

Newsletter

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Link road, rail, sea!

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PORTS AND TERMINALS

FEARS FOR HONG KONG'S STATUS AS A MAJOR HUB PORT IF CHINESE EASE CABOTAGE RULES

Hong Kong's status as a major container port hub could suffer a severe blow if mainland China further relaxes cabotage rules.

A new report by respected Hang Seng Management College (HSMC) claims the world's fifth-largest port could lose as much as 2.4m teu in transshipment traffic or 14% of its throughput, should China's cabotage rules, allowing foreign-flagged vessels to carry domestic cargo between Chinese ports, be fully relaxed.

Currently, only vessels registered in China or flying the Chinese flag are permitted to conduct coastal shipping of cargo between Chinese ports – foreign-owned and -flagged ships are not allowed to load a container in a mainland port and unload it at another one.

Under the "One Country, Two Systems" policy, Hong Kong is not regarded as a Chinese port and is exempt from cabotage.

As a result, it has historically benefited from large transshipment volumes, which represented 70% of the port's 20m teu throughput in 2015.

"Of those containers, a little over half carried intra-Asia shipments, including cabotage cargo of foreign ships which could be handled in mainland ports," said HSMC.

Cabotage rules could be about to change, however.

In 2013, Shanghai launched its Pilot Free Trade Zone and local authorities quietly began allowing foreign-flagged, but Chinese-owned, ships to conduct coastal shipping between mainland ports.

China's Ministry of Transport later announced it was official policy to relax cabotage in Shanghai.

"The concern is if they continue the relaxation and allow other ports to do it, then the next stage is to allow foreign-owned vessels to call," explained Lawrence Leung, dean of HSMC's school of decision sciences.

According to HSMC, major ports like Qingdao, Ningbo and Guangzhou are lobbying hard for their own cabotage exemptions.

Mr Leung said further relaxation would be dependent on political factors, which are naturally difficult to ascertain.

"I don't have a crystal ball, but it's certainly possible.

It depends on a variety of things and whether the decision-makers can see the impact on the economy.



But theoretically, a change in the law could happen any time."

The HSMC report shows there were 765,000 people employed in the logistics sector in 2014.

Logistics accounts for 20% of total employment and 25% of Hong Kong's GDP.

"The short-term economic impact is the immediate loss of throughput, which translates into job losses.

But the long-term impact is probably far more troubling," said Mr Leung.

"Hong Kong is a hub port and to be a hub port you need a certain level of connectivity.

Relaxation would likely mean a loss of connectivity and therefore the ability to function as a hub port," he added.

He said since throughput growth within the Pearl River Delta was slowing, local ports should be collaborating to better compete with other gateways like Shanghai and Singapore which don't face the same internal competition for cargo.

The study is another reminder of the fragility of Hong Kong's container business, which has seen consistent reduction in volumes in recent years.

The port handled 14.1m teu for the first nine months of this year, down 8.5% year-on-year, while throughput fell by over 2m in 2015 to 20.1m teu.

(from: theloadstar.co.uk, November 23rd 2016)

MARITIME TRANSPORT

THE ALLIANCE IS NEXT NEW CONTAINER SHIPPING GROUP TO UNVEIL PLANNED SERVICES

THE Alliance – Hapag-Lloyd, K Line, MOL, NYK and Yang Ming – have announced their pro-forma east-west tradelane network for April next year.

It follows publication by rival grouping the Ocean Alliance last week and news that the container divisions of the Japanese shipping groups would merge.

THE Alliance said its product, which is subject to regulatory approval, would be characterised by “fast transit times, a broad port coverage and deployment of modern and most-efficient ships”.

It claimed: “Our best ship for the loop principle and our dedicated shuttle service design are the basis for one of the most competitive products available in the market.”

THE Alliance intends to offer 31 services across the east-west trades, deploying 240 ships over 75 ports in Asia, North Europe, the Mediterranean, North America and the Middle East.

This will feature five Asia-North Europe loops, compared with the Ocean Alliance’s proposed six, and three strings between Asia and the Mediterranean, one less than its rival.

However, according to Alphaliner, THE Alliance will be the smallest of the three VSA groups between Asia and Europe, with a capacity share of approximately 28% – after deducting Hanjin Shipping’s pre-bankruptcy share and assuming the merger between Hapag-Lloyd and UASC completes.

The 2M + Hyundai (HMM) and the Ocean Alliance are each expected to hold around 35% market share.

On the transpacific, THE Alliance will be behind the Ocean Alliance’s 39% capacity market share, its 28% share ahead of the 2M + HMM at 19%.

THE Alliance also published its “base-plan” of port rotations for the 31 services, saying it “will keep the market informed about further steps and the final, more precise service rotations”.

Indeed, a number of loops only specify country calls or regional hubs, suggesting that negotiations with terminals have yet to be concluded.

For example, the five Asia-North Europe loops, dubbed FE1 – FE5, all feature UK calls and for the Asia-Mediterranean strings, it simply says East Med and South-east Asia hubs.

