

Newsletter

June 15th 2018

Link road, rail, sea!

Council Of Intermodal Shipping Consultants

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PORTS AND TERMINALS

BRITISH PORTS WELCOME BREXIT 'CUSTOMS BACKSTOP' Page 3

MARITIME TRANSPORT

SEA FREIGHT RATES FALL 50% IN 20 YEARS " 6

RAIL TRANSPORT

CAN THE BRENNER PASS RAILWAY HANDLE HEAVIER FREIGHT TRAINS? " 8

ROAD TRANSPORT

BRUSSELS COMMITTEE AMENDS EU ROAD HAULAGE PROPOSALS " 14

INTERMODAL TRANSPORT

HUPAC: FLAT RATE FOR TRANSALPINE TRANSPORT FROM 2024 " 16

TRANSPORT & ENVIRONMENT

THE COMPLEXITIES OF THE IMO 2020 SULPHUR RULE ON BUNKER FUELS " 18

LAW & REGULATION

NEW REGULATIONS SEND SHIPPING SECTOR HUNTING FOR LOW-CARBON SOLUTIONS ... " 21

PROGRESS & TECHNOLOGY

IMPLEMENTING TECHNOLOGY COULD BE THE BIGGEST CHALLENGE TO DATA STANDARDIZATION " 25

STUDIES & RESEARCH

INDUSTRY LEADERS FORECAST THE FUTURE FOR CONTAINER TRANSPORT " 29

SAFETY & SECURITY

EXTINGUISHING THE SAFETY CONCERNS OF ELECTRIC AND HYBRID VESSELS Page 33

CONFERENCES

THE 6TH GLOBAL RAIL FREIGHT CONFERENCE GRFC (GENOA, JUNE 26TH-28TH 2018) " 37

ON THE CALENDAR " 39

June 15th 2018

The content of the C.I.S.Co. Newsletter is also published in the newspaper "Informare" accessible on the Internet site <http://www.informare.it>

PORTS AND TERMINALS

BRITISH PORTS WELCOME BREXIT 'CUSTOMS BACKSTOP'

The British Ports Association has welcomed the publication yesterday by the UK government of the temporary customs arrangement, the so-called 'customs backstop', that guarantees borderless customs on the island of Ireland after the UK leaves the European Union.

The 'Technical note on temporary customs arrangement' document sets out the UK's proposal for a 'backstop' customs arrangement between the UK and EU and is seen by many as effectively guaranteeing a 'soft exit' from the EU by the UK.

The UK government stressed that it believes that the 'Joint Report commitments', agreed earlier this year between the UK and the EU with respect to Northern Ireland, "can be fulfilled through the overall UK-EU partnership, it is also necessary to ensure that there is an appropriate backstop solution for the Northern Ireland land border in the Northern Ireland protocol element of the Withdrawal Agreement, that would only come into force in limited circumstances.



Therefore, to deliver on its Joint Report commitment and ensure the integrity of the UK market, the UK is putting forward a proposal for the customs element of the backstop that would apply to customs arrangements between the UK and EU and avoid a hard border between Northern Ireland and Ireland."

The UK's proposal is that in the circumstances in which the backstop is agreed to apply, a temporary customs arrangement should exist between the UK and the EU.

This arrangement would see:

- The elimination of tariffs, quotas, rules of origin and customs processes including declarations on all UK-EU trade;

- The UK outside the scope of the Common Commercial Policy (CCP), except where it is required to enable the temporary customs arrangement to function.

This will mean applying the EU's common external tariff (CET) at the UK's external border, alongside the Union Customs Code (UCC) and such other parts of the Common Commercial Policy that are required to enable the temporary customs arrangement to function; and

- The UK able to negotiate, sign and ratify free trade agreements (FTAs) with rest of world partners and implement those elements that do not affect the functioning of the temporary customs arrangement.

The UK stressed that the temporary customs arrangement "will be replaced by a permanent end state settlement, whose terms will need to be agreed by both parties.

This temporary arrangement would only come into force following the Implementation Period, in specific and narrow circumstances, such as a delay in the implementation of the end state customs arrangement, and would be time-limited.

The UK is clear that this is not its preferred option."

It added: "Such a temporary arrangement could only be provided for in law if a Withdrawal Agreement is agreed between the UK and the EU.

This 'Withdrawal Agreement' will be accompanied by, and refer to, an agreed future partnership framework, which would set out the new customs end state arrangement."

There remains some debate over whether the customs backstop would have a specific end date, and whether a specific end date would be acceptable to the EU.

Nevertheless, the document was welcomed by UK ports representatives.

Commenting on the development, BPA chief executive, Richard Ballantyne, said: "This arrangement will give ports and freight operators measure of short-term certainty.

It is now essential that government makes progress on our long-term customs and other border arrangements.

There is still an urgent need for clarity on non-customs checks, which account for three quarters of border stoppages.

These have the potential to cause huge disruption.

We look forward to the passage of the 'EU Withdrawal Bill' next week and hope that, whether various amendments are passed or defeated, we will have a clearer picture of what happens next."

BPA urged the UK government to speed up progress with the planned customs white paper to clarify the future relationship with the EU, commenting: "We have made clear that, of the government's two proposed policies, the customs partnership represents almost business as usual at the border for UK-EU trade, but whatever arrangement we choose it is vital there is time for ports to adapt to avoid disruption.

Ports need to know sooner rather than later what this relationship will look like and we will continue to work with government, behind the scenes, on ensuring that the transition is as smooth as possible."

The BPA has welcomed the government's aim of aligning with the EU on plant and animal health standards, particularly at roll-on roll-off (ro-ro) ferry ports, noting: "This is a vital part of ensuring trade continues to flow freely through our ports after Brexit.

Under present EU rules, plant and animal products could be subject to a hugely disruptive inspection regime at the border.

To require lorries to stop and undergo time consuming inspections at ports would lead to significant disruption at the border and create congestion around ports."

The BPA said it had consistently argued that the free flow of goods through UK ports must not be disrupted, noting: "This is especially critical at roll-on, roll-off ferry ports, where goods on HGVs are used to driving off the ship and out of the port virtually uninterrupted.

These ports facilitate the trades of consumer goods, perishable cargoes and 'just in time' freight.

Any form of customs or other regulatory checks have the potential to disrupt these important 'just in time' supply chains.

If there are to be border checks, we have argued that they should be carried out away from port bottlenecks."

