



# Newsletter

February 15<sup>th</sup> 2019

*Link road, rail, sea!*

Centro Internazionale Studi Containers

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**PORTS AND TERMINALS**

HAMBURG SEES MARKET SHARE DRIFT TO RIVALS AS DRAUGHT RESTRICTIONS BEGIN TO BITE Page 3

**MARITIME TRANSPORT**

OCEAN FREIGHT CUSTOMERS RESISTING LOW-SULPHUR FUEL PRICE HIKES ..... " 5

**RAIL TRANSPORT**

CLIMATE AGREEMENT FOR RAIL: ARE WE GOING TO GET THERE? ..... " 8

**ROAD TRANSPORT**

UK DRAFTS LEGISLATION TO GIVE NO-DEAL BREXIT ACCESS TO EU HAULIERS ..... " 11

**INTERMODAL TRANSPORT**

COMBINED TRANSPORT SECTOR RISES RAPIDLY, BUT WITH AGING FLEET ..... " 14

**TRANSPORT & ENVIRONMENT**

DRONES TO MONITOR RISING EMISSIONS FROM SHIPPING ..... " 17

**LAW & REGULATION**

IMO MOVES CLOSER TO STANDARDISATION AND SAFER NAVIGATION ..... " 19

**PROGRESS & TECHNOLOGY**

THE DAWNING OF 5G ..... " 21

**STUDIES & RESEARCH**

'BLISTERING BARNACLES' AND SHIPPING'S BIG GAS QUESTION ..... " 24

**REEFER**

DYNAMAR: REEFER CAPACITY TO FALL DUE TO SULPHUR REGULATIONS ..... Page 27

**ON THE CALENDAR** ..... " 29

**February 15<sup>th</sup> 2019**

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## PORTS AND TERMINALS

### HAMBURG SEES MARKET SHARE DRIFT TO RIVALS AS DRAUGHT RESTRICTIONS BEGIN TO BITE

The arrival of more 20,000 teu-plus megaships has resulted in “a steady shift of market share” from Germany’s hub gateway container port of Hamburg to western neighbours Rotterdam and Antwerp, and, to a limited extent, Wilhelmshaven.

The latest Global Port Tracker for North Europe is projecting a 5.1% decline in container imports for Hamburg in the first quarter of this year, compared with the same period of 2018.

Hamburg is yet to publish its final throughput figures for 2018, but at the nine-month stage the total volume handled at its River Elbe container terminals was 2.4% down on the previous year, at 6.6m teu.



Moreover, Rotterdam and Antwerp saw their throughput numbers jump 5.7% and 6.8%, respectively, during the same period.

The monthly report, compiled by Hackett Associates in conjunction with the Bremen Institute of Shipping Economics & Logistics (ISL), suggests the long-awaited commencement of the deepening of the Elbe may have come too late to stop the two Benelux ports gaining a vice-like grip on Hamburg’s traditional hinterland.

ISL’s Sonke Maatsch said that during previous quarters Global Port Tracker had recorded “a steady shift of market share away” from the German ports of Hamburg and Bremerhaven to Rotterdam and Antwerp, although there had been some business that had transferred to the new deepwater port at Wilhelmshaven.

“Due to their geographic location, the German ports are seldom the first call on intercontinental liner services, so some of the vessel’s import cargo is already discharged,” said Mr Maatsch.

This, he said, meant the incoming vessels would have a draught of some one-to-two metres less on their arrival in Germany, after lightening their load.

But, "this is still too much" for the 20,000 teu-plus ULCVs, argued Mr Maatsch.

"First, we saw transshipment move from the German ports to Rotterdam and Antwerp, so the Asia services could still call in Hamburg or Bremerhaven," said the analyst, "but recently we see an increasing number of ships turning in Antwerp and Rotterdam."

Although carriers cannot afford to omit the German ports altogether, Mr Maatsch noted that the alliances were increasingly using transshipment or "interlining strategies to avoid the need to call there with every line".

He said: "Once more the liner operators have set the bar higher for ports," adding that even after the Elbe is dredged to a "tide-independent draught of 13.5 metres", this would still some way shy of the maximum draught of the latest ULCVs: around 16 metres.

"The competitive disadvantage will be weaker, but it will not disappear completely," suggested Mr Maatsch.

Meanwhile, the port of Hamburg is more optimistic about the draught available for navigation of the River Elbe after the deepening, putting the figure at 14.5 metres (although this includes one metre for a flood tide) and has calculated that ships calling would be able to transport 1,600 containers more than currently.

