November/December 2015 Vol 60 No 6



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Cargo operation





Port environment

Cruise terminal

Community outreach



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Time is running out for those vessels, ports and suppliers that haven't prepared for upcoming 'green' regulation – and opportunity

Photo: Shutterstock / Carolina Lorenzo

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Looking ahead

We should welcome the changes that will affect every IAPH member over the coming year



Susumu Naruse Secretary General - The International Association of Ports and Harbors

> he IAPH received great news this summer: Ki-tack Lim, the former CEO of Busan Port Authority, who has made the port further flourish during his tenure and has been very active in IAPH affairs, was elected as the incoming secretary-general of the International Maritime Organization (IMO).

As the IMO is definitely the most influential UN organisation for IAPH, I feel very happy that Mr Lim will lead the IMO with ample knowledge both about the port industry and of IAPH as well. I shall be going to visit him in his office in Seoul before he takes up office next year in London.

One of the ports industry's biggest challenges next year may be the issue of container weighing. When the amendments to the SOLAS Convention come into force in July 2016, the containers cannot be loaded on board unless they are weighed by scales or precisely calculated by pre-determined procedures. Although providing the 'verified gross mass' is the shipper's responsibility, I am afraid ports are occasionally forced to take some necessary

• One of the biggest challenges next year may be container weighing

measures when containers without legitimate verification arrive at terminal gates. At the moment, however, the port industry as a whole does not seem adequately prepared for this. I believe more discussions are required among the stakeholders, including regulatory authorities, shippers, shipping companies, and port authorities. IAPH has long been

'for' the amendments by adopting the resolutions because we understand that mis-declared container weighs have had a serious impact on port safety and the stability of container ships. I hope all parties concerned will go through the new regulation smoothly and effectively and improve the safety levels of port operations.

In addition to the UN agencies, IAPH has also had close relationships with regional port organisations such as ESPO and AAPA. The Association of Pacific Ports (APP) is one such organisation and has a long history - more than 100 years. I was invited to make a presentation at its 102nd convention, in Kaohsiung this August. Most members of the association are medium to small ports in the South Pacific and the US west coast, but I feel IAPH should also involve ports of this scale because they too play a significant role in local and regional economies.

Having observed a lot of depressing events this year - civil wars, natural disasters, economic downturns and others - I only hope that the year ends without any more such events. PH



Port updates

TAKEOVER

In a transaction valued at USD1 billion, Rotterdam-based terminal operating giant APM Terminals is buying the 39% of shares it does not already own in Spanish terminal company Grup Maritim TCB. The business has 11 container terminals with an annual throughput capacity of 4.3 million teu.

ACQUISITION

Malaysia-listed port operator MMC Corp is to acquire a 53.42% stake in NCB (formerly known as Northport Corporation) Holdings for MYR1.1 billion (USD258.5 million). The proposed deal will increase MMC's stake from 30.13% to 83.55%, triggering a mandatory general offer to buy out the remaining shareholders.

LISTINGS

The Maritime Port Authority of Singapore (MPA) has formed a working group to promote more maritime listings on the Singapore Stock Exchange (SGX). The group includes members of the Singapore Shipping Association and SGX and aims to make Singapore a leading maritime financial hub. At present the SGX reportedly has 62 maritime listings worth approximately USD32.5 billions.

BUSAN SALE

As it continues to struggle with a weak container freight market, cashstrapped Hanjin Shipping reported in a Korea Exchange filing that it was considering selling its stake worth about KRW150 billion (USD131 million) in its Busan terminal operations. It began operations there in May 2009. The terminal operator counts its parent, Yang Ming, 'K' Line, COSCO, Evergreen, Hapag-Lloyd, NYK, and KMTC Line among its customers. It is also looking to sell its 22.2% stake in H-Line Shipping.



A giant calls: CMA CGM's Marco Polo

ADB predicts improved efficiency

Infrastructure improvements at Colombo Port in Sri Lanka will offer 'huge advantages' over competitors in the battle for transhipment business in south Asia, according to the Asian Development Bank (ADB).

Physical improvements combined with strategic marketing will give lines an incentive to set up transhipment hubs and attract increased investment over time, the bank noted in a report that followed a mission to assess the effectiveness and sustainability of infrastructure works projects at the port.

"Compared with its competitors, the improved efficiency and capacity to handle large vessels will be huge advantages to Colombo Port, given its relative proximity to India's southern and east coast markets," it said. "Most ports in the ISC [Indian subcontinent] face congestion and Colombo Port, with its added capacity, can continue to offer competitive shipping options and significantly benefit regional trade."

The ADB provided a loan of

USD300 million to part-fund the public-sector component of the recently completed harbor infrastructure works to accommodate three new terminals at the port. Each new terminal will provide additional capacity of 2.4 million teu.

Prior to completion of the project, the maximum size of vessels that could enter Colombo Port was 8,000 teu with a draught of 14.2 m. At the end of September, the port welcomed Marco Polo, a 396 m-long Explorer-class CMA CGM vessel with a capacity of 16,000 teu.

"The new facilities make it the only port in the south Asia region with a deepwater terminal that can accommodate the newest breed of 18,000 teu container ships. Higher efficiency and faster delivery times will attract larger vessels and higher volumes of trade," the report notes.

"This enhances Sri Lanka's competitiveness in international trade and it should draw investment to the country that will improve manufacturing and distribution centres and benefit the Sri Lankan economy, both directly and through the multiplier effect of increased operations at the port."

The ADB's mission is to reduce poverty in Asian countries through loans, grants, policy dialogue, technical assistance, and equity investments.

The Sri Lankan government forecasts growing cargo traffic will enable the transport sector, including ports, to contribute 40% of total GDP by 2020, which is four times more than the current contribution. Transhipment traffic grew from 2.785 million teu in 2008 to 3.699 million teu in 2014.

About 70% of containers handled at Colombo Port are transhipment containers, of which 75% are for the Indian subcontinent market and 25% for the west African market.

The first of four berths of Colombo International Container Terminal (CICT) opened in April of last year in a joint venture between China Merchants Holdings International and the Sri Lankan Ports Authority. China Merchants Holdings holds an 85% share in the venture, in what is believed to be the largest single foreign investment in the country. The Sri Lankan government is seeking investors for a 49% stake to develop the East Container Terminal.

Meanwhile, a Chinainvested project to develop a USD1.4 billion 'port city' on more than 100 ha of land at Colombo Port remains suspended pending a government review of the awarding process and negotiation with the investors.

The project – to build apartments, shopping centres, hotels, marinas and other entertainment and commercial facilities – was suspended in March on the basis that it did not have the proper permits and approvals. The project had initially been approved by Chinafriendly former president Mahinda Rajapaska.

Green giant makes its maiden call at Zeebrugge

United Arab Shipping Company's (UASC's) 18,800 teu ultra-large container carrier (ULCC) Al Muraykh has made its maiden call at APM Terminals Zeebrugge. This was its first voyage from Asia to Europe.

The second of six 18,800 teu ULCCs ordered by UASC - the largest ships in the company's 56-vessel fleet – Al Muraykh and its sisters claim to be the greenest container carriers in the world. Their dual-fuel engines work with LNG or diesel and their CO₂ emissions output/teu is more than 60% below that of 13,500 teu vessels delivered just three years ago.

