwt continue to drive advances in the fleet too, up 3% on year to 798 vessels, representing 84.4m dwt.

The global orderbook was composed of 297 ships with a carrying capacity of 54.8m dwt. A further 25.6m dwt is due for delivery in 2020, with 23.2m dwt due in 2021 and 59m dwt from 2022 onwards.



Oil surplus is floating storage cushion for tankers as crude demand collapses

Owners turn to floating storage deployment amid an unprecedented oversupply of crude and refined products, renegotiating charters for both spot voyages and longer-term periods, writes **Michelle Wiese Bockmann**

Tanker earnings retreated from the highest levels since the 1980s as the oil price collapse, imploding financial markets and the US and European lockdown continued to decimate demand for transportation fuels.

Owners now look to floating storage deployment to establish an earnings cushion for tankers as global economic turmoil leads to an unprecedented oversupply of crude and refined products.

Average very large crude carrier rates plunged 168% in a week to under $100,000 daily in late March as demand for tonnage eased.

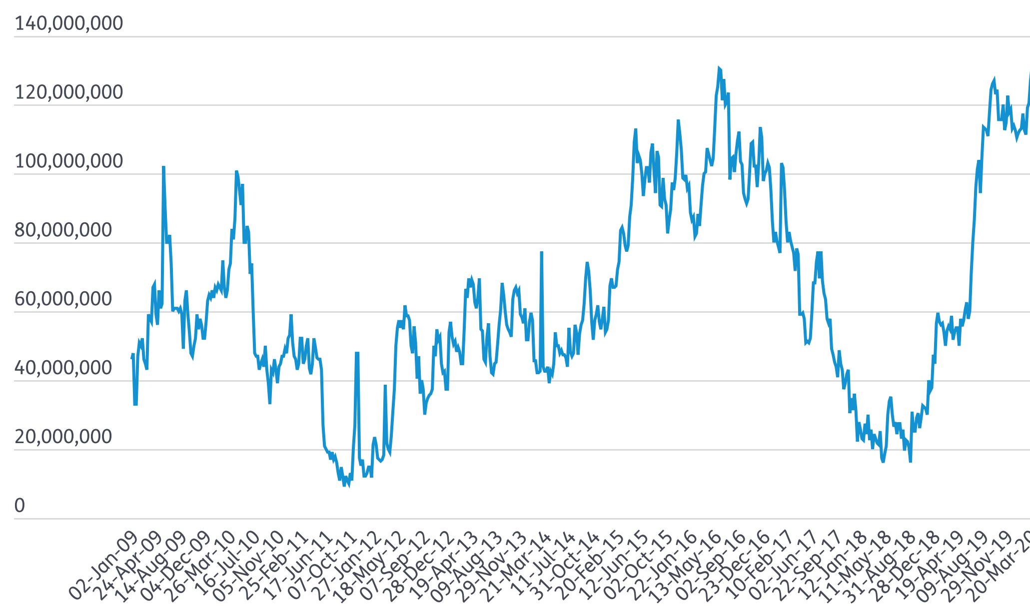
Saudi shipping company Bahri paid the equivalent of $352,000 daily in mid-March to charter one tanker, igniting a chartering frenzy that lifted earnings 12-fold in a matter of days.

At one point, freight costs for US Gulf exports totalled nearly one-third of the shale oil being shipped to Asia.

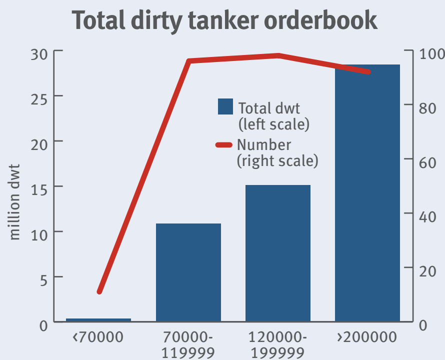
Numerous chartering deals failed in late March as oil traders, refiners and tanker owners struggled to assess a rates floor amid rapidly changing scenarios stemming from the coronavirus pandemic.