*(from: theloadstar.co.uk, February 11<sup>th</sup> 2019)*

## MARITIME TRANSPORT

### OCEAN FREIGHT CUSTOMERS RESISTING LOW-SULPHUR FUEL PRICE HIKES

Ocean freight customers are currently resisting low-sulphur fuel price hikes, with DHL's top ocean freight forwarding executive saying shippers need greater pricing clarity and will not accept price rises yet for a new regulation being implemented in 2020.

According to the head of global ocean freight at DHL Global Forwarding, Dominique von Orelli, the new International Maritime Organization (IMO) regulations that cap the sulphur content of bunker fuel burned by container shipping lines globally from the start of next year are a welcome step towards sustainability and environmental protection.

But he told Lloyd's Loading List that carriers must provide supply chain stakeholders with transparent pricing structures when they pass on higher costs.

From 1 January 2020, new IMO regulations will put a 0.5% cap on sulphur content in marine fuels globally.

With low-sulphur fuels significantly more expensive, liner shipping executives recently called on supply chain partners to share the burden of rising fuel costs, which they describe as an economic hit of the value of US\$10 billion.

Yet deciding who should pay what is proving divisive.

Von Orelli said the new regulations were in keeping with the Deutsche Post DHL's groupwide sustainability targets, which seek to reduce all logistics-related emissions to zero by 2050.

But he argued that while new carrier surcharges were expected, currently there was insufficient transparency to enable forwarders to publish all-in rates incorporating higher fuel levies.

"There is no question that additional costs for maritime transport will result when IMO Sulphur 2020 takes effect," he said.

"Although the exact costs are not yet known and are very difficult to estimate, a significant rise in costs is expected.

We expect ocean carriers to begin charging additional fees after approximately the third quarter of 2019.”

He said DHL’s ocean forwarding tariffs currently explicitly exclude any additional low-sulphur fuel charges because at this stage the size of increases was difficult to quantify.

“We cannot and do not intend to implement long-term all-in rates as the costs currently are not calculable,” he added.

“Since December 2018, we are regularly notifying our customers about the developments in this connection.

We will also publish our own Danmar low Sulphur BAF [Bunker Adjustment Factor] as soon as possible.”

Liner efforts to incorporate higher fuel pricing to cover the cost of low-sulphur fuel in preliminary transpacific annual contract negotiations are reported to have met resistance from counterparties reluctant to agree price hikes until the new fuels are in use and the increase in costs is clearer.



Von Orelli said the market would not accept lines attempting to include low sulphur fuels costs in 2020 annual transpacific contracts starting in May and June.

“We need to distinguish between bunker costs in general and the low sulphur regulation becoming effective later this year,” he said.

“As in many other trades, the ocean carriers no longer include the Bunker Adjustment Factor in the freight rates and are publishing their own BAF formula broken out from the base rate.

A floating BAF is a tough sell, but the market needs to get used to it.

It’s fair for all parties.

To our knowledge no ocean carrier has published a BAF based on low-sulphur fuel; also there’s no public reference yet to do so.

The contract negotiations on the transpacific routes are only starting about now, so it is premature to make a firm statement.

Needless to say, the market will not accept a BAF based on low sulphur at this point of time.

Considering that the BAF is floating, this should not cause a problem to the carriers as it will adjust itself during the contract.”

As lines decoupled bunker costs from freight rates, he said long-term contracts would increasingly incorporate floating surcharges.

“The days of shipping and freight forwarding companies assuming this risk are over,” he added.

“This cost block is simply too high and the resulting margins too low.”

Asked if current bunker surcharge formulas used by major shipping lines were consistent and comprehensible, he called for more clarity.

“The BAF formulas must become transparent and calculable once again,” he said.

“This applies both to us and to our customers.

The trend over the past few years was not comprehensible and wasn’t helpful to anyone.

The market is too volatile for a fuel surcharge to be included.

The surcharge should instead be kept variable.

This means more fairness and transparency for all involved.

Of course, it must also be calculated according to market conditions.”

*(from: lloydsloadinglist.com, February 6<sup>th</sup> 2019)*

## RAIL TRANSPORT

### CLIMATE AGREEMENT FOR RAIL: ARE WE GOING TO GET THERE?

The railway industry aims for a 30 per cent reduction of greenhouse gasses by 2030.

This is part of the climate agreement signed in Katowice last month.

“Are we going to get there?” was the central question asked in Brussels on Tuesday evening, where the industry came together to discuss the commitments made.