This indicates that the announcement by the Ocean Alliance last week obliged THE Alliance to reveal its hand, or risk losing momentum in the battle of the three alliances next year.

Another factor would have been the merger of the Japanese lines so soon after the demise of Hanjin, which needed to be followed by a positive statement of intent from the revised grouping.

Moreover, Hapag-Lloyd will announce its third-quarter results next Monday and the German carrier no doubt wanted to add some upbeat news before what is likely to have been a poor three months of trading.



Meanwhile, the port of Felixstowe should be happy with the pro-forma schedule of the Ocean Alliance, which gives it three calls, adding to the four in the current 2M network.

What is clearly still to be decided by THE Alliance is how many of the five weekly services will call at the UK terminals at Southampton, Felixstowe or London Gateway, which has yet to attract a scheduled Asia liner service, but has been quietly growing volumes and experience of handling vessels on the trade in recent months.

Since the summer berth and landside congestion at Felixstowe caused its biggest customer, MSC, to threaten to switch some of its services elsewhere, London Gateway has handled a growing number of ad-hoc diversions from Felixstowe's carrier customers.

This includes the FAL23/AEC8/NE9 Ocean 3 loop operated by CMA CGM, UASC and Cosco respectively, which is reported to be extending its making two scheduled calls per month at London Gateway through to mid-April 2017.

(from: theloadstar.co.uk, November 8th 2016)

RAIL TRANSPORT

GERMANY PLANS TO BAN NOISY FREIGHT TRAINS AFTER 2020

Germany's minister for transport and digital infrastructure Mr Alexander Dobrindt has introduced draft legislation aimed at banning the operation of freight wagons which are deemed to be too noisy.

If approved, the ruling would come into effect after the end of 2020.

Germany's Pro-Rail Alliance has welcomed the initiative.

"It is important that this law finally brings relief to the noise-plagued people who live near railway lines," says Mr Dirk Flege, the alliance's managing director.

"The Pro-Rail Alliance has for years been committed to completely upgrading the rail freight wagon fleet to cut noise levels, and supports the target of halving rail noise by 2020," Flege says.



The alliance believes the legislation is long overdue because German freight wagon owners, who have invested considerably in

retrofitting low-noise brakes, require legal certainty.

"A strict and unequivocal ban on noisy freight wagons in Germany is the rail sector's stated wish," Flege says.

However, the alliance criticises exemptions in the draft legislation intended to avoid conflicts with European Union (EU) law.

Although there is to be a general ban on noisy freight wagons, they could be allowed to operate in exceptional circumstances by limiting their speed.

"The draft legislation is trying to achieve a reduction in the noise burden on local residents without coming into conflict with EU regulations," Flege says.

"This is a balancing act that could have unpleasant side-effects.

Speed limits on freight trains with noisy wagons will reduce noise emissions but that will cause congestion on the network."

The alliance fears this would make rail freight inefficient, particularly on busy main lines, to the benefit of road freight, which the alliance says already enjoys policy advantages.

"Of course, it cannot be the aim of noise abatement policies to cause a shift of freight onto trucks, increasing noise levels on the roads," Flege says.

The alliance wants the transport ministry to seriously re-evaluate the exemptions.

"A clear ban on noisy freight wagons without the highly complex exemption rules, which will clearly disadvantage rail freight transport, would be the best solution," Flege says.

"If EU regulations mean that German legislators cannot completely exclude noisy wagons from the German rail network, the transport ministry should include other measures to effectively deter noisy freight wagons without having slow trains congesting the system."

One idea would be to impose a levy in addition to track access charges for operating slow freight trains, which would take into account the extra work required for drawing up the timetable.

"At the same time, the German government should strive for an EU-wide ban on noisy freight train wagons after 2020, doing away with the need for complicated national exemption rules."

(from: railjournal.com, November 18th 2016)

ROAD TRANSPORT

EU ROAD FREIGHT STUDY HIGHLIGHTS 'UNTENABLE' COMPETITIVENESS GAPS

A comparative study of employment and pay conditions of international lorry drivers in 15 European countries has highlighted huge disparities in operating costs that suggest harmonisation in road hauliers' operating conditions and competitiveness across the EU appears to be as far away as ever.

Undertaken by France's road freight research and data agency, Comité National Routier (CNR), the study takes into account lorry drivers' employment and pay conditions, including salaries, social security contributions, travel allowances, driving time and working hours.

The study reveals that, taken as a whole, the cost-gap in terms of driving personnel is enormous.

"The same hour's driving in the same lorry on the same road with the same goods can cost €8 per hour or €33 per hour depending on whether the driver is employed by a Bulgarian company or a Belgian company," the report said.

The total annual cost of an EU international lorry driver ranges from €16,000 for a Bulgarian haulier to €56,000 for a Belgian haulier.

"From the perspective of the drivers, who cross paths at the truck stops, these are more than mere figures," the report added.