They are also the first ships to receive classification society DNV GL's notation certifying compliance with its latest gas-fuel rules.

One of a select few European terminals able to accommodate and handle these behemoths. with containers stacked 10-high on deck and rows 24 containers wide, APMT Zeebrugge has a 1,200 m-long quay with an alongside depth of 17.5 m and seven super post-Panamax cranes with a 24-row outreach. It handled 406,000 teu in 2014.

Speaking to P&H, an APMT



Al Muraykh moored at APM Terminals Zeebrugge

representative said, "Zeebrugge has long-standing tradition with LNG." a 15.5 m-deep channel and two tugs guided the vessel in. Al Muraykh arrived partially laden with 8,500 teu and our count was limited to 900 moves - 600 load and 300 discharge.

"Al Muraykh is part of the industry's first LNG-ready fleet," she continued, "setting new standards for fuel and energy efficiency, and Zeebrugge has a Port of Zeebrugge CEO

Joachim Coens added, "There is a growing demand for sustainable solutions in the shipping industry and Zeebrugge is a clean port that is very conscious of, and keen on, this evolution.

"We are proud of our client and congratulate UASC on the delivery of their green, ultra-large container carriers."

Piracy incident reports up 25%

Singapore-based anti-piracy agency, ReCAAP Information Sharing Centre (ISC) recorded a total of 161 incidents of piracy and armed robbery against ships in Asia from January-September 2015. This is a 25% increase on the 150 incidents recorded in the same period last year.

Out of the 161 incidents, 11 were classified as piracy as the incidents occurred on high seas, while the remaining 150 incidents were armed robberies against ships that took place within a state's internal waters, archipelagic waters and territorial seas.

ReCAAP ISC broke down the 161 incidents into: 11 Category 1 cases; 21 in Category 2; 26 in Category 3;

92 in Category 4 or petty theft; while 11 of the incidents were attempted robberies.

According to the report, 110 of the total number of incidents occurred on board ships while they were under way and 51 cases occurred at ports and anchorages. Out of this 110, 96 cases, or 87%, occurred while vessels were under way in the straits of Malacca and Singapore. Most happened in the eastbound lane of the traffic separation scheme in the Strait of Singapore, where ships are relatively more vulnerable to boarding because of their slow speed while transiting the strait, particularly while negotiating the turn at the Philip Channel.

Port updates

FLEXI-FUEL FUNDING

Finland's Hercules-2 three-year project is getting EUR16.8 million (USD19 million) from the European Union's Horizon 2020 programme. The aim is create a fuel-flexible large ship engine that operates optimally in various environments. This could advance Finnish export industries' global competitiveness. Participants include Wärtsilä, Man Diesel & Turbo, Vaasa University of Finland, universities and research institutes.

JNPT FOUNDATION

Singapore-based terminal giant PSA International has laid the foundation stone for Jawaharlal Nehru Port Trust's fourth container terminal at a ceremony attended by India's prime minister, Narendra Modi, and shipping minister, Nitin Jairam Gadkari, JNPT handles about 56% of the country's containerised cargo. The terminal will be managed by PSA subsidiary Bharat Mumbai Container Terminals.

NSR NAVIGATION AID

Maritime researchers at the Korea Institute of Ocean Science and Technology and the Korea Research Institute of Ships and Ocean Engineering have developed a system to help navigate the Northern Sea Route (NSR). It helps navigators to estimate the amount of sea ice in the Arctic Ocean. South Korea's government is keen to promote the NSR to procure more oil and natural gas from Russia and the North Sea.

► ITALIAN LNG

Stolt-Nielsen, the London tankers and terminals group, has acquired a 10% stake, with options for up to 80%, in joint venture HIGAS, which plans to build and operate an LNG terminal in the port of Oristano, Sardinia, Italy. LNG would be shipped to the terminal by tanker and distributed to customers via pipeline and trucks.

Port updates

SEA ROBBERY FOILED

The Malaysia Maritime Enforcement Agency has foiled a USD23 million sea robbery attempt off Tanjung Piai, Malaysia. Six robbers armed with machetes boarded Liberia-flagged tanker *Mt Almi Spirit* at 06.10 on 15 October but fled when spotted and an MMEA patrol vessel approached.

COLOMBIAN DELIVERIES

Sociedad Puerto Industrial de Aguadulce (SPIA), the Colombian unit of Philippines-headquartered International Container Terminal Services (ICTSI) has confirmed to *P&H* that it has received four super-post-Panamax quay cranes and 10 rubbertyred gantries as a key part of preparations for the Aguadulce Multi-User Container Terminal facility at Colombia's Buenaventura Port coming on line in June 2016.

TRAINING FACILITY

The Maritime and Port Authority of Singapore (MPA) has launched a training facility at its academy, to raise maritime training in Singapore and across the globe. Located in the PSA Building it is more accessible to MPA officers. Andrew Tan, CEO of MPA, said, "The new dedicated training facility at MPA Academy will provide many opportunities for maritime leaders and professionals to come together to share best practice, exchange maritime knowledge, and network with one another."

PORT EXPANSION

Manila International Container Terminal Services is set to finish the first 4 ha stage expansion of Yard 7 by the end of this year, parent company International Container Terminal Services has reported. This will increase the terminal's import capacity by nearly one-fifth. This is considered by the company to be key to optimising terminal usage.



llembe at its Dutch launch

Headway made at Durban

The Port of Durban in South Africa has reinstated original permissible depths at a number of berths, allowing larger vessels to again call there.

This follows Transnet National Ports Authority's (TNPA) ongoing efforts to address shallow spots, which have been exacerbated by the size of the megaships now calling at the port.

Durban Port manager Moshe Motlohi, explained, "The vessels calling at our ports have gotten bigger and therefore require deeper draughts. But they also cause challenges for ports because of the manner in which they more aggressively displace material from the seabed, causing shallow spots.

"Shallower berths can cut into the vessel payloads of shipowners because it means they cannot sail into the port with their vessels fully laden and have to wait for high tide to sail or berth."

Recently, four container berths out of the eight at Durban Container Terminal – namely 107, 200, 202 and 205 – have been brought back to their original permissible draught of 12.2 m.

Berth P at the Point Terminal, Berth MW9 at Maydon Wharf Terminal and bulk Berth BCA 4 in the Island View precinct have also been dredged back to the respective permissible draughts of 10.3 m, 9.3 m and 10 m.

In Durban, the permissible draught requires a vertical distance of 600 mm between the sea bottom and the lowest part of the ship's underside.

The port authority will continue to carry out maintenance dredging and is bringing forward the timing of its USD150 million dredging fleet replacement programme, with its new *llembe* suction hopper dredger scheduled for delivery in December 2015.

Improvements under way at Abidjan

Work has started on enlarging and deepening the Vrisdi channel at Abidjan, Côte d'Ivoire, and constructing a second container terminal.

On 6 October the Minister of State and Secretary General of the Presidency, Amadou Gon Coulibaly, laid the cornerstone for the work.

Once completed, the port should become a leading logistics hub in west Africa, able to accommodate vessels 350 m long with 16 m draught.

The new container terminal will increase current processing capacity from 1.2 million teu/year to 3 million teu/year by 2020.