Technically, it is feasible, said Pete Harrison, Executive Director EU Policy, European Climate Foundation.

“There are multiple pathways, and 75 per cent of the options are already commercialised.

The remaining 25 per cent requires innovation.”

#### *Commitments*

The commitments were made at the 24th session of the Conference of the Parties (COP24).

It resulted in a clear rulebook to implement the Paris Agreement on climate change.

The EU plays an instrumental role in climate diplomacy and pushed for higher ambition in making the Paris Agreement operational.

Furthermore, just before COP24, the Commission adopted a vision for a climate-neutral Europe by mid-century.

Rail transport plays an important role in achieving these goals, emphasised the European Railway and Infrastructure Companies (CER), which organised the roundtable discussion in Brussels yesterday.

CO2 emissions from rail account for less than 3 per cent of CO2 emissions from transport although it carries 17 per cent of inland freight and 8 per cent of passengers in Europe, the lobby group pointed out.

## Measures

Measures that can be taken by the industry are for example electrification of the fleet, recovery of braking energy, efficient energy consumption in train driving, automated train operation or improved traffic management.

Meanwhile, policymakers should focus on the electrification of the railway network, create a level playing field for rail compared to road transport, and support research and innovation with a focus on the marketability of clean technologies and multimodal solutions, argues CER.

## Available funds

Stefaan Vergote, Head of Strategy and Economic Assessment of the DG Climate



Action at European the Commission agreed that rail is already leading as a clean transport mode.

The level of electrification should be an example for many other modalities, such as rail, he noted.

However, there are many more ways to reduce the greenhouse output further and for this, there are important funds available, he pointed out.

“25 per cent of the total EU budget should be climate relevant.

A good example is the Horizon Europe fund.”

## Shift2rail

In order to contribute to a climate neutral transport sector, the shift to rail should be supported on all levels, believes the CER.

Part of these efforts should be on the internalisation of external costs for all transport modes.

Currently, charges in the form of vignettes or tolls are only applied to trucks on about 20-25 per cent of motorways and main roads in Europe.

As such, trucks pay, through taxes and tolls, around 70-90 per cent of their total infrastructure and external costs and if taking into account all roads in Europe, cost coverage is 30 per cent on average.

In contrast, the railway sector pays distance-based charges everywhere in the EU, covering at least the direct cost of infrastructure use, plus often a mark-up, CER noted.

“An efficient European transport sector requires fair competition between modes, with proper charging both for externalities and infrastructure.”

At the same time, a modal shift is not possible without the necessary improvements to make rail more attractive.

Member of EU Parliament Wim van de Camp commented: “A modal shift is almost impossible, as railway is old-fashioned and not flexible at all.”

If it really wants to gain its share on the market, it should speed up with the developments, he believes.

*(from: railfreight.com, January 30<sup>th</sup> 2019)*

## ROAD TRANSPORT

### UK DRAFTS LEGISLATION TO GIVE NO-DEAL BREXIT ACCESS TO EU HAULIERS

The UK government has produced draft legislation to give access to the UK for EU hauliers in the event of a no-deal Brexit.

The move follows a proposal last December from the European Commission, which proposed legislation that would allow UK hauliers basic rights to conduct operations to, from and through the EU for a limited period of 9 months after exit, if there is no deal, subject to the UK agreeing reciprocal access for EU hauliers.

As a result, a "road haulage statutory instrument has been laid in Parliament which is designed to ensure UK law operates effectively if the UK leaves the EU without a deal", the UK government said.

Jesse Norman MP, Minister of State for the Department for Transport, commented: "The government is making preparations to allow hauliers and other businesses to continue to transport goods between the UK and the EU, once the UK has left the EU.

These include preparations for leaving the EU without a withdrawal agreement.

Accordingly, I am today laying a draft haulage statutory instrument designed to ensure that UK law continues to operate effectively in this area if the UK leaves the EU without a deal.

The government will continue to license UK hauliers to the same high safety, environmental and operating standards as at present, and will require foreign hauliers operating in this country to do the same.

The legislation also provides for continued access to the UK market, after exit, for hauliers from the 27 EU member states.



Over 80% of haulage between the UK and continental Europe is undertaken by EU hauliers and it is important to ensure that the UK's supply chains are protected."

He stressed that the UK needs to be sure that foreign products can be imported and UK products exported as usual, adding: "Our approach of offering access at this stage aims both to provide the reassurance needed for international freight flows to continue, and also to help ensure reciprocal arrangements for UK hauliers.