"The Europe they perceive is not one of social solidarity, but one of competitiveness."

It continued: "Competitiveness gaps of this magnitude cannot exist in one marketplace.

We can only confirm the theorem put forward by French economist Michel Albert, which essentially warns that any business based in a country with high living standards which employs primarily low-skilled labour is bound to either go bankrupt or move its operations elsewhere."

EU expansion and the introduction of limited 'cabotage' (domestic transport) rights for international haulage operators in Europe's road haulage sector have

seen haulage firms based in higher-cost countries such as Italy, Belgium, and France squeezed out of the international space over the past decade.

The market has become hyper-concentrated around several countries, with Poland alone having a 25% share of the EU market while hauliers from member states such as Lithuania, Romania, the Czech Republic, Hungary and Slovakia have emerged as important players, the report noted.

Under EU 'cabotage' rules, foreign firms have the right to carry out a maximum of three domestic transport operations over a seven-day period, immediately following an international operation.

Although there have been plans to open up the EU cabotage market completely, this continues to face considerable opposition, particularly from higher-wage western European countries.

In May 2013, the Commission bowed to pressure from road haulage



federations and shelved plans to introduce a cabotage scheme without restrictions across the EU from 2014.

"As things stand in terms of competition relations, if the European cabotage market is opened up in the coming years, we should make no mistake that the same causes will lead to the same effects," the report said.

It said the goals set out in the EU's founding treaties of social "harmonisation while improvement is being maintained", and a level playing field in terms of competition conditions in Europe, are still a major work in progress, at least in Europe's road freight transport sector.

"For a significant number of EU member states, the current situation in the international road freight transport single market is therefore untenable," the study adds.

France and Germany in recent years have attempted to protect their own road freight operators by introducing various minimum-wage requirements, including for international hauliers in transit, although these have been challenged by other EU countries.

In February 2015, the German government suspended the application of legislation introduced the previous month that imposed the country's minimum wage on international hauliers in transit through Germany.

The measure had been intended to combat 'dumping' on wages in the German road haulage industry, where there is strong resentment at unfair competition from low-wage countries.

But the government bowed to pressure from other European countries, notably Poland, and also trade bodies such as the IRU.

And in May 2015, the European Commission (EC) launched an infringement procedure against Germany concerning the application of its Minimum Wage Act (MWA) relating to international road haulage transit operations.

"Whilst fully supporting the introduction of a minimum wage in Germany, the Commission considers that the application of the MWA to all transport operations which touch German territory restricts the freedom to provide services and the free movement of goods in a disproportionate manner," the Commission said.

The infringement does not extend to 'cabotage' activities, meaning Germany can still require that its minimum wage of €8.50 per hour be paid to the drivers of foreign firms when on domestic operations within the country.

The Commission has yet to adopt a position on cabotage in relation to the minimum wage in individual Member States.

France's rules may also come under EC scrutiny.

In February 2015, the French parliament passed a law, to take effect at the end of 2015, applying France's statutory minimum wage to cabotage operations.

As reported in Lloyd's Loading List, transport ministers from eight European states in October wrote to EU Transport commissioner Violeta Bulc to highlight their growing concerns over alleged violations of EU labour laws and illegal business practices within the road haulage sector, which they claim has led to unfair competition and 'social dumping'.

The ministers, from Austria, Belgium, Denmark, France, Germany, Italy and Luxembourg and non-member Norway, claim that "the fundamental rights such as the free movement of goods and services, which we wholeheartedly support, are increasingly being invoked in a abusive way in order to avoid conforming to European regulations, which are the guarantee of fair competition in the internal market".

The ministers have also drawn attention to the emergence in the sector of so-called 'letterbox companies' - set up to circumvent legal and collective agreement obligations in another EU country - "whose unfair business practices are more and more frequent".

They make a number of recommendations to the commissioner, which include prohibiting drivers from sleeping in their vehicles during designated weekly rest periods, stepping up and harmonising checks on HGVs, introducing measures to put an end to 'shell company' activity as well as action to curb the growing trend of light commercial vehicles (vans) carrying out international transport operations.

An EU source told Lloyd's Loading List that the Commission shared a number of the views expressed in the letter and was currently working on a number of initiatives for the road haulage industry, to be presented in 2017, "to bring more clarity and a better enforcement of labour legislation".

The source added: "Certain rules are unclear and are implemented differently depending on the member state.

This is the case regarding restrictions on cabotage for example.

"The rules on the establishment of road transport undertakings need to be revisited to address the phenomenon of 'letterbox' companies.

"By the very nature of the transport industry, many of its workers are highly mobile and this creates issues specific to it.

For example, what salary should drivers be paid when working in 10 different countries in a single month?"



Germany and France have taken unilateral steps to impose their minimum wage regulations on international road haulage firms in a bid to quash 'social dumping' practices.

But the Commission reacted by instigating infringement proceedings against the two member states.

"In both instances, we are at the first stage of the infringement procedure," the EU source said.