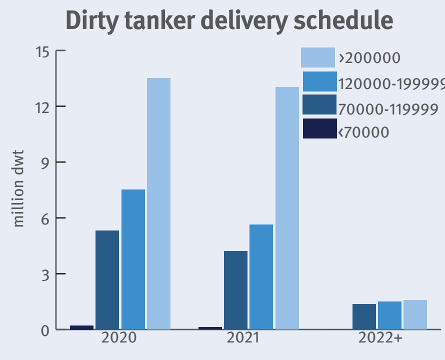
Total cargo quantity in short-term storage (barrels)

The **131.2m barrels of oil** in short-term storage during w/e March 20, 2020 was an **all-time high**, surpassing the **130.6m barrels** recorded during w/e May 27, 2016



Source: Lloyd's List Intelligence





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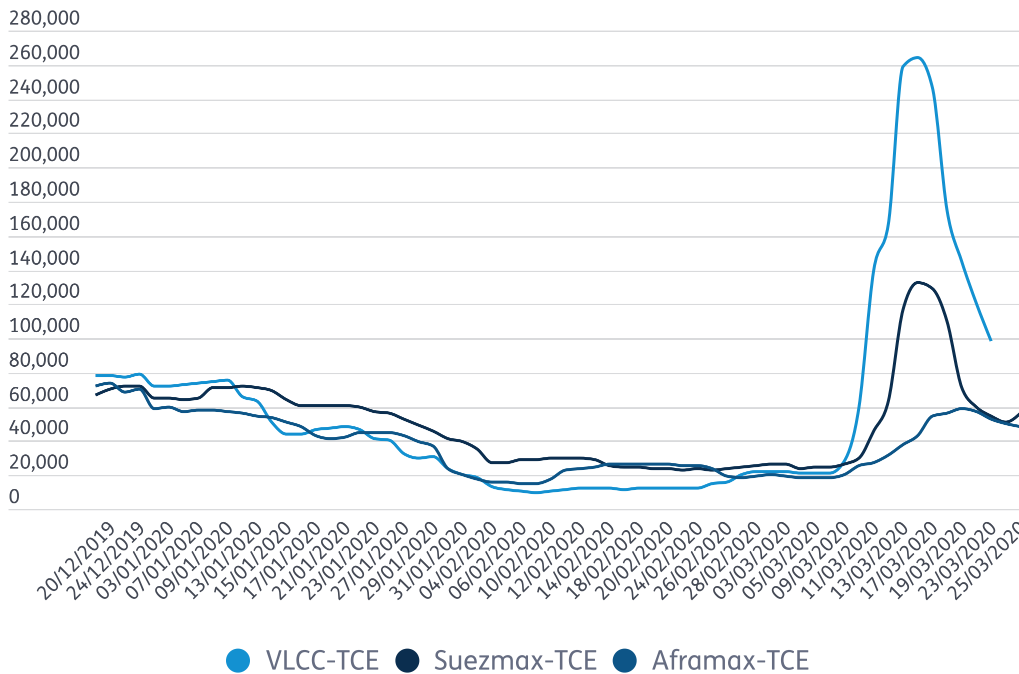
Baltic Exchange indices by vessel type ($ per day)



Source: Baltic Exchange

Charters for both spot voyages and longer-term periods were being renegotiated as owners sought refuge from collapsing earnings by hiring out vessels for six to 12 months for floating storage of clean products and crude oil.

Already, crude oil stored on tankers is at the highest in records going back to 2008, with oil prices reaching a 17-year low. Some 131.2m barrels of oil was tracked on floating storage for the week ending March 20, according to Lloyd's List Intelligence.

That eclipses the 130.6m barrels recorded in May 2016, data showed. Propping up that figure were 38 VLCCs owned by Iran's National Iranian Tanker Co, because of US sanctions that prevent them trading.

Floating storage numbers comprise 85 tankers, including 53 VLCCs and 18 suezmaxes. All units were loaded and had remained at anchor for more than 20 days.

That figure was anticipated to rise even further, as Saudi Arabia and Russia continued to flood the market with crude at the same time as international air travel was paralysed, countries across Europe and the US shuttered businesses, and land-based commercial storage filled up.

Record-breaking tanker fixed at $352,000 daily

A very large crude carrier chartered by Saudi Arabian shipping company Bahri was concluded at a rate equivalent to a record-breaking $352,000 per day in March, setting a new ceiling in an unprecedented tanker chartering frenzy witnessed that month.