On its side, the European Commission has proposed legislation that would allow UK hauliers basic rights to conduct operations to, from and through the EU for a limited period of 9 months after exit, if there is no deal.

The Commission's proposal will need to be agreed by the Council and European Parliament, and is being considered by both institutions urgently.

This proposal is predicated on the UK's granting equivalent access for EU hauliers to the UK, and the legislation laid before the House today provides for that access.

Indeed, it is a more liberal offer, and we are discussing with the Commission whether there is scope for them to extend the EU's offer so as to match ours.

Depending on the outcome of these discussions, we will review the UK's offer to EU hauliers.

Our legislation contains provision to suspend EU hauliers' rights to undertake cabotage operations in the UK.

We are putting in place measures to introduce such a suspension, which could be put into effect immediately after exit day if needed.

Our expectation, however, is that such a suspension will not be necessary."

In parallel with these measures, he said the UK has been considering bilateral and unilateral measures with EU member states, noting: "France is separately progressing with a unilateral measure to provide wider access to UK hauliers in the event of no deal.

There are also 22 historic bilateral agreements that would come back into effect if the UK leaves the EU without a deal.

In addition, a multilateral quota of transport licences was introduced by the European Conference of Ministers of Transport (ECMT) in 1974 to support liberalised road freight transport between member states of that body.

The licences, known as ECMT permits, allow for access between the 43 member states (which include all EU member states except Cyprus)".

He noted that the UK has an allocation of 984 annual and 2,832 short-term (valid for 30 days) ECMT permits for 2019, adding: "These levels were agreed through a long-standing formula approach before it was known that the UK would be leaving the EU.

The government's expectation is that hauliers should not need an ECMT permit to continue doing a range of business in all or much of the EU, even in the event of no deal.

But it is important to continue to prepare for all possible scenarios, and if it should prove necessary to use some of these permits for UK hauliers operating to EU countries, the government has put in place a scheme to allocate these permits, as detailed under the Haulage Permits and Trailer Registration Act 2018.

UK hauliers have been applying for ECMT permits and the government expects to inform applicants of the outcome of their applications later this week.

As we expect UK hauliers will have other means of ensuing market access to the EU, we will inform UK hauliers of the outcomes to provide certainty, but will allow a period of time before these need to be formally taken and paid for by successful hauliers."

He said this approach had been agreed with road haulage stakeholders, adding: "The 2018 Act provides appropriate arrangements for distributing new permits as may be required under any future bilateral arrangements, if these are needed.

Overall, we continue to believe that reciprocal market access will be secured for UK hauliers.

While continuing to plan for all eventualities, we also believe that it is right to underline the fact that the UK is taking a positive and pragmatic approach."

*(from: lloydsloadinglist.com, February 5<sup>th</sup> 2019)*

## INTERMODAL TRANSPORT

### **COMBINED TRANSPORT SECTOR RISES RAPIDLY, BUT WITH AGING FLEET**

The European combined transport fleet is aging and in ten years from now, will need to be upgraded.

However, with the technical specifications of the wagons today, this will be a challenge.

This is one of the conclusions in the Combined Transport in Europe report 2018, published by BSL Transportation Consultants and the UIC.

The report was presented in the UIC head office in Paris on Wednesday.

Every two years, the partners carry out an assessment of the combined transport market.

For the first time this year, the report includes insight in the wagon fleet.

The more than 64 thousand wagons have an average age of 20 years.

#### *Figures*

The combined transport volumes are on a steady rise, unlike the general rail freight volumes which have been almost the same for the last ten years.

Since 2005, combined transport traffic volumes increased by 50 per cent.

Compared to 2015, the figures rose by 7.2 per cent.

And the future looks bright: the expectation is that in the next two years, the volumes increase by around 10 per cent.

The lion share of combined transport in Europe is unaccompanied, and the key driver for growth is international traffic.

Cross-border movement has grown by 81 per cent since 2005, and 12 per cent since 2015.

The total volume of combined transport traffic amounted to 22.5 million TEUs in 2017.

The rail leg is on average around 800 kilometers.

### *Challenges*

These figures are in line with the expectations pronounced two years ago.

The sector sees a steady growth, and that is fortunate because combined transport is in fact the answer to the climate prayers, argues Ralf-Charley Schultze, CEO of the UIRR.



“Combined transport is a low-hanging fruit, needed to achieve the climate goals set by the transport industry”, he noted.

But there are also challenges ahead, the report proved.

The average age of the current dedicated combined transport fleet is 20 years.