"A letter of formal notice was sent and we received the respective replies from the French and German authorities.

We are assessing these replies before deciding on the next steps, and are not bound by a deadline.”

(from: lloydsloadinglist.com, November 22nd 2016)

INTERMODAL TRANSPORT

EUROTUNNEL FREIGHT SHUTTLE BREAKS ALL-TIME RECORD

Eurotunnel's freight shuttle has broken its all-time annual record with more than five weeks of the year still to go.

Between 1 January and Friday 25 November 2016, Le Shuttle Freight transported 1,483,741 trucks, the same number as in the whole of 2015, which was itself a record-breaking year.

In the first ten months of 2016, Le Shuttle Freight grew by more than 12%, largely outperforming the market, which only increased by 5%.

Jo Willacy, Eurotunnel commercial director, said the business' customers appeared confident in their outlook for 2017.

"The investment programme we have pursued will ensure that we are able to continue this growth through the coming years," she said.

However, Jean-Marc Puissesseau, CEO of the Port Boulogne Calais, told Lloyd's Loading List last week that the migrant-related security disruptions at the Port of Calais had been directly responsible for a decline in activity at the port and that this could be seen in the strong growth in Eurotunnel's traffic, which had profited from Calais' difficulties.

"There's no reason why these figures should be so good other than the weak position the port of Calais was put in," he claimed.

"Before the problems related to the migrant camp set in, we had a market share of 48% of the freight market on the Dover strait – 300,000-400,000 trucks more annually than Eurotunnel.

Today, our share has fallen to 44.5%.

It's our task now to recover this traffic."

He said freight traffic handled at the Port of Calais had shown a marked upturn since the dismantling of 'The Jungle' migrant camp a month ago.

'The Jungle', which had housed at least 7,000 people in squalid conditions, bordered the ring road leading to the French Channel port and was the source

of considerable disruption for cross-Channel road freight operators in recent years.

Puissesseau described the closure of the camp as “a huge relief after two years of permanent stress on a daily basis”.

He said the port itself had remained secure, but its access routes via the motorway and ring road had, over time, become the scene of increasingly aggressive and violent action on the part of some migrants, particularly towards lorry drivers – a situation that had needed to be brought to an end.



Puissesseau said the impact on freight traffic following the closure of the camp had been almost immediate, with early November showing an increase in truck numbers of close to 10% when compared to the same period last year.

Most of the attacks on the access road occurred at night, which encouraged road haulage professionals and passengers to only travel by day, despite the fact that ferries operate 24 hours a day between Calais and Dover.

“Since the dismantling (of the camp), we have noticed a 26% increase in night traffic, which demonstrates the renewed confidence in the accessibility of the port at night,” he said.

(from: lloydsloadinglist.com, November 28th 2016)

LOGISTICS

TRANSFORMATIONAL LOGISTICS TECHNOLOGIES

A report last year by PricewaterhouseCoopers (PwC) concluded that huge volumes of air and ocean business could be at risk as mass 3-D printing is introduced into production processes.

Although various logistics and supply chain experts downplay the extent that 3-D printing will affect large-scale freight flows, some believe the automation of factories, supply chains, and distribution channels offers an even bigger challenge to traditional East-West trade flows.

The reasoning is simple: as technology reduces the need for cheap – often Asian – labour, this enables manufacturers to locate production nearer consumer markets.

And while shorter supply chains can reap vast cost savings and improve the responsiveness of manufacturers to consumer requirements, they also reduce transport demand, with long-haul air and ocean movements typically from Asia to Europe and North America the most likely to be impacted.

Sebastiaan Scholte, CEO of Jan de Rijk Logistics and a member of the board of advisers at cloud applications firm Lanetix, says the introduction of robotics and automation technologies into manufacturing processes had potentially negative consequences for trade, and for companies that rely on it including forwarders.

“Some of the trade flows currently exist because of labour intensive products being produced in cheap labour countries” he notes.

“China’s labour cost is increasing but, since robotics and automation is making some of the labour redundant, there is less need to move products around to produce it somewhere else cheaper.

This could make it possible to produce closer to the consumer markets.”

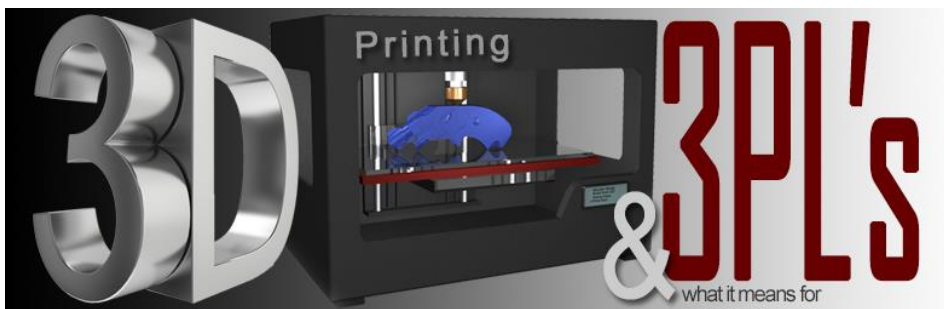
A leading ocean forwarding executive at a major integrator says that for large 3PLs, new technology such as robotics offers opportunities for complex solutions provision.