(from: lloydsloadinglist.com, June 8th 2018)

MARITIME TRANSPORT

SEA FREIGHT RATES FALL 50% IN 20 YEARS

Container freight rates have fallen by over half in the past 20 years after inflation is taken into account, according to a new analysis by Alphaliner.

While average nominal freight rates, as measured by the China Containerised Freight Index, have declined by more than 20% since the beginning of 1998, inflation-adjusted freight rates have shown an even larger reduction, because bunker prices have increased more than five-fold since 1998.

“Although shippers have been quick to raise their objections against the carriers’ recent attempts to impose ‘emergency’ bunker surcharges, a reaction toward steadily increasing fuel prices, few have acknowledged the significant savings on freight rates they have enjoyed over the years,” Alphaliner said.

Fuel costs, which accounted for only about 8% of carriers’ operating costs in 1998, now make up 15% of total operating costs, Alphaliner said.

“For context, this number had reached a high of about 26% in 2011, when bunker cost were unusually high for an extended period,” it said.



“Since then, carriers have been able to mitigate part of the increases through cost-saving initiatives, including the use of larger ships, slow steaming, and headcount reductions, as well as synergies from consolidation and from the formation of alliances.”

Most savings from operational and organisational efficiencies in the past two decades have mostly been passed on to shippers in the form of lower freight rates, both in nominal and in real terms.

In the past two weeks, however, carriers have announced a series of emergency bunker surcharges to cover the rise in bunker prices, although export shipments from China have been excluded from this extra charge.

But some carriers have announced separate rate increases, applicable to exports from China in order to overcome Chinese regulatory hurdles on the application of new surcharges, Alphaliner said.

Hapag-Lloyd, for example, has announced a separate peak season surcharge applicable to China.

"This has a similar quantum as the bunker surcharges that have been announced," Alphaliner said.

"Zim is implementing the charge for Chinese exports as a bunker adjustment factor instead of an emergency bunker surcharge."

Last week, shipper groups called on carriers to be more be more transparent with their fuel price surcharges and accused them of using bunker adjustment factors as an attempt to boost freight rates.

(from: lloydsloadinglist.com, June 7th 2018)

RAIL TRANSPORT

CAN THE BRENNER PASS RAILWAY HANDLE HEAVIER FREIGHT TRAINS?

A recent study by Prose and Rail Traction Company, Italy, revealed that it is possible for a 2200-tonne freight train to successfully navigate the Brenner Pass on the Italy-Austria border.

Robbin Wetter, an engineer in Prose's Running Dynamics team, details the project.

* * *

Freight trains experience their highest longitudinal forces during rapid braking and when negotiating curves with small radii.

The maximum longitudinal forces handled by buffers and draw gear in these situations limit the possible overall maximum weight of these trains.

In this context, Prose was commissioned by the Italian-based freight operator Rail Traction Company (RTC) to analyse the longitudinal dynamics of heavy freight trains and address the question of whether it is possible to drive a 2200-tonne freight train safely down the Brenner Pass, which includes a 22.5‰ gradient.

Trains using the Brenner corridor on the Italian side are currently limited to 1500 tonnes when travelling up-hill and 1600 tonnes when moving down-hill.

Extensive multibody simulations were therefore performed of the line to see whether an increase in weight was feasible.

Brenner pass high longitudinal forces inevitably occur during emergency braking applications.

Normally, braking is initiated at the leading part of the train.

This leads to a concertina-like motion, in which the trailing wagons press against the leading wagons and the lead locomotive.

The forces in the buffers and draw gear also increase substantially when a train negotiates a curve.

This is due to the relative motion of neighbouring wagons, which leads to kinematic deflections of the side buffers and the draw gear.

The draw gear will be subjected to tensional forces, and the buffers on the inner rail will be pressed together.

When combined, a scenario in which the maximum forces that can occur is created leading to an emergency braking application in a curve.

This raises the question of how the variations in the starting point of braking can influence the maximum forces exhibited.

Will the maximum force occur if braking is initiated at the beginning of the curve, or will it occur if braking is initiated later?

Five train configurations were investigated in the original project.

However, we will focus on a train formed of Eaos wagons, as its performance can be considered typical for freight trains.

The Eaos freight wagon is a four-axle open type and is used by numerous European railway companies to transport coal, ore, stone, scrap metal, timber and other similar raw materials.

The train consists of a single leading locomotive, which has comparable features to a Siemens E189, 27 freight wagons and another locomotive of the same type at the rear of the train.

The overall weight of the train is 2331 tonnes and it is assumed that all wagons are equipped with the same devices: category A buffers according to EN 15551:2009 and type 1 MN draw gear following EN 15566:2016.

Type Y25 bogies are used in all wagons while G-Type brakes are used on all wagons and locomotives.

In cooperation with RTC, all wagons are assumed to have the same brake application time but are activated at different times due to the time delay during transmission of the pressure drop through the brake pipe.

As the pressure gradient of the G-brake hardly changes between the wagons, it is assumed as constant for each wagon.

The minimum time to fill 95% of the braking cylinder is 18 seconds and the maximum time is 30 seconds.

The brake forces increase linear up to a maximum value, which is determined by an analytical approach that considers the "P"-Brake definition as it is understood in real-world tests.

The track layout consists of a straight section which leads into a 280m curve via a transition curve.

In addition, the slope is assumed to be 22.5‰.

Initially the train runs at a velocity of 75km/h with both locomotives braking using electrodynamic brakes (ED-brakes).

When emergency braking starts, the pneumatic brake application is initiated on the front locomotive and both ED-brakes are shut down.

The wagons brake with a specific time delay.

In order to identify the maximum forces at play, the starting point for when the driver makes an emergency brake application varies.

The objective of the test from a safety point of view is to avoid damage to the vehicles.

The following values are considered as respective limit values during the emergency brake application through the curve:

- Draw gear: The limit value for the screw coupling of 180kN for 106 cycles of loading, according to EN 15566, is chosen.

The value of 180kN is a combination of the test peak-to-peak value of 170kN and a lower load, which should not be lower than 10kN and not higher than 50kN.

In this case, the more sensitive lower limit is chosen to assess the results.

However, when it comes to comparison with a specific case, the limit which applies to the screw couplings installed in the vehicles must be identified.

In addition, one must check whether the events in which this limit is exceeded occur frequently or not and whether they impact the life-cycle of the asset.

- Buffer: The limit value of the buffer force of 250kN for 3x10⁵ cycles of loading according to the force F6 in EN 15551 is chosen.