Wagons have a lifetime of around 40, sometimes 45 years.

So in 10-15 years, a massive upgrade will be required.

However, it is quite difficult to meet the changing market conditions at the moment, the BSL argued.

On the positive side, the pocketwagon fleet is relatively young, and it here where most investment is expected, they added.

### *Support*

Most European countries show some level of support for the combined transport sector, the report concludes.

Eighteen countries could be defined taking some measures favourable to the sector, although six countries have no national funding programme.

These countries are Norway, Spain, Slovakia, Slovenia, Latvia and Estonia.

Although the support on a national level is important, harmonisation among the European member states is equally, if not more important, Schultze pointed out.



“What we currently see is a trend towards nationalism in Europe, which affect the combined transport sector.

An amended Combined Transport Directive is on the table, but currently some member states have proposed another version of the legislative piece that would reverse harmonisation in Europe.

This is something very worrying.”

*(from: railfreight.com, January 31<sup>st</sup> 2019)*

## TRANSPORT & ENVIRONMENT

### DRONES TO MONITOR RISING EMISSIONS FROM SHIPPING

Hong Kong is gearing up to use drones to monitor emissions from ships.

Highly efficient sensors developed after a series of extensive trials have been fitted on the drones.

In real time, they accurately measure the pollution content present in the smoke plume released by a ship.

When equipped, the drones, developed by a team of researchers from the Hong Kong University of Science and Technology (HKUST), scan emissions by hovering over ships for just two minutes.



The unmanned machines will replace the cumbersome process of manually collecting fuel from the ship's tank, and then sending it for a laboratory test.

The navigation sector, a major contributor to a city's air pollution, releases more than 40 percent of atmospheric pollutants including sulfur dioxide, nitrogen oxide and extremely fine particles.

In a bid to curb rising air pollution from marine vessels, Hong Kong passed a regulation mandating ships to use clean fuel.

The regulation came into effect last month.

The new law makes it mandatory for ocean-going vessels (OGV) using heavy fuel oil with an average sulfur content of 2.6 percent to switch over to cleaner fuel with sulfur content less than 0.5 percent, before entering Hong Kong waters.

#### *Shipping sector's pollution footprint increasing*

Shipping emissions have become a global concern with marine transport that carries about 90 percent of trade, emitting nearly three percent of total greenhouse gases every year.

Increasing vessel fleet size and lack of efficient technology make emission monitoring a significant challenge.

Last year, more than 173 countries, members of the United Nations International Maritime Organization (IMO), pledged to slash shipping emissions by 50 percent.

“Despite global and national regulations in place or in works to control air pollution caused by the navigation sector, challenges remain to monitor emissions from ships,” Zhi Ning, a lead researcher on the project at HKUST, told CGTN.

Developed countries use helicopters, scan photographs of smoke plume released by ships, or physically collect fuel samples to ascertain if ships are running on clean fuel.

Potentially, drones can be cost-effective, less time consuming, and scientifically much more advanced to precisely monitor the emissions from the ships.

“We can make the sensors more accurate and further innovate it”, Ning added.

At present, most of the compliance for clean fuel use in the sector is voluntary, making it susceptible to manipulation.

A study conducted in 2017 found that three of the six most polluted harbors are based in Asian countries – Singapore, Hong Kong and Shanghai.

Researchers also found more than 76,000 vessels plying on international waters without providing crucial information including the type of fuel use, size, and route.

In such a scenario, drones can act as mobile monitoring stations to curb potential pollution in cases like these, researchers said.

In order to ensure the feasibility of the drones to monitor shipping emissions, extensive trials will be held over the next few months.

Once cleared for induction, Hong Kong will have to make a few legislative changes to allow their use.

*(from: hellenicshippingnews.com, February 13<sup>th</sup> 2019)*

## LAW & REGULATION

### IMO MOVES CLOSER TO STANDARDISATION AND SAFER NAVIGATION

A sub-committee under the International Maritime Organization (IMO) have forwarded three documents for adoption in June, moving one step closer to the adoption of a standardised system for electronic navigation.

This year's Navigation, Communication, Search and Rescue sub-committee (NCSR 6) took place from 15-25 January in London.

The work to standardise the display of bridge equipment started at IMO level in 2015 and throughout the process, the end user – the navigator – has been in focus.

A correspondence group was formed consisting of a number of member states and various international organisations representing different industries.



Over the next three years, the group worked on formulating and improving a set of guidelines for the design of navigational related data on bridge equipment.