However, forwarders and logistics companies with smaller footprints that were more reliant on end-to-end transport could be adversely affected by slower or negative volume growth on major trades.

“We’ve been studying how technology such as automation will be implemented by our customers, and we expect to see some production move closer to consumer markets in the West, which will limit ocean and air volume growth, for sure,” he says.

“I couldn’t put a figure on it, but if you also look at 3D printing then the cumulative effect will be a change in trade flows and the demands made of solutions providers.

How that plays out will depend on which companies can follow their customers



up the logistics value chain by using technology to find solutions.

But for sure, we could see slower demand on trunk routes, certainly

on the front haul”.

He continues: “Of course, there are also implications for shipping lines as well.

In percentage terms it wouldn’t take much in the way of a drop in demand due to the migration of manufacturing out of Asia to hurt anyone with a presence on ex-Asia trades, be they a shipping line, a forwarder or whoever.”

Logistics jobs

Scholte makes the point that the protectionist arguments about “bringing US jobs and companies back home” made by both US Presidential candidates had missed the point.

“It’s not simply the case that American jobs have been moved abroad and those blue-collar positions can be dragged back,” he says.

“This is about automation and robotisation.

Some studies predict that 40% of jobs will disappear in the future.

This is across the board, everything from assembly lines, to drivers being displaced by driverless cars, to warehousing and administration.

Lots of these jobs will go in future.”

Indeed, according to leading experts, the productivity gains offered by the latest automation systems not only threaten trade patterns, but also the viability of low-skilled logistics and warehousing jobs in Europe and the US, and the ability of developing countries to rapidly boost economic performance through industrialisation and mass employment.

In a widely noted study published in 2013, Carl Benedikt Frey and Michael Osborne examined the probability of computerisation for 702 occupations and found that 47% of workers in America had jobs at high risk of potential automation.

In particular, they warned that most workers in transport and logistics “are likely to be substituted by computer capital”.

Although new technologies also create new jobs, research firm Gartner has predicted robots will take over a third of all US jobs by 2025.

“Gartner predicts one in three jobs will be converted to software, robots and smart machines by 2025,” says Gartner research director Peter Sondergaard.

“New digital businesses require less labour; machines will make sense of data faster than humans can.”

Roland Berger, a global strategy-consulting firm headquartered in Munich, recently conducted a study that found that the robotisation of logistics would lead to the disappearance of 1.5 million jobs in the Eurozone in the next ten years.

Roland Berger’s study noted that the return on investment of logistics automation solutions would soon drop below three years thanks to flexible and collaborative robotic solutions.

These new solutions, which are now helping human operators and machines to work side by side in the same warehouse without the need for any major transformation, are causing companies to rethink the way work has been organized over the last few decades.

“Robotic logistics solutions have developed at great pace since the giants of the internet made them the spearheads of their expansion plans,” says Mehdi El Alami, principal at Roland Berger.

“The cost reductions and the maturity of the solutions are such that we are now approaching a tipping point before the widespread presence of robots in warehouses.”

According to research by Roland Berger, the cost threshold at which robotic solutions become viable in most of Western Europe is now between €100,000 and €110,000 per unit.

As such, the total hourly cost of a robot is around €18 to €20 per hour when the average cost of a human operator is €14 to €15 per hour in the Eurozone.

"In the long run, the increase in productivity, the lengthening of the lifespan of robotic solutions and the drop in equipment prices will all be factors in favour of robotisation, while the cost of human labour will continue to rise structurally," explains Didier Bréchemier, Partner at Roland Berger.

Emerging economies

But it is not just jobs in high cost labour regions such as the US and Europe that are at risk from automation.

Industrialisation and mass employment manufacturing have been the engines which have historically fired rapid economic growth.

China followed South Korea and Japan in using its cheap labour to boost economic development, and countries across Asia would like to replicate China's journey from low to middle income status by encouraging manufacturing.



For most, that means grabbing a piece of the global manufacturing pie by opening up labour markets.

But not only may some manufacturing jobs be 'going home' to take advantage of increased productivity as a result of new technologies, many are already automating production lines in Asia even in places such as India and Indonesia where under-employed young workers are many and cheap.

Your reporter recently visited a flour processing mill in Indonesia where managers said the ROI of replacing 300 workers with basic robots was "3-5 years".

The workers in question were earning USD\$80-100 per month.

For many poor countries with inadequate infrastructure and poor workforce skills, or too many layers of red-tape, attracting manufacturing and making the

leap from a poor to a middle or rich country before the cost of robots and automotive solutions makes mass-employment manufacturing obsolete is a race against time.