According to Sie Hien Yacouba, director-general of the Autonomous Port of Abidjan (APA), these works not only accord with the vision of Alassane Ouattara, Côte d'Ivoire's head of state, but should also position the port as a leader on the Atlantic coast of Africa. Gon Coulibaly, who chaired the ceremony congratulated the APA on the significant progress made in the space of four years and urged China Harbour Engineering Company (CHEC), the company dedicated to delivering all of these works, to complete them within the original timeframe.

The ceremony was attended by President Ouattara, the minister of state, vocational training and employment minister Moussa Dosso, transport minister Gaoussou Toure, the minister for African Integration of Ivorians Aly Coulibaly, tourism minister Roger Kacou and a number of other guests, including the president of CHEC, the Chinese ambassador to Côte d'Ivoire, and members of the Abidjan port community.

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Madagascar's Port of Toamasina is hosting a returning guest, *Africa Mercy*, which arrived in September along with its allvolunteer crew, for the next nine months, writes **Veronika Farkas**

ercy Ships, the Swiss-headquartered international faith-based organisation has a mission to increase access to healthcare in some of the poorest countries in the world. With its private hospital ship, *Africa Mercy*, it helps host nations around the world to boost their healthcare systems while serving the immediate needs of the population. Through capacity building, it also provides a variety of training opportunities for medical professionals.

Dedicated to the African continent, the organisation has been long focused on the west African region, mainly serving countries such as Ghana, Guinea, Liberia, and Togo in the Senegal–Nigeria stretch. However, the Ebola crisis has forced it to move away from west Africa, giving a chance to people of Madagascar to benefit from its service. More than 2,000 surgeries are planned during *Africa Mercy*'s stay.

"We are very excited that we are coming back to Madagascar," said Jim Paterson, senior vice-president of international operations at Mercy Ships. People desperately need our help and the healthcare system there really appreciates what we are able to give them to become better, he added. "People usually want to do a good job but they do not necessarily have the resources to do it."

To offer free surgeries and invest 10 months

in the development of local medical staff and hospital infrastructures each year, smooth marine operations are essential, including fitting in the ship's maintenance work. Speaking to Mercy Ships, it is soon clear that this involves a meticulous and lengthy planning process covering all aspects of the operation. Among others, partnerships with port authorities are key for the organisation, not only in the developing countries they serve but also during ship's maintenance and when raising awareness and funds.

"We identify a handful of countries and start working with them, sometimes 18 months to two years before the ship goes there," explained Russ Holmes, director of development and corporate relations at Mercy Ships. The organisation does this by targeting countries where the majority of the people live on less than USD2/day.

"We have had relationships with various governments at this part of the world for a number of years now," said Paterson, and they are very keen for us to come.

After the initial invitation from the host government, a protocol agreement is signed to cover technical details such as free berths, freshwater access, water supply to the ship, and immigration and customs formalities before the ship arrives. "We have containers coming every month to keep the ship resupplied. They get pushed through customs very quickly and we do not pay import duties," said Holmes.

When the arrival date has been set, a team goes to the country three to four months in advance to meet the port and discuss details such as where the ship is going to berth and what services need to be provided to the ship. The practicalities can sometimes be challenging. "They need to find a berth that is not going to cause them too many problems to allow us to sit there for 10 months," explained Paterson.

Most of the time these challenges are worked out well ahead of the ship's arrival, so everyone understands what is needed and where it is going to berth. From a port point of view, said Paterson, one of the more challenging visits is in Madagascar, primarily because this part of the world is prone to cyclones. "We have to keep a close watch on the weather and make a decision well ahead of the time if we actually need to leave the harbour. Earlier there were a couple of times when the crew made preparations to go but thankfully the cyclone never approached close enough to cause a problem."

At Toamasina the berth itself is an issue as the port does not have the best berthing arrangement. "We overhang the berth" and there is a constant swell that comes in from the sea, causing difficulties for the deck department, said Paterson. To keep the ship safely secured, they have to build anchors out to keep the ship off the berth.

Apart from the berths, the host port also needs to arrange regular, safe, freshwater supply. As the ship cannot make its own freshwater in port, availability is an important criterion, he added. Garbage removal is also something that the port needs to take care of for the vessel.

Security is another concern. A lot of these ports are very open so Mercy Ships works very closely with the port officials to try to provide a secure area within the port. "Often we will use empty containers to build a sort of enclosure", leaving a gap between the containers with gates to have extra security, Paterson explained.

Africa Mercy is now 35 years old, so it needs constant upkeep, but this cannot be done when the hospital is functioning. During the two months it spent in Durban before returning to Madagascar, a lot of the old steel freshwater piping was replaced by plastic pipes. They also replaced a lot of the gully drains and vents from the sewage treatment plant with plastic pipes. The tail shaft was taken out and an overhaul of the propeller done. There is always some upgrades to be done around the accommodation and the hospital too, Paterson explained. "This is downtime for the hospital, but [it is] a busy time from a marine operations point of view."

Durban was an obvious choice this time because of its close proximity to Madagascar. Prior to this, travelling from west Africa the ship often went to the Canary Islands: Las Palmas in Gran Canaria and Santa Cruz de Tenerife in Tenerife. "They have been very gracious to us for many years, among other things allowing free berths," said Paterson.

This free berth 'partnership' with the port authority is also crucial during the 10-months stay in a developing nation. "If we had to pay for berthing our vessel, we would not be able to operate," said Holmes. These days, more and more ports that *Africa Mercy* visits in Africa are being privatised "so it is not just the government that allows us to berth free of charge in the port, we have to negotiate with the company that owns that port to allow us to berth a ship there", he added.

Apart from donating the use of facilities,

ports have a tremendous resource in their network of contacts that can be used to support the work of Mercy Ships, even when the ship is not in port. "Port executives usually rub shoulders with all levels of government, chambers of commerce, maritime organisations, local suppliers, cruise liners, shipping companies, and international corporations, which can all support Mercy Ships in different ways," Ricardo Menzies, national director of Mercy Ships Spain, told P&H. He said one of the best ways for a port to help was to present the work of Mercy Ships to its network of contacts. Port of Antwerp is an excellent example. Mercy Ships is the official charity of the port, which raised EUR25,000 at its last annual New Year reception for the charity.

"If you have a hospital ship and you are moving from port to port, [it is logical] that the first link you look for with companies is through ports", said Bert van Dijk, national director of Mercy Ships Belgium. For companies that want to boost their corporate social responsibility, it is a "great win-win situation" to partner with our charity, he said.

Sports events, photographic exhibitions, and a donor event are all in the pipeline in



Belgium to promote the work of Mercy Ships with the port's help. "We have an excellent relationship with the Port of Antwerp, but we have many other ports in the world, so why not do the same [there] ... and roll out the initiative that started in Belgium," said Van Dijk. The plan already appears to be bearing fruit as the charity is in discussing a similar relationship with the Port of Barcelona. PH



Mr. CHANGE/GREEN PORTS

Keeping an eye on emissions

COVERSIC

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EU emissions rules could jeopardise IMO work on the same issue. *Stephen Cousins* reports

he EU-wide system for monitoring, reporting and verification (MRV) of carbon dioxide (CO₂) emissions from shipping was adopted by the European Council and Parliament on 1 July and will apply from the start of 2018. The regulation covers the majority of ships over 5,000 gt, apart from naval and other non-commercial vessels, and aims to improve information about ship efficiency and emissions as well as encourage emissions reduction.