*An improvement to safety*

This work is now complete and three important measures were agreed upon at

the NCSR sub-committee meeting.

All three documents have now been forwarded to the Marine Safety Committee (MSC) for adoption in June this year.

Once completed, all new Radar, ECDIS and integrated navigational displays (INS) from 1 January 2024 and all other displays on the bridge from 01 July 2025 will display information in a harmonized manner.

"This development is an important step which will bring great benefits to the seafarers.

In the future, they will be able to easily familiarise themselves with the different bridge displays.

In fact, the number of hours spent on familiarisation training can be reduced," says Ashok Srinivasan, Manager, Maritime Technology and Regulation at BIMCO and part of the sub-committee.

"Above all, this will greatly assist the navigator in making better decisions and greatly contribute towards improvement in safety of navigation," Srinivasan says.

The three documents that will be up for adoption at the IMO's MSC meeting in June are:

- Guidelines for the standardization of user interface design for navigation equipment (Standardized mode).

The formulated guidelines will apply to navigational equipment such as Electronic Chart display and information system (ECDIS), Integrated Navigation systems (INS) and Radar equipment.

- Guidelines for the presentation of navigational-related symbols, terms and abbreviations (SN.1/Circ.243.Rev1).

These guidelines have been completely revised.

- Performance standards for the presentation of navigation-related information on shipborne navigational displays (MSC.191(79)).

These standards have been amended.

An example of this (once the standardisation is adopted) is when the user selects radar default settings.

Here, all radar equipment – irrespective of the make or model – will display exactly the same information.

Another example is that "true motion reset" can be performed by the touch of a single button on both ECDIS and Radar, across all makes and models.

The functionalities will be standard across all Radars, ECDIS and Integrated Navigation displays on all ships, paving the way for smooth familiarisation and operation of these systems.

*(from: [Hellenicshippingnews.com/bimco.org](http://Hellenicshippingnews.com/bimco.org), February 1<sup>st</sup> 2019)*

## PROGRESS & TECHNOLOGY

### THE DAWNING OF 5G

As the digitization of industry and the global economy continues, a necessity for reliable, faster and more secure networks to connect businesses and the global supply chain continues to grow.

It is no surprise then that major companies and service providers, such as IBM and Vodafone, are forming joint-venture initiatives to test and develop a 5G ecosystem which, according to President of Mobile Networks with Nokia, Tommi Uitto, can generate new potential for automated operations and artificial intelligence.

While the worldwide implications of 5G technology are myriad, with leading companies Nokia and China Mobile seeking to create a more open and interoperable form of architecture for high-speed networks, its application to the ports and terminals sector could be game-changing.



As Dr. Yvo Saanen, Founder of simulation specialists TBA Group explains above, there is a need to connect a port's assets, machines and people to systems, thereby increasing the safety and efficiency of cargo-handling operations.

The ability of 5G to optimize operations and "transmit data safely within milliseconds" is already being trialled as part of the Wireless for Verticals (WIVE) research project, one of many initiatives demonstrating the technology's value as a catalyst for improved performance.

#### *Faster and smarter networks*

It would be easy to focus on the speed of 5G alone, especially when the development of this technology is likely to produce much shorter network response times for a wide variety of industries, including the logistics and port sectors.

However, as the University of Surrey's world-leading 5G Innovation Centre underlines, the next evolution of connectivity is more significant than catering to the individual needs of everyday consumers: 5G is as much about "machine-to-machine" as it is "people-to-people".

The flexibility of 5G networks, to "evolve, adapt and grow" is vital to the progress and implementation of this next technological phase which will allow applications to perform the "bandwidth-heavy" tasks demanded in the future.

Other benefits of 5G, as explored by key industry players like Nokia, include its prediction capabilities, security and reliability, positioning the technology as a crucial foundation for the development of machine learning tools.

Marc Rouanne, the ex-President of Mobile Networks at Nokia, once stated that "AI and machine learning will enable a myriad of new service opportunities", in addition to reducing end user costs and minimizing the consumption of energy.

### *Revolutionizing ports*

Like a whole host of other industries seeking to ride the wave of digitization, businesses in the maritime sector, such as service providers, are hoping to leverage 5G to their collective benefit.

Kalmar, a provider of lifting solutions, is already trialling 5G applications and building a "technology road map" that will make the next stage of connectivity part of the "industrial standard of the future".

Forecasting the revolutionary potential of 5G, Kalmar's Director of Automation Research Pekka Yli-Paunu has predicted that "advances in connectivity give us the opportunity to develop the next generation of remote control that may utilise not only video, but audio and haptics as well".