Wolfgang Lehmacher, head of supply chain and transport industries at the World Economic Forum, says the use of robotics and automation technologies could see some countries in Asia and Africa miss out on the mass manufacturing economic growth that has through much of history catapulted economies from 'low' wealth to 'medium' or 'rich', with China representing the most recent example.

"Whether developing economies can still benefit from advantages in labour cost depends on the speed of development of the country and the speed of adoption of the autonomous supply and value chain model," he says.

"Slow movers risk that they only benefit from the portion of production required to serve their local market, if at all.

This is due to the trend towards more regional and local manufacturing.

Some countries might even miss this opportunity when markets are small in size and production is more efficiently organized regionally using the larger and stronger economies as the basis for local and regional supply."

He continues: "Governments need to ensure high speed industrial development.

National competitiveness can be achieved through easing the protection of local industries and ensuring a highly efficient cross-border supply chain ecosystem.

This means the minimum level of trade barriers for imports and exports, sufficient digital and physical infrastructure, light paperless administrative processes, and efficient vertical business ecosystems, with the complete set of suppliers.

This will not only help the local economy to grow but also attract foreign investment."

The implications of this trend could also impact on migration patterns.

The United Nations estimates that sub-Saharan Africa's population will roughly triple over the next half-century, to about 2.7 billion.

Without the traditional industrialisation development model to create suitable employment and wealth, many are likely to look to Europe's porous borders for employment opportunities.

New opportunities

However, the increase in complexity in today's manufacturing world can introduce new opportunities for human workers, as evidenced by a decision this year by Mercedes-Benz to replace some of its assembly line robots in favour of more-adaptable humans at its factory in Sindelfingen in Germany.

Markus Schaefer, the German automaker's head of production, told Bloomberg: "Robots can't deal with the degree of individualization and the many variants that we have today."

While robots are good at reliably and repeatedly performing defined tasks, they're not good at adapting – something increasingly in demand amid a broader offering of models, each with more and more features, it reports.

And in terms of automation in warehouses, for the time being and for the near future, the most likely role of robotics is to offer solutions for labour gaps or inadequacies rather than replacing workers, according to Melonee Wise, CEO of Fetch Robotics, a leading US-based robotics solutions provider for the logistics industry.

"The primary benefit that we have encountered to date is the fact that robots can help address the job gap in the warehouse and material-handling industry," she says.

"By some reports, more than 60,000 positions remain unfilled in these industries.

The jobs can be back-breaking, repetitive and mundane.

Those tasks are perfect for robots.

Robots have historically been implemented in industrial settings, behind cages and away from human workers.

Today's breakthrough is the fact that robots are now working alongside people."

(from: lloydsloadinglist.com, November 21st 2016)

STUDIES & RESEARCH

WHAT DOES THE FUTURE HOLD FOR SHIPPING?

Digitalization and de-carbonization are watch words for the coming decade, and I (Remi Eriksen, Group President and CEO DNV GL) will try to explain how the maritime industry can navigate these developments to its best advantage.

* * *

"I will use three examples to illustrate how shipping can advance – to become safer, more efficient and at the same time reduce its environmental footprint.

The main question for all of us is: what does the future hold for shipping?

Obviously, the future is notoriously hard to predict and a straight answer is far from easy to give.

What I do know is that shipping will continue to play an important part of the world economy for decades to come.

But the industry itself, the vessels, the infrastructure, and the systems that connect them could change substantially.

We can of course not ignore the current market situation and the structural effect this might have.

But, today is not an arena for fear and pessimism.

This is an arena for curiosity, innovation and opportunity.

LNG as a marine fuel

Today shipping plays an integral part of the global economy and moves more than 80 per cent of world trade by volume.

Not only does shipping move the majority share of world trade, it does so while emitting the least amount of greenhouse gasses per transported unit.

In the recent COP21 agreement, shipping was in fact left out.

Approximately 2.5 per cent of global greenhouse gas emissions can be accounted to shipping, and the industry will not be left alone.

It will have to do its bit.

A key question is therefore: how can shipping reduce its environmental footprint, improve cost effectiveness while at the same time remain the preferred mode of transportation of goods?

One answer is alternative fuels.

Depending on fuel type, greenhouse gas emissions, NOX, SOX and local particle emissions can be significantly reduced – if we want.



The technologies are there.

Today the leading alternative fuel for ships is LNG.

LNG exists in abundance and is becoming increasingly available as infrastructure continues to be built.

Right now – ferries and offshore vessels make up the majority of the LNG fuelled ships in operation, but container vessels and oil and chemical tankers are catching up.

Let's take a closer look at LNG fueled container vessels.

Together with industry partners we have investigated the possibility of using a combined gas and steam turbine system (COGAS) to power an ultra large container vessel.

The second phase of the PERFECT Joint Industry Project (JIP) has been kicked-off recently with GTT, CMA Ships and the new partners ABB, the Caterpillar company Solar Turbines, and OMT.