The 2012-built, 297,123 dwt *Sea Splendor*, owned by China's Sinochem and operated by Blue Light Chartering, was fixed at a Worldscale rate of 202.5 on March 13 for a voyage to the US Gulf from Saudi Arabia, according to Tankers International, loading April 2.

Terms of the charter were agreed at Worldscale 202.5 and subjects lifted on March 16.

The $352,000 daily earnings exceeding the stratospheric deals agreed for capesize bulk carriers at the height of the commodities super-cycle.

Another VLCC, *Princess Mary*, provisionally chartered on March 13 by India's Reliance at W400, or earnings above $411,000 daily, failed on subjects 10 days later.

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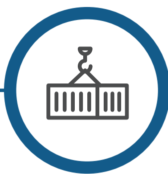

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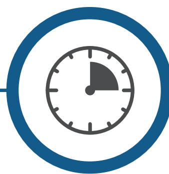

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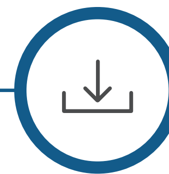

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The global active fleet of liquefied natural gas carriers comprised 566 vessels totalling 85.9m cu m as of early March, a 6.8% increase on its year-ago total, according to Lloyd's List Intelligence.

The LNG orderbook stood at 176 units representing 26.1m cu m carrying capacity. Of this, 7.8m cu m is scheduled for delivery in the rest of 2020; 11m cu m in 2021; and another 7.3m cu m in 2022 and beyond.

For liquefied petroleum gas tankers, the active global fleet was composed of 1,563 ships, with a carrying capacity of 35.7m cu m, up 6.4% on year.

The LPG orderbook is still dominated by very large gas carriers. Of the 143 vessels on order, 78 VLGCs, or 28% of the LPG fleet, are due for delivery.

The global fleet of product tankers comprised 8,781 vessels with a carrying capacity of 195.2m dwt, a rise of 2.3%.

The product tanker orderbook stood at 364 ships, comprising 18.5m dwt:188 MR vessels, 15 LR1s and 62 LR2s.

Data from:
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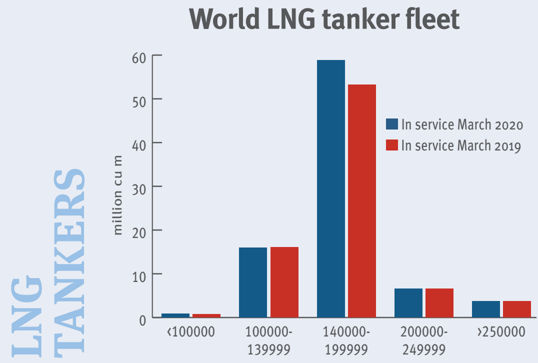
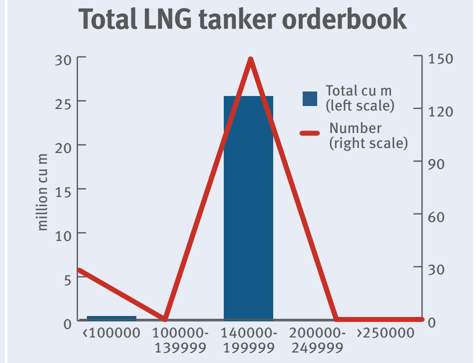
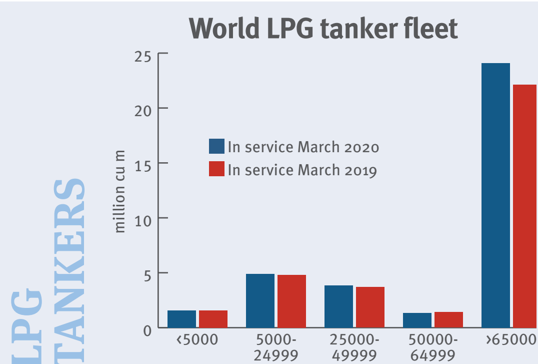
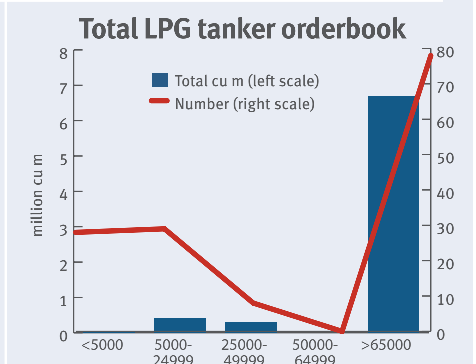
LNG TANKERS