Again, a buffer force limit value number 5 of 250kN is applied during the life-cycle tests.

In the test, the force increases from 50kN to 250kN.

Nevertheless, the test is carried out at the customer's request, and it is recommended that this value is maintained.

However, it is necessary to consider whether the buffers that are fitted to the vehicles were designed to meet this requirement or not.

To calculate a numerical model and provide a simulation, Prose used a multibody simulation system (MBS) software, Simpack.

A sketch of a typical model can be found in Figure 1.

The number of wagons leads to high calculation efforts in the multibody simulation meaning that the level of detail in the simulation models is graded with respect to the requirements of the investigation.

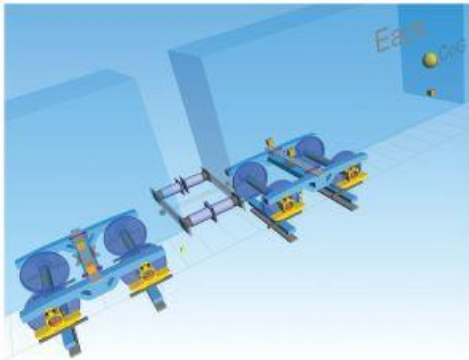


Figure 1: Multi-body simulation model of coupled freight wagons during curve negotiation.

In the first step, pre-simulations are performed to determine the curve resistance of the specific freight wagons and the locomotives.

Therefore, 3D models including rail-wheel contact are used.

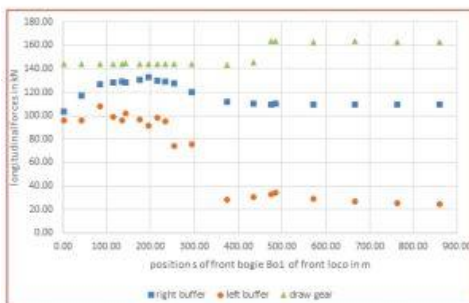


Figure 2: Maximum buffer and draw gear forces as a function of the position of the front bogie (Bo1) of the front locomotive while the emergency braking is initiated for the Ecos train passing through the 280m curve.

In the second step, the position of brake initiation that leads to the highest forces is determined.

For this purpose, a so-called 1D model of the whole train is used in which the curve negotiation is considered using the results of step 1.

In this context, the term 1D refers to the longitudinal degree of freedom of the bogies and wheelsets along the horizontally and vertically curved track.

Results

Figure 2 shows the maximum buffer and draw gear forces as a function of the position of the front bogie of the leading locomotive, Bo1, when braking is initiated.

Here, $s = 0$ m describes the case when the first bogie Bo1 is reaching the full curve.

As expected, it shows that the forces are higher in the right buffer as the train is negotiating a right curve.

For both sides (left and right) the maximum force initially increases following the increasing position of brake initiation.

For the right buffer, a maximum force of 133.4kN is reached for $s = 192\text{m}$.

For the left buffer, a maximum force of 108.5kN is reached for $s = 82.4\text{m}$.

After the peak, the maximum forces decrease in both cases and reach a plateau for $s > 470\text{m}$.

Figure 2 also shows that the trend of the draw gear force consists of two plateaus with roughly constant values, where a higher force is reached for braking positions when $s > 470\text{m}$.

The maximum draw gear force of 164.3kN is reached for $s = 695.4\text{m}$.

If braking is initiated while the freight train negotiates a curve, the buffer forces will be a superposition of the kinematic deflections of the buffers and the compressive forces induced by the pushing of the trailing vehicles against the leading vehicles, where braking has already started.

In cases where braking is initiated before the maximum position is reached, part of the train will decelerate when entering the curve and the buffers will have dissipated some of the energy of the concertina-like movement that follows the brake application.

If braking is started after the maximum position is reached, almost the whole train has entered the curve.

As a consequence, the buffers are already pushed together by the kinematic deflection.

One can argue that in this situation, the superposition of the braking will not increase the forces that much, because the level of force of the buffers is already high, and the acceleration induced by braking will be lower than in the maximum case.

Hence, the maximum force is reached between these two scenarios, a situation where the superposition of both effects leads to the highest forces.

Considering the dimensions of the Eaos train and the length of the transition curve, one can conclude that the draw gear forces are highest if braking is started after or while the rear locomotive has entered the curve.

As the braking position is of no influence on the maximum draw gear force for $s > 470\text{m}$, it can be concluded, that the maximum draw gear force is given by the superposition of the ED brake of the rear locomotive and the kinematic deflection of the draw gear when the rear locomotive enters the curve.

The other way around, the maximum force is decreased if braking starts before the rear locomotive has entered the curve.

For the train of Eaos wagons, the maximum values in the buffers (133.4kN) and draw gear (164.3kN) do not exceed the limit values of 250kN for the buffers and 180kN for the draw gear.

(from: railjournal.com, June 6th 2018)

ROAD TRANSPORT

BRUSSELS COMMITTEE AMENDS EU ROAD HAULAGE PROPOSALS

Updated EU rules to fight illegal practices in road haulage and to help improve drivers' employment conditions were among the amendments to European Commission 'mobility package' proposals for the road haulage sector approved by the European Parliament (EP)'s transport committee earlier this week.

The proposals have already come under strong criticism from a road freight alliance of 10 European states launched last year to defend fair competition and workers' rights.

It claimed last month that they risked maintaining legal uncertainty and differences in the interpretation of the regulations as well as making checks more difficult and leading to a deterioration of working conditions of lorry drivers and road safety.

According to the EP committee's amendments, EU rules on 'posted workers', based on the principle of "equal pay for equal work", would apply to so-called 'cabotage' deliveries.

This is a very contentious issue as most of the cabotage road haulage in the EU is carried out in the higher-wage western European states by eastern European operators employing low-paid drivers.



The committee also proposed changes to ensure better rest conditions for drivers.

This would oblige companies to organise their timetables so that, once every three weeks, drivers were able to return home or to another location of their choosing for a weekly rest.

The MEP draft legislation is also intended to cut red tape and stipulates that investigations and checks should focus on companies with a poorer risk-rating, thus reducing the administrative burden for law-abiding operators.

The amendments, when approved by the full house of the Parliament, will be the EP's position ahead of negotiations with the European Council or Council of Ministers (of Member States).

Its position on the Commission's proposals is expected this month.

(from: lloydsloadinglist.com, June 7th 2018)

INTERMODAL TRANSPORT

HUPAC: FLAT RATE FOR TRANSALPINE TRANSPORT FROM 2024

A flat rate for transalpine intermodal trains could cover the Swiss subsidy gap, suggested Hupac at its Annual Event in Zurich on 1 June.