The project called PERFECT – Piston Engine Room Free Efficient Containership – has developed a LNG-fuelled concept vessel that is electrically driven.

PERFECT has a propulsion concept that has the potential to offer a more efficient, more flexible and greener box ship than current 20,000 TEU diesel-engine-driven container vessels.

This new design combines the exceptional volumetric efficiency of membrane containment technology with flexible electric propulsion to save cargo space and improve fuel efficiency compared to a conventional design.

Two 11,000 m³ LNG fuel tanks are located below the deck house, giving the vessel enough fuel capacity for an Asia/Europe round trip.

With the gas and steam turbines integrated at deck level within the same deck house as the tanks, the space normally occupied by the conventional engine room can be used to increase cargo capacity significantly.

Separating electric power generation from electric propulsion allows the electric power plant to be moved away from the main propulsion system, giving a great deal of flexibility.

In fact, an engine room is not needed any more.

The three electric main motors, which are arranged on one common shaft, can be run fully independently of each other providing increased reliability and safety.

The first phase of the project performed by GTT, CMA Ships and DNV GL showed that the project is technically and economically viable.

We are now in the second phase of the project and we have been joined by ABB, the Caterpillar company Solar Turbines, and OMT.

We will look at optimizing the COGAS system, using the cooling capacity of the LNG, and further optimization of the hull lines to attain greater efficiency and increased cargo capacity.

3D printing

The next potential game changer in shipping is additive manufacturing, or 3D printing.

Not only can additive manufacturing result in new designs for more efficient machinery components, it could also allow spare parts to be produced locally in various ports around the world.

This would improve responsiveness to market demands, shorten the time for repairs and contribute to more efficient ship operations.

The technology is already being used for rapid prototyping, but it is now gradually being integrated into existing manufacturing infrastructure, for example in the automotive and aircraft-manufacturing industries.

It has fewer design restrictions compared to conventional manufacturing processes, it offers possibilities for novel designs, including lightweight products, and has the potential to shorten manufacturing time significantly.

3D printing could allow spare parts to be produced locally in various ports around the world.

The US Navy has started testing the technology on board ships, to evaluate the potential of producing spare parts.

However, this requires trained personnel on board, and the printer will be subject to the motions of the vessel, potentially affecting product quality.

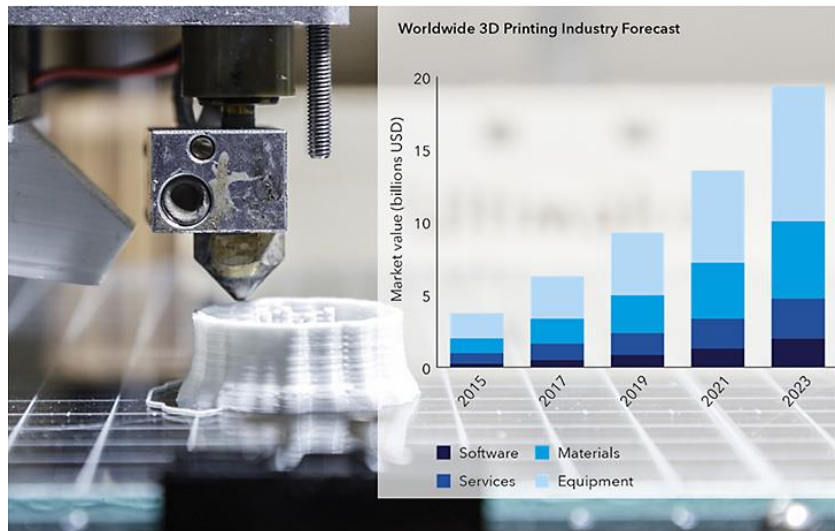
So, there are some issues that need to be thought through.

Qualification and certification may present significant challenges because of the potential for variability in specified properties.

The traditional qualification methods of repeated testing of an end product produced from a centralized facility will not be sufficient.

The distributed nature of additive manufacturing means that the product characteristics determined

for one location may be entirely different to another location – owing to software and hardware differences, or other factors.



An additional or 'second order' downside of additive manufacturing for shipping is that the distributed production of manufactured goods may reduce the overall demand for shipping of goods.

Digitalization and autonomous shipping

The shipping industry will have to continue innovating to keep up with the increasing expectations from end users, charterers, regulators and society at large.