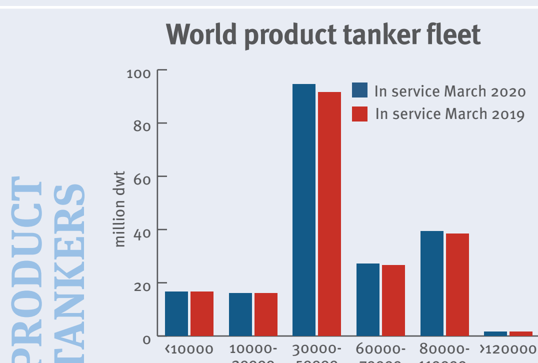


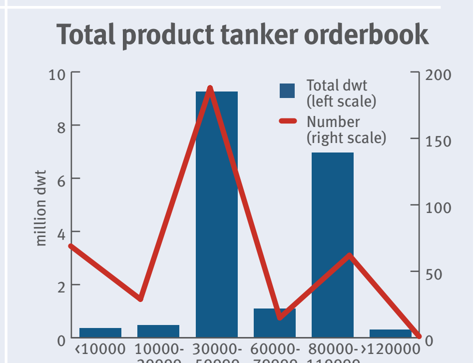
LPG TANKERS





PRODUCT TANKERS





At least seven VLCCs, eight suezmaxes, two aframax tankers and a further seven smaller sizes were reported chartered for floating storage for periods of between six and 12 months for the week ending March 20, according to shipbroker reports.

Trafigura, Koch, and Vitol dominated the list of energy commodities traders taking tankers for floating storage.

VLCCs were hired at daily rates for six-month periods at levels ranging from $57,000 to $82,500. Suezmax tankers fetched about $40,000, shipbrokers reported.

The three-month crude tanker storage arbitrage is profitable for Brent crude if VLCC rates are at $118,000 daily or under, based on figures from Norwegian investment bank, Cleaves Securities.

> *The three-month crude tanker storage arbitrage is profitable for Brent crude if VLCC rates are at $118,000 daily or under, based on figures from Norwegian investment bank, Cleaves Securities*

Suezmax rates support floating storage at $56,000 daily and under, excluding the cost of carry. The oil market contango, when the spot price is lower than the forward price, allows traders to buy physical oil for storage and take a futures position for later sale at a profit.

Deals were agreed amid news of looming oil production shut-ins, and drastic spending cuts announced by oil companies, including Shell and Total.

Although a clear picture of refinery utilisation and throughput has not yet emerged, there are estimates that global crude demand has fallen by 10% to 20%, or 10m-20m barrels per day, over February and March.

The oil price collapse also reduced marine fuel oil costs and decimated the scrubber premium for larger tankers installed with the sulphur abatement technology.

Some 16.4% of the crude tanker fleet have scrubbers installed — including one in five VLCCs — and 7.5% of product tankers, measured by deadweight.

The premium, measured as the difference between earnings, was just under $4,000 daily, based on a spread of $103 per tonne, Cleaves Securities said in a report.

However, the difference in price between 3.5% fuel oil and 0.5% very low sulphur fuel oil is much narrower in major bunkering centres. It was as low as $29 per tonne in Singapore, $56.50 in Rotterdam and $188 per tonne in Fujairah, based on prices from Ship & Bunker.

MARKETS
CONTAINERS

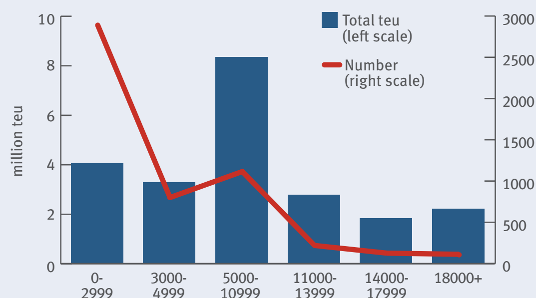
Come the end of February, it was 'as you were' for the global box fleet, with capacity on the water hovering at the same level as a month earlier, at 22.6m teu.