Swiss subsidies for combined transport on this corridor will be phased out starting 2024.

A substantial lowering of track access charges could compensate for the lack of funds at that time.



This was the argument of Hupac's president Hans-Jörg Bertschi, who was speaking at the event.

The current very high track access prices for Swiss transit must be reduced to the level of the corridor countries, a "simple, non-discriminatory support measure that would send an immediate signal in favour of modal shift", he said.

The flat rate could be the equivalent of three Euros per train kilometre, he suggested, basing this estimate on a comparison with track access charges for freight trains in Germany and Italy.

Capacity increase

It is expected that approximately two thirds of current government subsidies for intermodal transportation can be reduced by improvements in productivity with the opening of the Ceneri Base Tunnels and clearance of the 4-meter corridor, projects that are to be completed in 2020.

Together with the infrastructure upgrading in Germany and Italy, the production parameters for intermodal should improve significantly.

As explained by Nicolas Perrin, CEO of SBB Cargo, a higher train weight of up to 1800 tonnes allows 13 per cent more capacity.

Longer trains of 740 metre add another 23 per cent capacity.

The 4-metre corridor via Gotthard extends the market by 50 per cent and the ETCS digitalisation project enables a higher frequency of trains, leading to a 20 per cent capacity increase.

Finally, increased average speed of trains from 50 to 75 kilometre per hour will add another 50 per cent of capacity, Perrin outlines.

Despite these impressive prospects for the post 2020 Transalpine line, one third of current subsidies would still have to be granted under the current circumstances, Hupac believes.

"In 2019, Germany will reduce the track access charges by up to 50 per cent for a period of five years, allowing railway undertakings to invest and to improve competitiveness.

Incentives are in place in Italy and under discussion in other countries. Switzerland should do the same", he said.

Other measures

According to Joris d'Incà, sector leader of logistics at Oliver Wyman, the opening of the Ceneri Base Tunnel alone will not help improve performance on the north-south axis.

Efficiency, punctuality and reduced transport times are also critical, he stated at the Annual Event.

"In order to achieve shorter lead times and better punctuality across routes, it is necessary to manage the infrastructure along the north-south axis end-to-end from a single source and to develop a marketable product.

The competitiveness of rail freight transport can only be achieved by infrastructure managers focusing more on the specific needs of the market, e.g. by fewer interruptions, short transitions and higher average speeds instead of an isolated optimisation of their own capacity utilisation and construction activity".

Indeed, RFI, SBB Infrastructure and DB Netz have jointly prepared a first set of 24 daily paths for timetable 2019 with 25 per cent reduced transportation time between Cologne and Milano.

"A promising first step", Perrin commented.

Moreover, DB Netz is preparing a scheme with malus payments for delay minutes that is asymmetrical in favour of railway undertakings and incentivises DB Netz to reduce disruptions.

(from: railfreight.com, June 5th 2018)

TRANSPORT & ENVIRONMENT

THE COMPLEXITIES OF THE IMO 2020 SULPHUR RULE ON BUNKER FUELS

The latest environmental legislation on shipping and the looming 2020 rule on bunkers will be a central point of discussions which are expected to be held in Athens over the course of the next couple of weeks.

In its latest weekly report, shipbroker Intermodal noted that "among several hot topics that will be discussed during the Posidonia week, the International Maritime Organization regulation that will be enforced on Jan 2020 and calls for ships to reduce the maximum sulphur content of their fuels to 0.5 percent, will definitely be on the spotlight."

The fuel discussion becomes even more interesting following the recent oil rally that drove global benchmark Brent to the highest level late 2014, near 80usd last week before settling back to around 75usd.

Intermodal said that "according to Morgan Stanley's latest report, besides key fundamentals and political externalities, oil prices will be severely impacted as new international shipping regulations takes effect, overhauling the types of fuels produced by refiners, and will push Brent crude reaching \$90 a barrel by 2020.

An increase in demand of low sulphur fuels will hike demand of middle distillate products (diesel and marine gasoil), that will result a significant need for more crude; this will drive crack spreads higher and will boost oil prices.

Consequently, several hybrid fuels (Ultra low sulphur Fuel oils) will be marketed by refineries and traders; however they have several red flags (compatibility issues among others).

Hence, it seems very unlikely that refiners, traders and bunker suppliers will manage to market a "one spec fits all" low sulphur fuel oil product.

This will create an oversupply of high sulphur fuel oil that is expected to put pressure on refineries to produce more distillate fuels".

According to Mr. Ilias M. Lalaounis, SnP broker with Intermodal, "data from the report suggests that middle distillate markets are already pretty tight in

matters of supply; i.e. diesel and gasoil stockpiles in key storage hubs in Europe, the U.S. and Asia are currently below their 5-yr seasonal averages.

At the same time, demand for these distillates is growing annually by 600k barrels/day since 2011, accelerating to 800,000 barrels/day in recent quarters.

According to recent studies, the IMO regulation is expected to boost demand by an additional 1.5 million barrels/day by 2020, which should boost crude prices.

While global crude production will most likely rise, it probably won't increase by the 5.7 million barrels/day needed by 2020 to meet the additional demand for fuels.

Bunker Prices				
		25-May-18	18-May-18	W-O-W Change %
MGO	Rotterdam	664.5	672.5	-1.2%
	Houston	696.0	703.5	-1.1%
	Singapore	685.0	698.0	-1.9%
380 cst	Rotterdam	432.0	441.5	-2.2%
	Houston	441.0	449.0	-1.8%
	Singapore	450.5	460.0	-2.1%

© Intermodal Research

Since current fundamentals as well as the IMO regulation impact point to higher bunker prices, speed & consumptions of ships are once again on the spotlight.

Consequently, the instalment (or not) of scrubbers is already a big debate among owners and charterers.

If the above analysis is proven correct, and a sudden increase in demand of middle distillates is combined with tight distillate product supply as well as high crude oil prices and an oversupply of high sulphur fuel oil, then the price differential between low sulphur marine gasoil and high sulphur fuel oil will be definitely significant.

The question is how long will a large price gap exist for and if it will suffice for the payback of the initial investment cost to install a scrubber.

In other words, will this price differential incentivize refiners to invest in high cost cocker installations and upgrade their current infrastructure and how long will this process take".