According to the European Commission, maritime transport is the only industry sector not addressed either through the European Union (EU) Emissions Trading Scheme (ETS) or the EU Effort Sharing Decision on CO₂. According to an LLR report, maritime transport represents 4% and is recognised as the fastest growing transport sector. CO₂ emissions, arising from any voyages to, from and between EU ports, are covered by the rules, but they do not extend to other greenhouse gases.

The rules cover three phases of implementation: the MRV scheme will establish the nature and quantity of CO_2 emissions from maritime transport; a global energy efficiency standard will be agreed; and experts will determine whether efficiency standards are achieving the EU's desired absolute CO_2 emissions reductions – and based on that they will decide whether other measures are required, such as the introduction of a market-based measure to incentivise emissions cuts.

Organisations including the International Chamber of Shipping (ICS), BIMCO and the Hong Kong Shipowners' Association have voiced opposition to the MRV based on the grounds of its legal jurisdiction and technical requirements. Simon Bennett, director policy and external relations at ICS told *P&H*, "We see MRV as an unhelpful, unilateral regional action that will prejudice the progress of negotiations currently taking place at the IMO to establish a global data collection system for emissions. ... The Europeans are effectively putting a gun to the head of the IMO and saying unless you develop your data collection system to mirror the EU system, you threaten to fracture the global regulatory framework."

Significantly, the EU regulation contains a clause that states that it will be harmonised should the IMO introduce a data collection scheme. In other words, the European Commission has the power to adjust the MRV to take into account a new IMO regulation. However, the extent to which it would be willing to adjust it is currently uncertain and open to interpretation.

Under MRV, ships will be required to monitor pervoyage and yearly CO_2 emissions, plus other parameters including energy efficiency metrics and quantities of cargo carried. Each year, companies must provide an emissions report for the previous calendar year's activity, including the technical efficiency of the ship.

Initially each company must produce a plan to monitor per-voyage data. Under the current timetable, this must be prepared and submitted to verifiers by August 2017. Monitoring must cover emission sources on board, such as main engines, auxiliary engines, gas turbines, boilers and inert gas generators. However, the precise scope of these sources has not yet been specified.

 CO_2 emissions will be either calculated either on fuel consumption, using appropriate emissions factors for the fuel type being consumed, or by direct emissions monitoring. The monitoring process itself will start on 1 January 2018 and from 2019 onwards a verified emission report must be submitted to the European Commission and the relevant flag state by 30 April each year.

One controversial aspect of MRV is the requirement to develop a technical efficiency standard for each ship (known as the Energy Efficiency Design Index or the Estimated Index Value), to calculate its average efficiency.

"The shipping industry's original position was that any system should be as simple as possible and based on fuel consumption," said Bennett. "But the Commission wants to complicate things by developing this very theoretical and arbitrary transport efficiency metric, taking into account the amount of cargo carried, which bears little relation to a ship's real-life emissions."

The ICS concern is that the metrics will be used to create a system of efficiency indexing, with every ship allocated an efficiency rating, which at some point in the future may be used to apply financial penalties to underperforming ships. "We don't believe financial penalties will create any additional incentive for ships to reduce their emissions. The current incentive to reduce fuel consumption is already sufficient."

Others have warned that the published data could reveal commercially sensitive information regarding ship movements of ships and strategies for route planning and cargoes. The hope is a mutually agreed solution can be developed, said Katharine Palmer, manager, environment and sustainability at Lloyd's Register, which has helped develop voluntary industry standards such as the Clean Shipping Index and Clean Cargo Working Group, "The issue of the best means to measure emissions and efficiency of shipping remains contentious. Finding a way to marry the 'through the water' efficiency of a ship with an effective measure of use would probably be the ideal. All stakeholders need to work together to find agreement on a practical, meaningful methodology that does not impinge on commercially sensitive data," she concluded. PH

Green ports clean up continues

US ports push forward pollution-clearing initiatives after positive results, reports *John Gallagher*

Merican ports are clearing the air along the country's three coastlines with pollution-reducing schemes that are being renewed and expanded as hard evidence shows proof of their successs, (locations of some of the ports involved are shown on the map below).

The ports of Los Angeles and Long Beach, planned to meet in October to gather information for the next update of their joint Clean Air Action Plan (CAAP), one of the first and most stringent environmental programmes for reducing air pollution from port-related sources. Since CAAP was first adopted in 2006, and updated in 2010, levels of diesel particulate matter have dropped by 82%, oxides of nitrogen by 54%, and oxides of sulphur by 90% - largely due to reducing pollution from the ships, trains, trucks, terminal equipment, and harbour craft operating in and around the ports.

Neither port is resting on green laurels. Recognising technology's role in cutting emissions, the Port of LA issued a report last summer outlining a plan to encourage the use of zero-emission technology for maritime goods movement, particularly as it relates to trucks and yard tractors. The port plans to help test and develop up to 200 zero-emission vehicles by 2020.

"While we've made great strides in reducing emissions and greenhouse [gases] over the last decade, the Port of Los Angeles continues to look for new opportunities to further cut pollutants," said Chris Cannon, the port's director of environmental management. "We think zero emission technology in key operational sectors has strong potential to help us achieve these reductions."

The Port of Long Beach is looking to combine pollution reduction with transport efficiency. In September, it completed its "Green Port Gateway," a USD93 million rail realignment project to relieve a bottleneck. Fortythree per cent funded by state and federal government money, the project includes 10 km (6 miles) of new track that allows port terminals to increase their use of on-dock rail, so cutting truck traffic and related pollution.

One of the largest container ports on the US East Coast, Virginia, is also starting to see significant results from green schemes. FY2015 marked the seventh year of the port's Green Operator (GO) Diesel Emission Reduction programme for dray trucks and ocean vessels. The scheme provides up to USD20,000 in incentives towards the purchase of clean-burning trucks and up to USD6,000 toward retrofitting a truck with a diesel exhaust device. As of 30 June, 410 trucks had been replaced or retrofitted, which the port estimates eliminated 7,400 tonnes of sulphur dioxide.

The GO programme also encourages ships to use lowsulphur diesel fuel during cargo operations. Since 2012, 580 vessel calls were made by vessels using the cleaner fuel while at berth, removing an estimated 58 tonnes of sulphur dioxide.

Virginia is expanding green technology on containermoving equipment in its yard operations. In August, cargo equipment manufacturer Kalmar delivered three hybrid container shuttle carriers to the port's Virginia International Gateway terminal (VIG) in Portsmouth.

The hybrid technology, developed by the company, significantly reduces diesel fuel consumption and emissions, as well as engine noise levels. Port spokesman Joe Harris was "thrilled to see the first real hybrid shuttle carriers in the US now in action in our fleet. We are sure these additions will help us in achieving our operational and environmental targets."

Further south, the Georgia Ports Authority (GPA) on 21 September approved a total of up to USD12.6 million for the next phase of its yard crane electrification scheme at Savannah. The first two phases put in place 19 electrified rubber-tyred gantry (eRTG) cranes at the port. The third phase will add another 16 eRTGs, each reducing diesel consumption by 95%. By summer 2016 eRTGs will make up 25% of GPA's crane fleet.