Indeed, only one vessel was added to the total fleet number, according to Lloyd's List Intelligence, which meant capacity rose by a meagre 2,193 teu.

The demolition of five ships, combined with only handful of small feeder-class deliveries and the absence of further ultra large tonnage coming off the ramps resulted in net growth of minimal proportions.

However, with blanked sailings at unprecedented levels and a significant number of ships awaiting scrubber retrofits, the idle containership fleet continues to rise.

World active containership fleet



Idle vessels returning to service could upset market balance

Boxship fleet growth has gone into a hiatus during the coronavirus outbreak, writes **James Baker**

With the ever-changing news surrounding the coronavirus outbreak dominating the conversation, attention has slipped away from some of shipping's other concerns, including the size and make-up of the containership fleet.

The number of blankings has made the headlines, however, and that has led to increasingly large numbers of vessels sitting idle.

While those numbers are set to return to normal in the coming weeks, paying for unemployed tonnage will have done little to improve earnings for already constrained carriers.

At the end of February, the world containership fleet stood at 22.6m teu, almost exactly where it was month earlier.

Just one vessel was added to the total fleet number and fleet capacity rose by just 2,193 teu.

The reduced increase was aided by the fact that deliveries in the month were only for smaller feederships, the largest of which was less than 2,000 teu.

Combined with the demolition of five ships comprising 9,675 teu, the net effect was virtually no growth last month.

Where growth was seen was in the number of idle vessels.

World containership fleet February 2020*

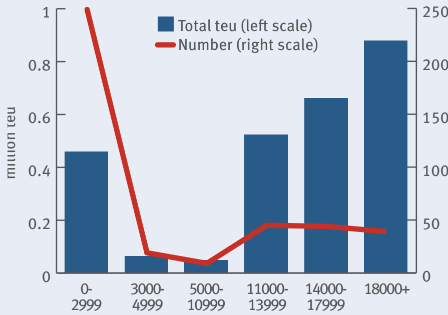
TEU Size Range	In Service No	In Service TEU	On Order 2020 No	On order 2020 TEU	On Order 2021 No	On Order 2021 TEU	On Order 2022+ No	On Order 2022+ TEU	Total No	Total TEU	%Total Fleet
0-2,999	2889	4067365	220	417256	29	42278	0	0	249	459533	11.30%
3,000-4,999	800	3292308	19	64888	0	0	0	0	19	64888	1.97%
5,000-10,999	1115	8353479	9	48900	0	0	0	0	9	48900	0.59%
11,000-13,999	219	2797564	28	326320	15	173500	2	23700	45	523520	18.71%
14,000-17,999	126	1850871	19	283556	15	227784	10	150256	44	661596	35.75%
18,000+	112	2219048	30	672494	6	137000	3	69400	39	878894	39.61%
Total	5261	22580635	325	1813414	65	580562	15	243356	405	2637331	11.68%

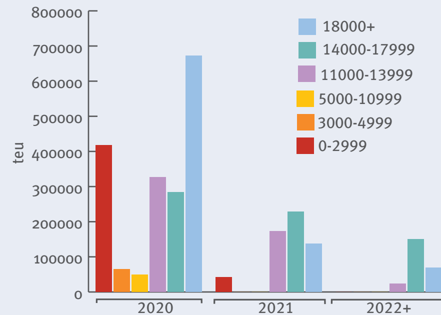
**Excluding newbuilding postponements and cancellations under negotiation* *Source: Lloyd's List Intelligence*

In terms of ship numbers, Lloyd's List Intelligence reported 364 vessels unemployed, accounting for just over 1m teu of capacity and representing 4.6% of the total fleet.

As well as vessels laid up by blanked sailings, there are also a large number out of service, awaiting scrubber installations.

Delays at various Chinese yards due to the coronavirus outbreak have resulted in extended yard stays for the vast majority of containerships undergoing retrofits in China, according to Alphaliner.





Data from:

Lloyd's List Intelligence

Maritime intelligence | informa

lloydslistintelligence.com

Chinese yards account for more than 83% of all scrubber installations completed so far, and 77% of ongoing installations.

According to Alphaliner, in mid-March, 83 ships were undergoing retrofits in China.