Lalaounis added that “amid the high cost of bunkers post 2020, charterers will most likely request owners to slow steam; whereas ships with scrubbers will enjoy the flexibility and maximize ton-mile revenue.

Similarly, if the majority of the fleet is slow steaming, and in combination with a possible increase of scrapping tonnage that can’t adapt on the new environmental regulations, we see less vessels competing over cargos; that will probably drive the market upwards.

All in all, although the advantages of installing scrubbers especially on thirsty ships are clear, we see only a few owners and newbuilding orders that include scrubbers on board, with the vast majority of orders being “scrubber ready”.

Our feeling is that due to current market condition, most owners adopt a “wait and see approach” and currently hold their horses”, he concluded.

(from: hellenicshippingnews.com, May 30th 2018)

LAW & REGULATION

NEW REGULATIONS SEND SHIPPING SECTOR HUNTING FOR LOW-CARBON SOLUTIONS

The shipping industry is sailing into choppy waters.

The International Maritime Organization (IMO), the United Nations regulatory agency in charge of the sector, announced a two-pronged approach towards creating a cleaner and more sustainable shipping industry at a meeting last month.

Firstly, vessels will now have to adhere to mandatory energy-efficient measures such as establishing energy management and voyage plans, cleaning the underwater parts of the ship and introducing technical measures such as waste heat recovery systems to reduce greenhouse gas emissions.

In what has been dubbed the “Paris Agreement” of the sector, the IMO declared an aim to halve the industry’s greenhouse gas emissions by 2020 and introduce sulphur caps on vessels, which means vessels will now have to use cleaner, but more expensive fuels.

The ultimate goal is the complete eradication of greenhouse gas emissions.

Secondly, the organisation is encouraging capacity-building projects that would help ship owners and shipping companies meet the targets set by IMO.

This includes efficiency management plans such as improved voyage planning, more efficient ways of cleaning the underwater parts of vessels, and research and development.

Oscar Wezenbeek, director for marine & protective coatings at paints & coatings firm AkzoNobel who works extensively with the sector, says the new regulations will encourage shipping companies to invest in sustainable practices more actively.

“The trend of scrapping vessels that do not comply with the new measures will continue for the next five to 10 years,” he says in an interview with Eco-Business, explaining that it is more cost-effective for shipowners to build new ships with new technologies that meet all the requirements.

IMO has established guidelines for the amount of fuel each vessel is permitted to use, which will be progressively reduced.

This move is meant to encourage innovation and bring about more fuel-efficient and eco-friendly vessels, but for now older vessels that are less-fuel efficient are likely to be retired.

“Other more immediate trends would be shipping companies choosing to use



liquefied natural gas (LNG), engaging in slow-steaming (reducing the speed of a vessel to save fuel and reduce emissions) and experimenting with different types of engines,” Wezenbeek remarks.

Other ways to reduce emissions from the industry include short-term incremental measures such as improving hull and propeller

designs, which could reduce emissions by up to 5 per cent.

Ship owners can consider harnessing wind energy to propel vessels and installing energy storage facilities.

Shipping matters

Shipping accounts for slightly above 2 per cent of the world’s emissions.

But with global trade on the rise and shipping remaining the most efficient method of transporting goods, the measures announced by the IMO are incredibly important to clean up the industry, says Wezenbeek.

He adds that another way that the shipping industry can reduce emissions is by choosing the right coating for their vessels.

For instance, AkzoNobel’s Intersleek range of biocide-free marine coatings prevents biofouling, which is when marine organisms grow on the ship’s hull and increases drag.

By avoiding biofouling and reducing drag, vessels use less fuel and produce fewer emissions.

The coating has been used in the floating, plastic-catching systems of The Ocean Cleanup, an ambitious project to completely remove plastic from oceans starting with the Great Pacific Garbage Patch.

A more advanced fouling-prevention technology is currently in the works.

Together with electronics company Royal Philips, AkzoNobel is looking to use ultraviolet light emitting diodes (UV-LED) to prevent all types of fouling, including slime.

AkzoNobel has also been running a carbon credit system for customers of its Intersleek products since 2014.

For every verified tonne of CO₂ that a shipping company removes from the atmosphere or avoids producing, it is awarded a carbon credit that can be traded on global carbon markets.

To date, AkzoNobel has awarded \$1.2 million in carbon credits to companies that are cleaning up their act.

Beyond coatings, Wezenbeek points to digitisation and technology as a trend that will steer the shipping industry towards a more eco-friendly path.

“Vessels are now being equipped with sensors which generate a lot of data for us to make more efficient and sustainable decisions,” he says.

“The firm’s digital service, called Intertrac Vision, uses these data points, artificial intelligence and drone technology to show customers accurate predictions of potential fuel and CO₂ savings offered by our coatings,” he explains.

The IMO is encouraging the use of technology in capacity-building projects and in improving other aspects of the business model.

For instance, Intertrac Vision allow customers to predicts how often they have to recoat their vessels based on their travel routes, and vessel and ocean data.

This helps to reduce waste and save costs.

Wezenbeek adds that technology can help to alleviate some dangers of shipyard operations when it comes to coating application and inspection, as some tasks become digitised.

There remains a strong drive for the company to spread awareness on the importance of sustainable practices and product solutions.

For instance, AkzoNobel teamed up with Volvo Ocean Race that aims to create opportunities for discussions between various organisations on reducing marine litter.

Wezenbeek thinks clean-up actions must be complemented with awareness-raising because “we must address the root cause of why plastics are in our oceans”.

Sustainability, says Wezenbeek, cannot be an afterthought and does make economic sense.

"[IMO's] announcements show that industry is starting to take responsibility.

This is a fantastic step in the right direction but it is important for us to go above and beyond," he says.

(from: hellenishippingnews.com, June 4th 2018)

PROGRESS & TECHNOLOGY

IMPLEMENTING TECHNOLOGY COULD BE THE BIGGEST CHALLENGE TO DATA STANDARDIZATION

The freight industry witnesses millions of data points being created on its everyday routine, and is now waking up to a reality where using the data and making decisions over analytics is an approach that could help foster growth.

But one of the inherent problems associated with big data is standardization, the lack of which can make data sets worthless.

Data standardization is critical in the freight industry, and with a lot of stakeholders in the picture, bringing everyone to the table to agree on a common standard is an issue.

Jan Unander, the coordinator of Data Openness In Transport Solutions (DOITS) is looking to address this problem in Europe by creating a platform where all the parties involved could discuss issues plaguing the system.