"Electrifying RTGs will reduce fuel and maintenance costs, as well as carbon emissions as GPA strives to be a leader in environmental stewardship," commented GPA board vice chairman James Allgood.

Down in the Gulf, New Orleans became the eighth US port to be certified as a "Green Port" by Green Marine, a North American green certification scheme.

The group encourages participants to cut pollution by taking "concreate actions" in nine environmental areas. Participants must have their results reviewed and independently verified and publish their results. CEO Gary LaGrange noted, "While we are proud of the certification, we will continue to work diligently to be a more environmentally friendly organisation." PH





Shore power switched on in Bergen

In this case study, **Tony Slinn** reports on DOF Group offshore vessel Skandi Vega, which was the first to benefit as the Norwegian port of Bergen inaugurated its shore power system in mid-June

Schneider Electric ShoreBox and *Skandi Vega* nstalled at the terminal used by offshore vessels, the low voltage shore power system recently installed at the port of Bergen – designed to meet the ISO/PAS 80005-3 standard – consists of a Schneider Electric 'ShoreBox' that handles the power supply and a fixed Cavotec cable-handling AMP (alternative maritime power) unit.

At present, it can handle a single ship, but it is hoped that it will be the first of several installations at Bergen. Cost, however, is a factor, as port CEO Inge Tangerås explained to *P&H* at the switch-on ceremony.

"The system cost us well over NOK7 million [about USD1 million]," he said, "and there are no economics

of scale. If we expand the shore power supply in the future, a second unit will cost the same."

Concern over air quality was the driving force behind the decision to install the first system, Tangerås continued. "On average, seven to eight vessels are in port every day and we also have about 300 cruise ships calls, mainly during the summer. Air quality has become more and more important – in terms of the port's top ten environmental concerns, it has moved from tenth place in the late 1990s to first place now.

"In researching ways to reduce the environmental impact of port operations, we looked at scrubbers



for Bergen. This is a step in the right direction

Kurt Oddekalv

President of the Green Warriors of Norway

and even liquefied natural gas (LNG) options, but a study showed that shore power was the best solution." That study also showed cruise vessels were responsible for 38% of NO_x emissions, while offshore vessels contributed 35%.

Left: Cavotec AMP unit Right: Øystein Kalvenes explains how the connection (centre) works aboard Skandi Vega "When the weather is bad in the North Sea in the winter, up to 20 offshore vessels can be moored in Bergen," Tangerås noted. "Offshore vessel operators are showing interest in shore power, but given low oil prices, it is challenging for them right now. DOF has invested, however, and *Skandi Vega* is the first to benefit."

He hoped too that cruise ship lines would also

show interest, "Germany-based AIDA is leading the way, but there's little interest so far."

As to the future, "it is electric," Tangerås believes, "but it's not easy to make it profitable, at least not in the short term. There should be financial incentives, through governments for example."

The city of Bergen agrees with the sentiment and during the switch-on ceremony port chairman Øistein Christoffersen received a cheque for NOK2.5 million (USD323,000) towards the cost of the Schneider Electric-Cavotec system from Bergen city environmental commissioner Henning Warloe.

"The future is green and we have to prepare for it," Warloe told guests, who included executives from several major European ports as well as Bogdan Oldakowski, secretary-general of the Baltic Ports Organisation.

Christoffersen added, "This is a great day for the port and city and our thanks go to the DOF Group as well as Schneider and Cavotec and the many agencies and people who have made this possible."

Aboard Skandi Vega, the shore power connection was installed by Norwegian specialists Electro Automation Austevoll (EAA) on behalf of the DOF Group. "The cables weigh about 10 kg/m," installation manager Øystein Kalvenes told *P&H*, "and we used the ship's own crane to manage them."

EAA worked with both DOF and classification society DNV, he added, to ensure the system was fully approved.

DOF operations manager Captain Nils Olav Troland explained to *P&H* that his company's investment amounted to NOK500,000. "We are always the first when it comes to environmental protection!" he stated.

P&H asked if there were plans to similarly equip further DOF vessels – about ten in total call at Bergen. "We have no immediate plans, but it could easily happen,"Troland said.

Finally, the system also won praise from 'Eco-Admiral' Kurt Oddekalv, president of the Green Warriors of Norway. "It's a very good day for Bergen," he told *P&H*. "Because of its situation in the mountains, the city can have very bad air days. This is a step in the right direction." **PH**





Growing stronger by going green

Oscar Wang of Shekou Container Terminals talks to *Titus Zheng* about the benefits of green practices in terminal operations

hina-based Shekou Container Terminals (SCT) has always been in the forefront of championing sustainable green practices. So, it is no coincidence that it was awarded Top 10 best service container terminal and Best container terminal for low carbon as the 11th China Freight Industry Awards unveiled its results on 9 January 2015.

The accolades just comprise a number of the

achievements bestowed upon the "green-focus" Chinese terminal operator. Despite SCT's green centric outlook, the initiative does not affect the terminal's productivity and throughput volume.

Speaking at the recent Tech TOC conference held in Singapore, the company's assistant general manager, Oscar Wang, explained that the terminal is blessed geographically, being close to the economic zone in

The terminal (SCT) prides itself for many firsts. It is the first professional container terminal in Shenzhen and it is also one of the pioneers in green terminals

Oscar Wang, assistant general manager at Shekou Container Terminals

China's Pearl River Delta (PRD) which also happens to be one of the world's biggest metropolitan areas with a population of 120 million.

"SCT is located at the estuary on the east coast of the Pearl River; benefiting from its unique location, it has become the marine gateway from the PRD region to the world. The total foreign trade from the PRD accounts for one third [of the trade volume] for the whole nation (China)," explained Wang.

However, SCT is not the only port terminal in the PRD zone as there are a number of larger and smaller ports in the region, including Shenzhen, Guangzhou and Hong Kong. As a result of this, PRD has become home to some of the world's biggest port operators and investors: Hutchison Port Holdings, Modern Terminals and other companies whose market value is highly dependent on the PRD market.

In the face of ever-increasing competition from these other terminal operators, SCT strives to increase its competitiveness by going green."

The terminal (SCT) prides itself on many firsts. It is the first professional container terminal in Shenzhen and it is also one of the pioneers in green terminals," said Wang.

For instance, SCT is among the first to exercise the sustainable development of a 'low-carbon terminal' in mainland China by adopting ISO14001 for terminal management and initiating a series of technical innovations to reduce emissions and energy consumption.

Eventually, the green efforts paid off as it was officially appointed as a Low Carbon Demonstration Terminal by the Ministry of Transport of the People's Republic of China in February 2012.

Not resting on its laurels, SCT continues its green initiatives in environmental protection by using clean emission energy for vehicle transportation as well as alternative maritime power for the terminal's energy supply.

For vehicle transport within the port vicinity, SCT has adopted the use of liquefied natural gas (LNG)-powered buses and LNG-powered terminal tractors at a total investment cost of about CNY3.6 million (USD0.56 million). Currently, SCT boasts two LNG refuelling stations, six LNG-powered buses and 58 LNG-powered trailers within its site.