"The extended Lunar New Year holidays have not slowed the steady stream of ships that come into Chinese yards, with 25 container vessels entering the docks since February 1, compared with 15 units that departed after completing their retrofits in the same period," Alphaliner said.

Increased uncertainty

Meanwhile, Clarksons reported that up to 2.2% of containership fleet capacity could be absorbed on average across the year, out of a projected 3% fleet growth.

However, it warned that the coronavirus outbreak had increased uncertainty over the retrofit schedule and would need to be tracked closely.

"The impact on 'active' fleet growth when the volume of capacity under retrofit eventually starts to significantly decrease will also be important to monitor," Clarksons added.

The rapid impact of coronavirus has changed the supply picture significantly during the past month.

"Fleet developments in January, prior to the coronavirus outbreak, saw a seasonal uptick in vessel deliveries and signs of increased activity in demolition markets," said analysts at Maritime Strategies International.

However, it added that the near-term supply outlook had been affected by coronavirus. "The impact on the supply side will be much smaller than the demand side. However, the main channels of impact are via disruption to Chinese shipyards and complications related to completing vessel demolition transactions," MSI said.

Yards are more focused on scrubber retrofits than newbuildings.

> *"Delays at various Chinese yards due to the coronavirus outbreak have resulted in extended yard stays for the vast majority of containerships undergoing retrofits in China, according to Alphaliner"*

"In practice, the delivery schedule in 2020 is not especially 'front-loaded', although delays at the start of the year will have a knock-on effect in the later quarters."

The greatest potential for newbuilding slippage came in the feeder segment, where China retains a 65% share of scheduled feeder newbuilds in 2020.

"This is arguably a positive development for smaller vessels currently in the fleet, where a mix of upsizing on regional trade routes and competition from more economical newbuilds has proven a major challenge in recent years," MSI said.

Overall, MSI expects 176,000 teu of deliveries in the three months to April, set against 62,000 teu of demolitions.

Reduce overcapacity

Meanwhile, BIMCO expects the container shipping fleet to grow by just 2.5% in 2020, marking the first time in four years that deliveries will be below the 1m teu mark, which will help reduce the overcapacity in the market.

"On top of a fall in deliveries, demolitions are set to rise to 200,000 teu," BIMCO said.

However, BIMCO chief shipping analyst Peter Sand warned that supply growth would still be above demand growth.

"In 2020, we are looking at the lowest fleet growth in four years but we do not expect demand to be anywhere near 2% for 2020.

"This is likely to represent another challenge in terms of deteriorating fundamentals for liner shipping," Mr Sand said.

"We are expecting around 750,000 teu to be delivered to the active fleet this year, offset by approximately 200,000 teu in demolitions.

"In those terms, we are talking about a not insignificant injection of fleet capacity and a move in the wrong way."

He also warned that a return to service of the idle fleet would have more impact on supply this year than newbuildings.

"The fleet growth coming down may not be the thing that makes or breaks the market," Mr Sand said.

"That is more for the idle fleet, because the capacity returning to the market represents the capacity added in 2018 and 2019 combined. That will determine when there will be a floor under the freight rates."

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Cashflow critical to box carriers

Due to the coronavirus outbreak, many cash-strapped carriers could be forced to sell ships, or even part or the whole of their business, unless they receive governmental aid

It is all about cashflow now for container shipping carriers. Their liftings and incomes have been dented by the coronavirus-led production collapse in China, despite recent signs of a pick-up in factory activity.

The ripple effects are far from being over. Equipment shortages caused by the massive blank sailings have already affected exports in the US and Europe.

However, more importantly, concerns are mounting regarding their future appetite for imports amid soaring levels of infection in those regions.

Liner shipping is already a highly leveraged business. Now the cash-strapped carriers will be struggling. Unless they have governmental help, they will be forced to sell ships, subsidiaries or even their entire business.

Some smaller carriers on intra-Asia trade will face "financial survival within the next couple of months", consultancy Sea-Intelligence believes.

The research unit of SITC, a Hong Kong-listed, intra-Asia focused carrier, estimated in early March that 544 out of some 1,300 oceangoing boxships on this trade had experienced service suspensions of seven to 30 days since January 25.

That led to $220,000 losses on average per ship, from charter and bunker costs.