"I took this initiative in 2013 after a discussion with Volvo Trucks that complained about the slow pace of standardization of APIs in the transportation ecosystem," said Unander.

"I invited key European truck manufacturers, telecom operators, EBS suppliers, After Market Fleet Management Solutions (AMFMS) providers and organized a meeting to search for a way to approach this challenge."

The strategy of DOITS is to bring the strongest parties on the market together and provide them a platform where they could come to an agreement and create industrial harmonization.

"DOITS believes in the power of the commercial system and that when the main players come together, standardization will be made quicker than if political initiatives are the driving force," said Unander.

Unander insisted that to move forward, it is crucial for the industry to "agree on something" consistent and to include them in their solutions.

"We do not work with algorithms.

We instead focus on how cross brands harmonize undisputable data like on/off and 0/1 - where definitions of the data or how it is generated may differ and when used in a larger context, will lead to compatible measures," he said.

"The issue with algorithms is that companies make their own and believe they have the best ones, trying to convince people on standard APIs is hard."

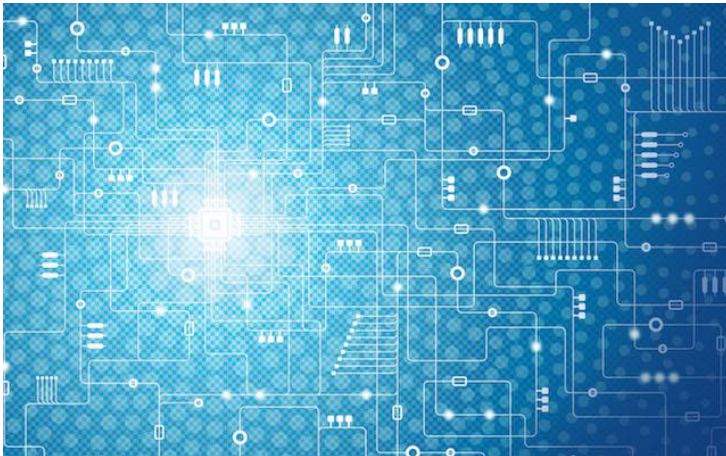
Data being generated today lack uniformity as companies define it discretely, leading to confusion amongst users of different FMS solutions.

DOITS focuses on data that is essential for building services and looks to help in creating a common data standard that would be universally beneficial.

"If we get to agree on some basics, it might make it easier for the end users to trust the data and have a market that really utilizes FMS data to become efficient, improve safety, and reduce environmental impact," said Unander.

DOITS has come up with specific key measures to be defined by its working group.

One such parameter is the truck brand neutral idling measure that is used



when calculating fuel consumption, considered as one of the primary negative data variables of the truck - also used as a yardstick to determine the efficiency of drivers.

"It is important to note that DOITS does not standardize, but helps the actors decide to change it in their software and create harmonization," said

Unander.

Truck manufacturers do the actual standardization, and DOITS works closely with them as an advisory group.

Recently, Unander has been fascinated with the idea of blockchain and its potential to usher in reliability and transparency to data standardization.

DOITS perceived that to support the blockchain implementation it would be ideal to harmonize with the objective to finally standardize the ID exchange of VIN number between the trailer and the truck during a connection situation, to ensure that the equipments are rightly paired.

"To achieve this, we need to involve the suppliers that deliver EBS systems to the trailers.

Their software is prepared to keep a record of the VIN number of the trailer and if the VIN number can be exchanged between the trailer and truck, over the EBS CAN bus, a reliable function for this handshake is created," said Unander.

"If the VIN number is combined with a position and timestamp of truck and trailer while connecting and disconnecting, trustworthy information of when and where the pickup and delivery of the trailer were done is created.

The truck will also deliver its position throughout the trip so that the goods are tracked real-time via the trailer VIN."

The problem here is more organizational than technological, contended Unander.

"People that buy trailers do not always type in the VIN number of the trailer in the EBS system, but rather a serial number of their trailers or some ID like a name - sometimes even just a part of the VIN number.

This makes the data coming out of the EBS CAN not to be consistent," he said.

That apart, truck manufacturers have not implemented a function in their electronic systems that ask for the trailer VIN number.

DOITS has proposed this function to the FMS standardization group of ACEA to implement this in all European heavy trucks, which was accepted at their meeting in June 2017.

The real challenge now, is to define the exact detail that the truck would need to ask the driver to capture the VIN number.

Nonetheless, extensive work has been done with regard to standardization and all that remains is implementation.

To work this out, the general prerequisite is that businesses involved in making these types of functions to come true need to have a balanced interest, where all the parties involved in a transaction support a specific solution and have vested interests in it.

This can be seen everywhere, including the VIN number predicament.

Ideally, DOITS looks to have the truck relay its VIN number to the trailer but the truck manufacturers do not support this today, as they have no incentive in doing so and thus two-directional VIN data exchange is not possible.

Though a standard can be easily implemented in new trailers, the actual challenge is also to update fleet softwares in existing trailers, so that drivers and transport coordinators have precise VIN numbers in their system.

“We are seeing a complicated issue when it comes to negative functioning.

Technically not that tricky, but implementing it is a challenge,” said Unander.

Blockchain could be a lodestar, but Unander cast aspersions on the technology being used to create multiple proprietary solutions instead of one open standard.

“The problems we face on the truck and trailer communication with how the data generated is defined and delivered might differ between different players and proprietary blockchains and that can end up in a similar situation to where we are in,” he said.

The key is to make sure everyone agrees on a specific way of defining, measuring and recording data, which could take a long while.

Developing an open standard should not be a hindrance to product development or the business in itself, and it would be interesting to see how long it takes for companies to come together and find the common denominator for creating a transparent platform where data can be shared easily.

(from: freightwaves.com, June 1st 2018)

STUDIES & RESEARCH

INDUSTRY LEADERS FORECAST THE FUTURE FOR CONTAINER TRANSPORT

Predictions by industry leaders about the future for container transport over the next 25 years suggest that the key players will change and trade flows will become more balanced, while digitalisation and automation will play an ever-increasing role, but the physical characteristics are likely to remain fundamentally the same, according to a new survey.

Coinciding with its 50 anniversary, leading international freight transport insurer TT Club, in conjunction with global management consulting firm McKinsey, today published 'Brave new world? – Container transport in 2043', a wide-ranging, qualitative report summarising the thoughts and opinions of industry leaders on what the future holds for the container industry over the next 25 years.