According to Wang, the adoption of cleaner fuel sources such as LNG does not come cheap and can amount to a high initial investment cost. "We have invested over CNY2.3 billion (USD361.5 million) in our electric rubber-tyred gantry cranes (eRTGs) project and it helps to reduce carbon emission by 20,000 tonnes per year," he added.

On a financial note, Wang told *P&H* the eRTG project had saved on diesel oil costs by more than CNY3 million (USD0.47 million) annually. Meanwhile, SCT has also invested about CNY15.54 million (USD2.4 million) in its alternative maritime power (AMP) project.

In turn, the AMP project has garnered a lot of industry 'firsts' – such as the first AMP set made to international standards in China as well as the first set to be inspected by the China Classification Society.

In one of the latest green initiatives, SCT has invested another CNY8.26 million (USD1.3 million) in using light-emitting diode (LED) lighting throughout the terminal. "The renovation of 55 high-pole lamps in the terminal was completed by 2013, reducing CO₂ by around 1,500 tonnes per year," said Wang.

Investing in various green initiatives has not apparently hindered the company's growth – its terminal reached a historic milestone of a 5 million teu annual throughput in December last year. Western Shenzen achieved 4.5% throughput growth in 2014, including cargo throughput from SCT and Chiwan Container Terminal (CCT). SCT recorded 5.06 million teu (up 18% on 2013) while CCT had 4.7 million teu (down 7%). "The growth is a testimony to our commitment to protecting the urban environment," concluded Wang. PH



SCT is a Chinese 'top 10' best service container terminal

Changing to green: from RTGs to vehicles, Shekou is gradually replacing old technologies with cleaner alternatives



Secure for Sea

In today's busy world, regulations and solutions that keep European ports secure demand more vigilance, reports *Frank Lennox-Millard*

> S ecurity is an enduring and evolving problem for port authorities, including terrorism, and cyber threats.

The physical safety of port workers, passengers and mariners is paramount, but cargo itself is under constant threat. Given the much-quoted statistic that 90% of the world's cargo travels on board ships, its security in port is as important as its security at sea.

Henk van Unnik, managing director of Tosepo BV Maritime & Logistics Security Management, says threats are evolving in line with the new approaches and strategies of international organised crime, including cyber-crime, and terrorism. However, he does not believe new legislation is the first priority, preferring the more effective enforcement of existing legislation which, he believes, would upgrade security.

"There is a significant difference between ports globally and those in the European Union (EU)," van Unnik observes. This, he believes, has to do with the particular perception by individual countries of different threats and crime risks. The view 'it would not happen in my port or my country' is widespread and dominates the different ways legislation is implemented.

The SOLAS International Ship and Port Facility Security (ISPS) Code requires all ports and ships which fall under the code to take appropriate security measures based on a standardised risk assessment framework. The European Commission sums up terrorist threats to ports as threats to the very ideals and principles of the EU itself, "Security incidents resulting from terrorism are among the greatest threats to the ideals of democracy, freedom and peace, which are the very essence of the European Union."

Port authorities, such as the ports of Hamburg and Barcelona tailor their approach to security according to local peculiarities as well as common features as addressed in legislation and guidelines.

As a result of the economic importance of Hamburg and its location in the middle of the city (with the potential effects of a terrorist strike on the population), safety is a local concern beyond what is coverred by the IMO and EU (ISPS Code and the EU Directive on Enhancing Port Security). As a consequence the Port Security Act was introduced for safety in the port as a supplement to international regulations.

Over and above the international obligations to which it has subscribed, the port authority has introduced certain minimum requirements, such as 100% cruiseship passenger and baggage screening.

A vulnerability identified by the police authorities, not covered by the provisions of the ISPS Code, is the access a port requires day-to-day. So to compensate for this potential security deficit, an increased police presence with powers to detain suspicious individuals and search containers for hidden weapons was introduced.

Also, vessels intending to call at the Port of Hamburg are obliged to send a crew/passenger list and data to the security authorities within 24 hours in advance of arrival so that a risk assessment can be established.

Although additional administrative and security measures are time consuming and expensive, common security and stability through the exchange of information between all involved is seen as essential.

The Port of Barcelona, (which together, with the other ports indicated on the map), is particularly committed to dialogue and knowledge-exchange with other ports, through the main international port organisations, to align the port's strategy with trends in the transport sector and closely follow developments in new legislation, in particular EU transport policy.

Barcelona currently holds the presidency of the International Association of Ports and Harbors (IAPH), chairs the European Sea Ports Organisation (ESPO), and



Smiths Detection's high energy x-ray systems are used at ports and borders to check cargo for various threats, by producing high quality images is a member of the Northwestern Mediterranean Ports body along with the ports of Marseilles and Genoa, and holds the presidency of the Association of Mediterranean Cruise Ports (Medcruise).

Day-to-day port security measures are designed to be integrated and easy to apply. "Developing better solutions for visibility of cargo during transport is urgently needed," says van Unnik.

Scanning of cargo containers for threats and intrusions is an important feature of port security. "Customs and security professionals face ever-increasing volumes of traffic at maritime ports, requiring strict controls to monitor the flow of imports, exports and transit traffic while providing faster clearance times, often with less resource availability," says Tim Norton of Smiths Detection. This means an increasing number of containers processed globally. "To be effective, each agency has to adapt a 'layered' approach to their specific conveyance characteristics, knowing that it is not possible to scan 100% of the containers that pass through their ports each year."

Commerce cannot be slowed by any one 'pinchpoint', explains Norton. A secure, yet streamlined process of checks and balances needs to be in place, to keep containers moving along their planned route.

Information technology has ushered in a revolution in the way we live our lives and do our business. Ports benefit from this, but with advantages come associated risks. If our domestic cars are vulnerable to hacking, how much more of a target are the commercial centres and terminals upon which our nations depend? Physical vulnerability is easily detected, but it is more difficult to prepare for less visible threats.

Corporate security director of the Port of Barcelona, Bernat Baró, points out that in the last 15 years the approach to port security has changed radically.

"Two decades ago ports were mainly concerned about physical security," he says. "They were focused on perimeter fences and access control. Although these issues remain as important as ever, statistics prove that the highest risk now lies in cyber-attacks by hackers from servers located thousands of miles away." As a consequence new security regulations are defining new criteria and measures to prevent (or minimize) these

There is a significant difference between ports globally and those in the European Union

Henk van Unnik, Managing director, Tosepo BV Maritime & Logistics Security Management



attacks and their impact. "Our objective is to improve our systems' resilience, so if hackers' attack they can be operational as soon as possible."

In a European Union Agency for Network and Information Security (ENISA) report, 'Analysis of Cyber-Security Aspects in the Maritime Sector', recommendations were made to deal with cyber threats, which deliberately target critical infrastructures. ENISA recommended a holistic, risk-based assessment of maritime-specific cyber risks and the identification of critical assets. In addition to targeted maritime-sector awareness, campaigns and cyber-security training of shipping companies and port authorities, and national cyber-security offices were also recommended.

Dr Vangelis Ouzounis, Head of the Secure Infrastructure and Services Unit at ENISA confirms the EU agency's recommendations, "Most EU member states are not fully aware of the risks and challenges while the private sector does not do enough to implement comprehensive measures. I think our recommendations are still valid today to some extent but more analysis is needed to confirm it."