In addition to this, major ports are conducting their own 5G trials, testing its capability to drive advancement in other areas and provide a bedrock for smarter, more efficient operations.

The Port of Hamburg has already hailed the success of their project, with intermediate results indicating that "5G enables new types of mobile applications for the Hamburg Port Authority's business".

Looking ahead, Hamburg has isolated "5G network slicing" as an area that will have a particular impact on operations, laying the "foundation for new IoT applications" and "business models" that will boost the competitiveness of the entire port industry.

### *Unlocking the potential*

The cooperation of key players from multiple industrial and technological fields is currently forming an access point to 5G for businesses in all sectors.

Nokia has emphasized their work with “a lot of partners in the ports and terminals space, such as Konecranes, to enable the development of a connected ecosystem,” with the company “well positioned to understand the applications and savings made possible by mission-critical wireless technologies”.

According to Nokia’s statistics, ports and harbours make up a significant proportion of its vertical enterprise customers, all of which are currently deploying private LTE networks for their operational campus needs.

In the case of ports like HaminaKotka (located in Finland) the focus of “operational needs” once again shifts to connectivity, correlating to the intelligent machine Dr. Yvo Saanen imagines in his assessment of 5G.

Based on the sound situational awareness of container handling, warehouse logistics, and port security which machine-to-machine and machine-to-person connectivity offers, operations can be improved across multiple areas, from safety and efficiency to environmental performance and cost-effectiveness.

The extent of 5G’s potential impact on ports and terminals is still uncertain, but as operators and service providers search for smarter solutions, and ways to leverage automated technologies, the key word for the future is connectivity.

*(from: porttechnology.org, February 4<sup>th</sup> 2019)*

## STUDIES & RESEARCH

### 'BLISTERING BARNACLES' AND SHIPPING'S BIG GAS QUESTION

Natural gas alone will not help shipping cut greenhouse gas emissions, according to a new study, which means that alternative fuels and even barnacle-resistant paint will be needed to meet ambitious climate targets.

International shipping contributes nearly 3% of the globe's total emissions and that number is projected to increase by at least 50% by mid-century as things stand.



But the International Maritime Organisation (IMO) wants to break the trend and has set a target of 50% cuts by 2050, compared with 2008 levels.

The sheer scale of global shipping makes the problem massive; nearly 90% of trade is conducted on the high seas and advances in engine technology cannot keep pace with the increase in vessel numbers.

Shipping's impact is on the EU's radar to an extent and the European Commission adopted measures on Monday (4 February) to make sure monitoring of shipping's fuel consumption is done in line with new global norms.

#### *The problem*

Most ships use heavy fuel oil, which is a significant emitter of CO<sub>2</sub> and other pollutants like nitrogen and sulphur oxides.

A switch to alternative energy sources, like natural gas, has been mooted as a solution to shipping's woes.

A new paper by Imperial College London has warned though that gas will not meet the IMO's target by itself and other solutions like hydrogen power and energy efficiency measures will be needed.

“The greenhouse gas benefits of natural gas as a transport fuel are useful in the immediate term, but must be coupled with additional energy efficiency measures and longer-term plans that include much lower carbon truck and ship technologies,” said Imperial’s Dr Jamie Speirs.

Efficiency measures include installing solar panels, using sails in addition to engines, better hull design and barnacle-repellent paint that prevents the sea creatures building up on a ship’s hull, which increases drag and, as a result, fuel consumption.

Even under the most ambitious scenario, the study forecasts 36% cuts, well short of the IMO’s 50% ask.

That is why the authors suggest that the target could be reached if hydrogen fuel cells in shipping become widely available from 2040 onwards.

A spokesperson for the International Association of Oil and Gas Producers told EURACTIV that “of course we’ll need new technologies like gas-to-hydrogen and renewables to reach the IMO’s target”, adding that a “fuel switch to gas and new hull and propeller design” are also part of a “basket of solutions”.

The authors of the Imperial College study also pointed out that although natural gas can significantly cut the CO2 footprint of shipping, the release of methane can wipe out those gains or even leave the sector at a net loss in its emission reduction efforts.

That is because methane is a more potent greenhouse gas, which is released along the whole natural gas value chain.

The phenomenon known as ‘methane slip’ in a natural gas engine is also part of the problem, although technological advances promise to eliminate it eventually.

Indeed, the study found that so-called ‘dual-fuel’ vehicles could actually end up polluting more than even traditional vehicles, including trucks, if the entire life-cycle emissions of the vehicles are considered.