Rather than focusing on purely quantitative research and analysis of trends, the authors of the report interviewed over 30 highly respected industry leaders and experts from a wide cross section of the industry.

The aim was to gain a qualitative insight into the perceptions and confidence of the people who have greatest experience in the industry and are best placed to predict the sector's future, the authors said.

Those included board members of TT Club, but importantly other supply chain professionals, financial intermediaries, law firms, and disruptors and innovators.

The authors said meaningful questions were raised about:

- The future of trade growth – e.g., globalisation and trade policy, Asian industrialisation, the geography of manufacturing with robotics and 3D printing, containerisation trends, and evolving consumer habits;
- What the real sources of value creation might be going forward – e.g., scale, flexibility, consolidation and integration, productivity, more predictable supply chains, environmental performance;

- Who “wins” – e.g., how can today’s industry leaders evolve to capture the opportunities, will players become more vertically integrated, or will “digital natives” including start-ups and/or e-commerce firms reshape the industry.

“The development of containerisation over the past fifty years is well documented,” TT Club noted.

“The industry is now well-established at the centre of international trade with over 90% of consumer goods and many raw materials being shipped in these metal boxes.

Yet despite the success of the container, the returns for the average container liner operator or freight forwarder have lagged the cost of capital over the last two decades.



There have only been a few winners who have found a sustainable recipe for value creation.”

So what will change in the future or will the familiar boom and bust cycle continue?”

Following the research, TT Club and McKinsey have drawn five broad conclusions as to where the industry is going and then have examined four specific potential future scenarios together with their implications.

Two of these scenarios centre on digitalisation and two on trade development, or the lack of it.

‘Brave new world?’ reports five broad conclusions:

1. The physical characteristics of the industry are unlikely to change, as the container and the ships that carry them will still exist over the next 25 years
2. Trade flows will become more balanced across trade lanes as incomes converge between East Asia and developed economies, and the emerging economies in South Asia and Africa “catch up”
3. Automation will be broadly adopted across the value chain, especially on the landside in ports, terminals, rail and trucking, to unlock significant efficiencies

4. Digital, data, and analytics will cause a fundamental shift in the sources of value creation and customers will expect a high level of reliability, transparency and user-friendliness
5. The industry leaders in 2043 will look very different; some will consolidate, others may change their business model.

Some will be “digital natives”, either start-ups or e-commerce players optimising the container transport leg of their supply chain

Drawing together these broad conclusions, the report identifies “the key sources of value creation for the industry”, leading to a pivotal debate as to whether the future is fundamentally driven by trade or by digitalisation.

From this, the authors derive four possible outlooks for the future:

1. Digital disruption is a world in which the current industry is disrupted by new players who leverage digital, data, and analytics to optimise the end-to-end value chain;
2. Digital reinvention envisages that the current industry digitises aggressively and provides new value-adding services to its customers;
3. Third wave of globalisation assumes other economies, like India and Africa, realise their manufacturing and export potential, while digital reduces friction in global supply chains and spurs continued trade growth;
4. “Peak container” and consolidation imagines a future in which trade wars, geopolitical tensions, and “near-shoring” result in the peaking and absolute decline in international trade, forcing players to further consolidate.

The authors concluded: “Preparing for such a range of outcomes would be taxing for even the most agile and foresighted of companies.

However, there are some ‘no regret’ moves that industry players could make now to ensure flexibility in the future, including: paying more attention to the dynamics around the end-consumer (as e-commerce disrupts retail and last-mile logistics); building organisational discipline around monitoring the ‘trigger points’ behind different futures; and radically digitising and automating.”

Charles Fenton, CEO of TT Club, commented: “We believe the container transport industry will face challenges as technology changes the environment, but we are confident that an industry that has shown itself adept at change will rise to meet these challenges.

The container’s simplicity and modularity has made it the mode of choice for transporting many goods across the globe.

This examination of the wisdom and perceptiveness of the industry's opinion formers is, we believe, relevant in exploring how such strengths will develop the container transport environment by 2043."

Martin Joerss, senior partner at McKinsey, commented: "More than 50 years after the introduction of the container, the container transport industry faces the transformative rise of digital, data, analytics, and automation.

There is a range of futures where digital fundamentally changes the industry's economics – for the benefit of both customers and industry participants – but getting there will require vision and relentless execution."

Further details, including a full transcript of the report, can be found here: www.ttclub.com/tomorrow

(from: lloydsloadinglist.com, June 6th 2018)

SAFETY & SECURITY

EXTINGUISHING THE SAFETY CONCERNS OF ELECTRIC AND HYBRID VESSELS

With an increasing number of vessels becoming electrified or hybridised as part of efforts to decarbonise the shipping industry and protect the environment, the role of lithium-ion (li-ion) batteries in this transition continues to grow.

Alongside this growth, safety concerns are increasing around the use of Li-ion batteries, specifically around the fire risk they pose to such vessels and the related challenge of fire suppression at sea.



Here, Government Europa looks at a number of risks that fires can pose to electric and hybrid vessels fitted with li-ion batteries, and how innovation and regulatory efforts are being co-ordinated across Europe to eliminate the challenges of thermal runaway and other complications that new technologies can cause to these new, more environmentally sound ships.

Estimating the effects of fire risks to shipping

Electric and hybrid vessels now range from passenger ferries to offshore supply vessels, which work to ensure the safety of vital oil rig operations.

As a result of the electrification and hybridisation of these ships, they are now far more reliant on energy from lithium.

Ships consume vast quantities of energy, and some vessels can hold around one thousand modules.

Although the technology has proven to be simultaneously reliable and powerful, safety concerns have also caused some hesitation on behalf of vessel operators to convert their ships and adopt the technology.

In 2017, China launched the world's first electric cargo ship, which quickly became exemplary of the potential for electric power in shipping, highlighting both its feasibility and practicality.

In the future, it is predicted that the majority of commercial vessels will soon utilise some form of electric power storage, and lithium-ion has become one of the leading options for ship operators.

Lithium-based batteries offer a wealth of advantages: they are inexpensive, lightweight and powerful, and pose less of a threat to the environment than their alternatives.

Despite this, the large amount of energy which they are able to generate creates an increased risk of fire or explosion, which can be disastrous to human life, the vessel itself, or at the very least to its cargo.

The challenge of thermal runaway

As not all battery systems are created equally with the same safety systems, both testing and certification for energy storage on board ships has taken on a more important role.

Even in light of this, calls for action to reduce the risk further are being made.