Van Unnik is concerned that measures to prevent cyber threats are not regarded as an important issue due to cost. "Most ports are not sufficiently aware of threats to their IT network while others do their utmost depending on individual experience. They have to detect the threat to respond accordingly. Pprevention and protection always lag behind the hackers. More protection is urgently needed as is International legislation to address this subject, but who will do that?"

Port security in the 21st Century may be more complex than it was 20 or 30 years ago, but the integration of those extra layers and complexities into a water-tight shield of protection is the only option for the future. The security of IT systems, personnel, physical infrastructure and perimeters, cargo and passengers in transit, and the integrity of national borders are all bound up together. Technical solutions, legislation and guidelines need to be updated more regularly. **PH**



Ports get help to pump up security

Anti-terrorism measures rank high on priority lists at US ports, reports **John Gallagher**

> he US governnment is spending USD100 million in 2015 to combat security threats to US ports and harbours, as the maritime sector and the government increasingly focus on reducing security risks to domestic facilities and cargo supply chains.

> The US Federal Emergency Management Agency (FEMA) allocated the fund on 28 July under its Port Security Grant Program (PSGP). It is part of a set of measures authorised by the US Congress to strengthen



the nation's transport infrastructure against risks associated with potential terrorist attacks.

According to FEMA, the programme is focused on "supporting increased port-wide maritime security risk management, enhancing maritime domain awareness, supporting maritime security training and exercises, and maintaining or re-establishing maritime security mitigation protocols that support port recovery and resiliency capabilities".

The Port of Tampa Bay, which handles nearly onethird of all cargo moving in and out of the state of Florida, was one of the recipient of this year's funding.

It plans to use much of its USD1.6 million to combat cyber threats. "It is our intent to utilise this generous funding to its highest and best uses, and provide the most up-to-date safety and security methods and training that are available to a port of our size, with major importance to west and central Florida," commented Port Tampa Bay CEO Paul Anderson.

The port contends that, unlike most ports in the state, it has "many access points spread out by great distances" that require more controlled access and remote monitoring. In addition to improving its ability to mitigate cyber threats, the port intends to use the money to add radar camera equipment to extend port monitoring coverage. It also plans to upgrade the software for its portable identification biometric readers that are used to verify the transport workers' credentials.

Other ports receiving over USD1 million in PSGP security grants include Jacksonville Port Authority (USD1.1 million), Port of New Orleans (USD1.7 million), and Port of Houston Authority, including several terminal operating within its district, (USD2.1 million).

The funding received by the Port of Houston is evidence of its growing influence as a container port and its emergence as the nation's energy gateway, and the increased security risks that come with it. The port sponsored over the summer a tour to give lawmakers a first-hand look at the importance of the port to US economy, in particular its safety and security measures. The tour included a demonstration by the US Customs and Border Protection (CBP) of its Vehicle and Cargo Inspection System (VACIS) at the Bayport Container Terminal. VACIS uses gamma ray technology to produce images of drayage containers and other vehicles for contraband such as drugs and weapons.

The US government aims to eventually reach 100% scanning of all US-bound containers using such container scanning equipment. In June Rebecca Gambler, a director at the US Government Accountability Office (GAO), testified before the Congress on the status of that goal through security programmes such as the Secure Freight Initiative and the Container Security Initiative (CSI).

Security personnel at the Port of Houston's operations centre Gambler noted her agency had revealed that CBP achieved 100% scanning of US-bound containers at only one port under a pilot programme in 2012.

Some government officials believe that such a mandate is close to impossible without severely slowing down container supply chains.

The scheme, according to US Department of Homeland Security (DHS) secretary Jeh Johnson, is also

It is our intent to utilise this generous funding to its highest and best uses

Paul Anderson, CEO, Port Tampa Bay.

"hugely expensive, and in our judgment, not the best use of taxpayer resources to meet this country's port security and homeland security needs".

The deadline for 100% container scanning has since been extended to July 2016.

"We recommended that DHS periodically assess the supply chain security risks from all foreign ports that ship cargo to the United States and use the results of these risk assessments to inform any future expansion of CSI to additional locations and determine whether changes need to be made to existing CSI ports and make adjustments as appropriate," Gambler testified.

DHS has concurred with GAO's recommendation, she said, adding that CBP will be ready to carry out supply chain security risk assessments by the end of December 2015. **PH**

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Konecranes expands footprint in Indonesia

Konecranes has completed the automation of Lamong Bay Terminal, **Zeng Xiaolin** reports

Lamong Bay Terminal he opening of Lamong Bay Terminal in Surabaya this year marked another milestone for Finnish cranemaker Konecranes in Indonesia.

On 22 May, after a five-year construction period, the USD144 million terminal was opened by Indonesian president Joko Widodo. The terminal has been described as the jewel in the crown of Indonesian state-owned operator PT Pelabuhan Indonesia III (Persero), usually abbreviated to Pelindo III, and Konecranes provided its automated container-handling system.

Konecranes' sales and marketing director, Tuomas Saastamoinen, told *P&H* his company had a long history in Indonesia. "The first Konecranes STS [ship to shore] cranes were delivered to Surabaya in the early 1990s and we have been active in Indonesia ever since," he said.

Built as part of a nationwide freight transport programme to improve shipping across the country's waterways, the container terminal has an annual capacity of 1.6 million teu/year and is expected to receive 530 vessel calls a year. Aside from being a pillar of the planned Java Integrated Industrial Estate, Lamong Bay Terminal is intended to ease congestion at Surabaya's main port, Tanjung Perak, where container traffic rose to 3.13 million teu in 2014, up 8% from 2013. Persero has been under pressure to upgrade Tanjung Perak to reduce the time container ships spend at berth from eight days to four days. To help achieve this, Konecranes provided 10 STS cranes and five straddle carriers to the new terminal.

Pelindo III has also signed an USD8.25 million contract with Realtime Business Solutions of Australia to provide a terminal operating system and another with French company Gaussin Manugistique to deliver 50 ATT-V4 terminal trailer vehicles and 50 powerpacks.

Konecranes analysed potential challenges with the project and concluded that the focus areas related to interfaces. "In our past ASC [automated stacking crane] deliveries, the method of horizontal transportation [transfers between the STS cranes and the yard] was done by conventional straddle carrier. In Lamong Bay, our customer chose to use a new product supplied by Gaussin," said Saastamoinen. "These machines were not in our delivery scope and we needed to make sure that our ASCs could work with these new products. The



interfacing went well. Eventually that wasn't much different from the straddle carriers."

Saastamoinen said the terminal operating system integration went smoothly and the interface to the container at the water side was similar to other projects Konecranes has done. "As with earlier deliveries, we ensured that the basics were in order. We did this by utilising our field-proven technology and by testing the key modules intensively prior to delivery," he said.

As the Lamong Bay Terminal project was such a large investment it was vital to ensure its operation started as planned. Pelindo III project manager Prasetyadi said, "Lamong Bay is the next-generation container terminal. Thanks to the reliability, productivity, predictability, and safety provided by our Konecranes automated container handling system, we will provide our shipping line customers with uninterrupted, reliable container flow."

Following an environmental impact study, Pelindo III used cast in-situ construction to minimise road traffic. The study found that 10–15 trucks would be needed daily to move materials and equipment. Reinforcing metal bars were directly transported and set on site, while the concrete was premixed by trucks. The materials for constructing the connecting bridge, pier structure, and trestle were transported weekly by pontoon.