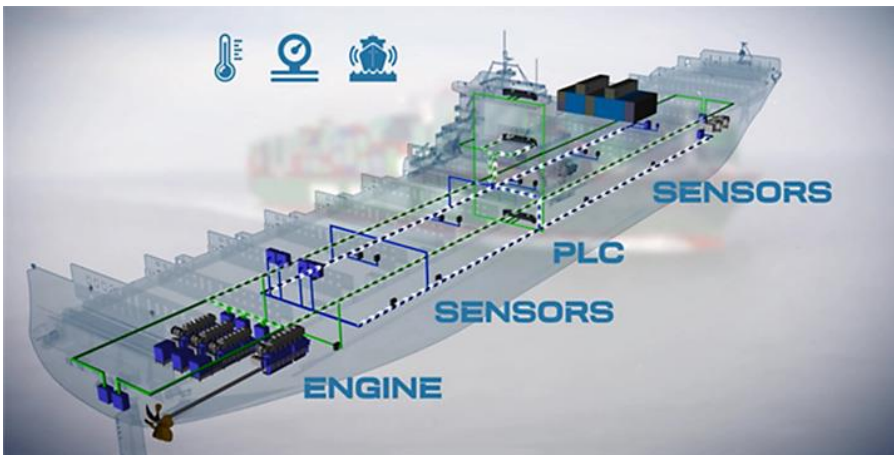
This is not just about the technology itself, but also about how successful we are in scaling it to the point where it delivers real financial, environmental and societal benefits.

On that note – we should all keep an eye on all the possibilities that digitalization of shipping holds.

Ships are becoming sophisticated sensor hubs and data generators, and advances in satellite communications and antenna technology are improving ship connectivity.

This allows for a massive increase in the volumes of data transferred between ship and shore – at ever-lower cost.

Digitalization of information flows will spur the automation of existing processes and functions and positively impact safety and environmental performance.



processes and functions and positively impact safety and environmental performance.

The fleet of the future will continually communicate with its managers and perhaps even with a

“traffic control” system that is monitoring vessel positions, manoeuvres and speeds.

Fleet managers will be able to analyse this data, enabling them to advise the captain and crew on navigation, weather patterns, fuel consumption, and port arrival.

This will help to reduce the risks of human error leading to accidents, increase cost efficiency, and help to improve environmental performance.

Some of these data will also be shared.

Ports will use the data to help them plan and optimize loading and unloading.

Classification societies will analyse the data to check on the status of machinery and hull, letting the owners and operators know when a survey is required based on the condition of the systems, helping them to reduce downtime and avoid unnecessary maintenance.

Onshore, new cloud technologies, such as big data platforms and digital twin technologies will have a dramatic effect on how the industry manages information, and how vessels and their components are designed, built, and operated – all of which will see new digital business models emerging.

A potential game changer that may spring out of the progress within information and communication technology is the advent of unmanned vessels.

Unmanned vessels can either be remotely operated from shore, on autopilot or be completely autonomous.

Many steps will be needed before fully unmanned ships can become a reality.

However some sort of autonomy is also relevant to manned ships, and it would greatly increase safety through smart decision support.

In order to increase this autonomy, situational awareness needs to be improved dramatically.



When it comes to autonomous equipment, it's predicted that equipment like Electronic Chart Display and Information System (ECDIS), GPS, RADARS, CAMERAS and LIDARS (light detection and ranging) will be utilized to create situational awareness around the vessel.

These are all systems and sensors which are available on the market today.

We have been researching topics around autonomous and remotely operated vessels for several years now in close cooperation with academia and industry partners.

Our goal is to develop classification requirements and assurance principles that will allow the safe introduction of this technology in the maritime industry.

One example is the Advanced Autonomous Waterborne Application Initiative – better known as AAWA.

Our focus in this project is to develop class requirements and principles for assurance of safety and performance.

A general principle for a new technology solutions to be introduced, is that it must be "as safe as, or safer than" existing solutions.

At DNV GL we are in the process of forming the framework that will demonstrate this for various degrees of autonomy.

Key in this process will be to undertake comprehensive simulations, HIL testing, and physical trials.

Closing

The key drivers for the coming decade are decarbonisation and digitalisation and offer opportunities for the maritime industry to become safer, more efficient while at the same time reducing its environmental footprint.

At DNV GL we are excited to be a part of this transformation.

We will continue to work with stakeholders across the maritime world to realize the potential of our industry – so that the outlook for shipping tomorrow will be brighter than today”.

(from: hellenicshippingnews.com, November 16th 2016)

ON THE CALENDAR

- 05/12/2016 - 07/12/2016 Dammam Saudi Transtec 2016
- 07/12/2016 - 09/12/2016 Guangzhou INMEX China 2016
- 24/01/2017 – 25/01/2017 Tehran 14th Trans Middle East 2017
- 23/02/2017 – 24/02/2017 Manila 9th Philippine Ports and Shipping 2017
- 22/03/2017 – 23/03/2017 Antananarivo 11th Indian Ocean Ports and Shipping 2017
- 19/04/2017 – 20/04/2017 Cape Town 17th Intermodal Africa 2017
- 18/05/2017 – 19/05/2017 Georgia 6th Black Sea Ports & Shipping 2017
- 06/07/2017 – 07/07/2017 Yangon 15th ASEAN Ports and Shipping 2017
- 28/09/2017 – 29/09/2017 Tallinn Baltic Sea Ports & Shipping 2017
- 26/10/2017 – 27/10/2017 Barcelona 5th MED Ports 2017
- 29/11/2017 – 30/11/2017 Abidjan 18th Intermodal Africa 2017

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