One of the largest risks caused by batteries is that of thermal runaway, which can occur when li-ion cells are:

- Subject to mechanical abuse;
- Experiencing internal manufacturing defects; or
- Operating over/under the appropriate voltage or temperature.

As a result, heat is generated within the cells, leading to a reaction between the cathode and electrolyte.

Subsequently, the temperature of the cells increases up to a point where the cell begins to excrete toxic and flammable gases.

Should ignition occur, the gases can start a fire which could pose great difficulty in extinguishing, and in the case that a great many batteries are aboard, can also spread very rapidly.

For this reason, smart safety solutions are needed to ensure that batteries are not vulnerable to ignition during thermal runaway, or that at the very least, appropriate fire-suppression measures are in place.

Applying energy storage safety solutions on the seas

To date, the solutions available on the market seek to reduce the internal temperature of batteries.

These technologies aim to maintain safe operating temperatures for li-ion batteries aboard electric and hybrid vessels, which can prevent the conditions which are conducive to fires on board.

To this extent, in March 2018, the classification society DNV GL, based in Oslo, Norway, announced that it would be launching a joint development project in efforts to analyse the use of li-ion batteries throughout the shipping industry and address safety concerns.

As reported by Ship Technology, DNV GL's Benjamin Gully, senior engineer, said: "Rules have been put in place that cover a lot of the dangers of lithium-ion batteries, but there's a real opportunity for the industry to benefit both in terms of the total level of safety as well as the efficiency of the approval process, by increasing the level of knowledge in the industry through technical data and answering hard-to-answer questions."

The project aims towards reaching several goals, and lists among its priorities:

- Development and assessment of a safety model which is based upon knowledge established prior;
- Launch and implementation of a lithium-ion battery risk assessment;
- Establishment of a testing programme which seeks to establish battery safety;
- Creation of a safety simulator;
- Introduction and refinement of analysis tools; and
- Project management and dissemination, which can be input to both requirements and rules.

Despite significant research which has sought to address the risks associated with lithium-ion batteries, thermal runaway is still a prevalent concern.

Oliver Chabilan, space product development engineer at Skeleton Technologies, added: "Although there has been significant progress with lithium-ion batteries, it is still possible they can go through a thermal runaway and catch fire."

As the only safety system which has currently been proven to prevent thermal runaway, liquid cooling works to prevent batteries from entering the state through extracting more heat than the cells are able to produce.

The solution sees low pressure, high volume closed loops of cooled water circulated throughout the battery, and has proved largely effective in suppressing the potential flammability of li-ion batteries which remain a vital element of reinforcing safety on electric and hybrid vessels, facilitating the wider electrification of the global shipping industry.

(from: hellenicshippingnews.com/govermenteuropa.eu, June 12th 2018)

CONFERENCES

THE 6TH GLOBAL RAIL FREIGHT CONFERENCE GRFC (JUNE 26TH-28TH 2018)

The international railway organisation UIC, together with Italian Railways FS Italiane, are jointly organising the 6th Global Rail Freight Conference.

All main actors of rail freight transport and global logistics will exchange views over two days under the motto "Modal Integration at the Service of Global Distribution".

The 6th UIC Global Rail Freight Conference GRFC, one of the leading events dedicated to rail freight transport and logistics at world level, will take place on 26 – 28 June 2018 in Genoa, Italy.



This event is a landmark for all actors of the logistics chain.

Following a successful 5th edition held in 2016 in Rotterdam in connection with the TEN-T Days of the European Commission, the 6th edition of this Global conference is being prepared in a close cooperation between UIC and Italian Railways FS Italiane.

The location will be the historic venue of Palazzo Ducale in Genoa.

The 6th UIC GRFC will be held under the Patronage of the Region of Liguria with the support of a number of international organisations and associations including OTIF, CIT, BIC, ESC, IHHA, UIP, UIRR, UN Ro-Ro.

BIC, Alstom and Ansaldo will be sponsoring the event.

The UIC Global Rail Freight Conferences are unique events during which all actors cooperating in the global logistic chain meet to exchange on market and technological developments which are shaping the industry.

The Conferences aim at fostering a mind change towards including rail in multimodal transport solutions and providing networking opportunities for those committed to developing rail freight services, such as rail freight

companies and multimodal operators, logistics companies, shippers and freight forwarders, ports and shipping lines, the road industry, representatives of international organisations and governments, researchers, universities, and start-ups.

Representatives of institutions, companies and of the logistics world will exchange and debate on the following main issues:

- Mega trends in global logistics
- The race towards sustainability
- Sustainable finance
- Blockchain technology
- Globalisation, innovation and connectivity
- Rail freight corridor developments and the new Rail Silk Roads
- Integrity of the logistics chain

The UIC GRFC will be officially opened with the participation of UIC Chairman Mr Renato Mazzoncini, CEO of FS Italiane, UIC Director-General Mr Jean-Pierre Loubinoux, Mr Stefano Balleari, Deputy Mayor of Genoa in charge of Mobility and Public Transport, President of the Region Liguria Mr Giovanni Toti and Elizabeth Werner, Director Land Transport, EU Commission.

High-level representatives of the European Commission, the World Bank, OTIF, UNECE, Port of Genoa and Savona Authority, Mercitalia (FS Italiane), SUM4All of the World Bank, CCTT as well as many actors representing the railways, the logistics, the shippers and customers and the digital ecosystem will take the floor during the various sessions and round tables.

Notably, the chairman of BIC and secretary general of C.I.S.Co. Mr Giordano Bruno Guerrini will participate on June 28th at the 7th session with an intervention on the "Integrity of the Logistics Chain."

The programme of the UIC GRFC 2018 conference is regularly updated at this address: www.uicgrfc.org.

(from: uicgrfc.org, June 14th 2018)

ON THE CALENDAR

- 04/07/2018 – 05/07/2018 Johor 16th ASEAN Ports & Shipping 2018
- 24/09/2018 – 29/09/2018 Napoli Naples Shipping Week 2018
- 26/09/2018 – 27/09/2018 Riga 2nd Baltic Sea Ports & Shipping 2018
- 24/10/2018 – 25/10/2018 Aqaba 15th Trans Middle East 2018
- 28/11/2018 – 29/11/2018 Accra 20th Intermodal Africa 2018
- 30/01/2019 – 31/01/2019 Kuwait City 16th Trans Middle East 2019
- 20/02/2019 – 21/02/2019 Manila 10th Philippine Ports and Shipping 2019
- 20/03/2019 – 21/03/2019 Mombasa 21st 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.