### *Quality air*

One mark in the fuel’s favour is its contribution to air pollution reduction, as natural gas releases far less harmful particulate matter than other fuels.

The study estimated that it could result in cuts of over 90% for nitrogen, sulphur and particulate matter.

However, clean mobility NGO Transport & Environment said that “air quality requirements can be met more easily with marine gas oil (MGO) or ultra-low sulphur fuels”.

Clean fuels expert Jori Sihvonen also told EURACTIV that ships will be able to carry “less cargo as the fuel tanks take more space”, suggesting that a switch to natural gas would not be a given for operators.

Sihvonen added that gas is “not even a bridge [fuel], it is a distraction and pause button to continue business as usual”.

He added that it is more likely to take investment away from research and development than lead to an uptake of zero-emission ships.

The IMO’s 50% target is currently aspirational at best and the finer details are yet to be hammered out.

In the meantime, a more robust cap on sulphur emissions is set to come into force in 2020, which will force operators to either switch to cleaner fuel or install filters to meet a 0.5% sulphur content threshold.

*(from: euractiv.com, February 6<sup>th</sup> 2019)*

## REEFER

### **DYNAMAR: REEFER CAPACITY TO FALL DUE TO SULPHUR REGULATIONS**

Shipping consultant Dynamar has predicted that a lot of old conventional reefer ships will be scrapped to comply with upcoming sulphur regulations while investment in the reefer container segment has increased.

As a result of the reduction in trade capacity, Dynamar expects that both conventional reefer operators and container ship operators will receive a boost, for a time at least, which will offset new higher fuel costs.

The cost of fuel makes up a larger part of the costs for conventional reefer operators which is why Dynamar expects operators to scrap “fuel-hungry” old ships or even exit the industry all together.



For struggling ship operators preparing for the implementation of the International Maritime Organisation (IMO)'s 2020 sulphur cap, scrapping may prove be the most cost-effective method as the use of LNG or scrubbers will be too expensive.

As the decline in the conventional reefer fleet persists, with 19 ships with an average age of of 33 years demolished in the first half of 2018, Dynamar expects the fleet to fall from the current 574 ships to around 310 by 2030.

On the other hand, the consultant found that in 2018 there appeared to be a preference for the reefer container segment as there was a growth in new developments and investment.

At the end of 2018, the world maritime container box fleet totalled 2.9m teu and production was projected to grow 12% to 130,000 teu and for 2019 it is expected to rise but only slightly.

Maersk Line and its subsidiary Hamburg Süd launched a new reefer-heavy service in 2018 between Costa Rica and Italy, which deploys five 1,800 teu ships equipped with 450 reefer plugs.

However, Maersk Container Industry (MCI) closed its reefer factory in San Antonio, Chile after just three years which left it with only one facility in Qingdao, China.

Seatrade replaced containerships deployed on its North Europe-Central America Blue Stream service with specialised reefer tonnage and on-deck box capacity between 260 and 440 teu.

Great White Fleet terminated its slot allocation on the Central America Express service of MSC, which connects Central America with the US.

Instead, the shipping arm of fruit trader Chiquita will offer two new services, deploying high-reefer capacity tonnage and in 2018 it ordered 2,500 Star Cool integrated reefer containers.

*(from: container-mag.com, February 5<sup>th</sup> 2019)*

## ON THE CALENDAR

- 19/02/2019 – 21/02/2019 Manila 10<sup>th</sup> Philippine Ports and Shipping 2019
- 19/03/2019 – 21/03/2019 Mombasa 21<sup>st</sup> Intermodal Africa 2019
- 14/05/2019 – 16/05/2019 Aktau 1<sup>st</sup> Caspian Ports and Shipping 2019
- 25/06/2019 – 27/06/2019 Casablanca 7<sup>th</sup> Mediterranean Ports and Shipping 2019
- 09/07/2019 – 11/07/2019 Constanta 8<sup>th</sup> Black Sea Ports and Shipping 2019
- 10/09/2019 – 12/09/2019 Phnom Penh 17<sup>th</sup> ASEAN Ports and Shipping 2019
- 22/10/2019 – 24/10/2019 Polonia 3<sup>rd</sup> Baltic Ports and Shipping 2019
- 26/11/2019 – 28/11/2019 Douala 22<sup>nd</sup> Intermodal Africa 2019

The Secretariat of C.I.S.Co. is able to communicate detailed information on the programs of all the events and how to participate.