"With the surge of outbreak risks in South Korea and Japan, the extended supply chain [disruption] may affect the Chinese market, which has already been impacted by the delay in work resumption," the researcher said.

"It is possible that cargo volume in March will remain low."

If this materialises, then the major carriers will suffer, too.

Some have piled up huge debts in recent years via newbuilding investments or mergers and acquisitions, despite a thin margin from operations. The epidemic-led cash haemorrhage can ramp up the default risks.

STR/AFP via Getty Images

Some smaller carriers on the intra-Asia trade will face 'financial survival within the next couple of months', according to consultancy Sea-Intelligence.

The virus also seems to be infecting the cruiseship industry.

If conditions deteriorate, such business may well turn from an asset into a liability to some container liners with cross-sector exposure.

The major carriers are "too big to fail", some have said. True, but it also means it will take a Herculean effort to keep them afloat.

If that moment comes, loan extensions and asset disposals will be inevitable. And that may create opportunities for cash-abundant buyers to drive the box shipping' consolidation to the next level.

"Some [carriers] have piled up huge debts in recent years via newbuilding investments or mergers and acquisitions, despite a thin margin from operations"

The Last Word with David Osler

With human rights, worse things happen on land

Most owners deserve a clean bill of health, but without the efforts of the ITWF and others, human rights issues would be much worse

Shipping is never going to be the natural home of bleeding-heart liberalism, but even so, it fully deserves the flak where it fails to live up to minimum expectations in terms of 21st-century human rights.

So Human Rights at Sea, the UK-based non-governmental organisation, has done us all a service by holding up a mirror to current practice and highlighting where we are collectively falling down.

The charity's latest report takes the United Nations Guiding Principles on Business and Human Rights, unanimously endorsed by the general assembly in 2011, as its benchmark. That is not setting the bar onerously high.

Critics regard the UNGP as an unduly timid instrument; crucially, it is not binding and companies have only a 'responsibility' — rather than an 'obligation' — to live up to the stipulations it sets down.

Much of HRAS's concern is directed at sectors adjacent to, but not part of, shipping proper. In particular, deepsea fishing is made to sound every bit as ghastly as media coverage suggests.

However, merchant shipping also comes under the spotlight, not least on account of seafarer abandonment. One named P&I provider — not an International Group affiliate, it should be stressed — is even accused of failure to pay up for abandonment cover.

Two cruise majors are said to have "failed to address" known risks to working conditions, without details being specified; and not to have clearly-stated policies on sexual exploitation.

Maersk is mentioned for not having incorporated social and environmental clauses in shipbreaking contracts, at least in the past, although it seems to have since raised its game.

Thankfully, the rap sheet — for merchant shipping, anyway — looks both limited and small-scale. And, to invert a cliché, worse things happen on land.

There is no meaningful comparison with the infamous conditions in the dystopian fashion factories of emerging Asia; the spate of suicides at the latter-day dark satanic mill of the FoxConn plant that churns out iPhones in China; or the suspected involvement of the South African state in gunning down striking mineworkers in the Marikana massacres.

Alexey Seafarer/Shutterstock.com

Much of HRAS's concern is directed at sectors adjacent to, but not part of, shipping proper.

Of course, abuses should be stamped out and, without the efforts of the International Transport Workers' Federation, national trade unions and the religiously-based missions to seafarers, things would clearly be a lot worse.

Yet while the vast majority of shipowners do not conspicuously rank among the best ethical disciples of Immanuel Kant, they deserve a clean bill of health.

Furthermore, it is undeniable that shipping has made huge progress on all aspects of human and employment rights in recent decades.

One story that sticks in the mind from my early days at Lloyd's List in the 1990s is the eventually proven claim that leading European shipmanagers were using crews press-ganged into service by the military junta in Burma, providing the dictatorship with hard currency in return.

But in the wake of the International Labour Organisation's Maritime Labour Convention, which entered into force in 2013, such practices are now illegal, and not just immoral, as they always were.

NGOs such as Human Rights at Sea deserve full recognition for their role in pricking our conscience. But ultimately, the incentives to eradicate human rights malpractice are likely to be centred on the pocketbook rather than the bad publicity.

After all, a generation that won't tolerate sweatshop sneakers won't tolerate sweatshop shipping bringing the running shoes over, either.

Lloyd's List

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