As container traffic grows in Asia, Lamong Bay is among many of the region's ports in embracing greater automation. "The benefits of automation apply to Lamong Bay: increased safety, significantly improved operational predictability, better productivity, and ecoefficiency, which means lower energy costs and dramatically reduced local emissions,"said Saastamoinen. "Furthermore, having this type of state-of the-art operation in the middle of strategically important growing Asian market is a valuable selling point when attracting new business to the terminal and to the surrounding community."

As Indonesia is earthquake-prone, the cranes are also designed to withstand tremors. "Seismic impacts are divided into categories based on accelerations caused by earthquakes and these measures were taken into account with the crane design," said Saastamoinen. **PH**



On-shore buildup

US ports are increasing box-handling capacity as demand and ship size grow, reports *John Gallagher*

Ports want to compete for the increasing size and number of container ships starting to call. But just as important is building up shore-side capacity to load and unload the boxes once those ships arrive at the dock.

The Georgia Ports Authority (GPA), which oversees the Port of Savannah on the US east coast, is making those crucial investments. It's having a record-breaking year for cargo volume as it begins dredging its 30 km outer harbor to 14.9 m.

To fully take advantage of the deeper-draught channel, the port announced on 24 September that it was spending USD142 million in the 2016 financial year to expand capacity on land, including four new ship-toshore cranes, to make a total of 26, and 30 new rubbertired gantry cranes, bringing the total of these to 146.

"In fiscal year 2015 we experienced unprecedented growth, with west coast diversions to east coast ports, a recovering US economy, and import market share gains leading to all-time highs in cargo volume," said GPA executive director Curtis Foltz, in announcing the spending scheme. "This improvement plan will continue to keep Savannah's capacity ahead of demand."

South Carolina Port Authority, which oversees the rival Port of Charleston, is expected to invest USD1 billion by 2020, when its own 15.8 m harbor deepening is expected to be completed. Part of that money is earmarked for the purchase of taller gantry cranes to handle larger ships.

The Port of Mobile, Alabama, which is in the early planning stages to deepen to 15.2 m, is increasing its annual container handling capacity to 475,000 teu with the addition of two post-Panamax gantry cranes.

The two cranes currently at container facility, operated by APM Terminals (APMT), allow the handling of vessels of up to 8,400 teu capacity at a draught of 13.7 m. Adding two more cranes will allow APMT to work with the additional vessels that are expected at Mobile after the Panama Canal's new set of locks is completed in 2016.

In addition to the new cranes, APMT is expanding its Mobile container yard by 8 ha as part of a USD40 million infrastructure investment to expand the terminal's capacity in response to growing demand in the southeast of the US.

Port Tampa Bay, on the Gulf of Mexico on Florida's west coast, wants to take advantage of that demand as well. It doesn't have a major harbor deepening plan, but it does have a plan, announced in August, to develop a 12,100 m² on-dock cold storage facility to handle refrigerated imports and exports – a facility that will be enhanced by the addition of two new gantry cranes expected to be delivered to the port early next year.

Tampa Bay's 16 ha container terminal has an annual throughput capacity of about 250,000 teu. Full buildout plans call for an area of 65 ha capable of handling 1 million teu/year.

Most container ports on the US west coast are already deep enough for the largest post-Panamax ships. For them, it's about boosting productivity.

The latest project is at the Port of Los Angeles, where construction has started on a two-year scheme to improve the box terminal operated by Yusen Terminals. The port commission in June awarded dredging contractor Manson Construction a USD44.6 million contract to upgrade Yusen's berths.

"This project consists of strategic improvements to make Yusen a more agile terminal and strengthen our competitive edge," commented Port of Los Angeles executive director Gene Seroka.

Improvements include upgrading wharf and backland infrastructure to enhance Yusen's ability to serve the biggest ships in the trans-Pacific trade lanes. The improvements, the port noted, will allow Yusen to simultaneously work three container ships carrying up to 13,000 teu to ensure cargo flow during peak periods when ships call at all three berths.

The project includes adding up to four new ship-toshore gantry cranes to equip the terminal with up to 14 operating post-Panamax cranes, including eight super post-Panamax cranes with a maximum outreach of 60 m, or 22 container rows across. Such gantry cranes will be the trend for the future, according to port planning expert John Martin, president of Martin Associates.

Martin told *P&H*, "Even if it's an intermediate port call that doesn't require the deepwater depth, you'll need more outreach capacity for the wider ships that might not require the deep draught because they're not fully laden. By not having them you've cut yourself out of the market for the largest ships." **PH**



A time of change

Container and bulk handling equipment has not only become greener as ports demand more efficient, sustainable, environment-friendly infrastructure, but is increasingly becoming automated, reports **Tony Slinn**

Terminals could use a spreader to weigh containers S afety has always been a focus and that will take a major stride forward on 1 July 2016 when the Chapter VI, Regulation 2 amendment to the Safety of Life at Sea (SOLAS) Convention comes into force to ensure that all container weights are declared accurately and verified as such.

It will affect the entire maritime freight industry and although, as this is written, some implementation details are still hazy, everyone involved in box shipping should be preparing for the new regulation.

IAPH has long been a champion of accurate container weights and applauded the IMO when the regulation was first adopted in May 2013. As IAPH has stressed for many years, misdeclared container weights have a serious impact on the stability of vessels and terminal equipment, and can be a threat to worker safety.

On the surface, the new SOLAS regulation appears

simple – from 1 July 2016 estimating a container's weight will not be permitted. It will be mandatory for all containers to be weighed before they are loaded aboard a ship, using one of two methods: a box can be weighed after it has been packed, or its contents can be weighed and added to the container's tare weight.

Providing this 'verified gross mass' is the shipper's responsibility. The weighing equipment used must meet national certification and calibration requirements, and SOLAS regulation demands that the weight verification be signed-off by a specific, named and identified person.

Implementation becomes somewhat more complex after that stage. Vessel and terminal operators will have to use verified container weights in stowage plans, which means they will need that information in a timely manner, and shippers will also have to share the verified weight with booking agents and forwarders. All of that will bring about procedural changes and, almost certainly, modifications to existing IT systems.

Carriers, for example, will need to provide shippers with a deadline for receiving the container weight verification – a deadline likely to vary from port to port depending on the operational procedures used.

P&H asked spreader manufacturer Bromma if terminal operators were also getting involved in weighing boxes. "Even though the responsibility for verifying the weight is with the shippers," a company representative said, "it provides an interesting business opportunity for container terminals to offer weighing services.

"Solutions exist that can weigh containers without affecting cycle times and influencing the logistics flows in the terminal – our Weight Verification system, with load sensors mounted on the spreader twistlocks, offers such a solution and interest is steadily increasing."

Automation was mentioned earlier and *P&H* spoke to Cargotec subsidiary Kalmar, which with sister company Navis recently launched the OneTerminal concept.

"We see automation as a major trend in our industry and OneTerminal is a response to the market and customer needs," an official told *P&H*. "It is the industry's first integrated offering under one roof, combining software systems, equipment and services both during project implementation and after the go-live.

"We believe the port industry is at the start of the next big wave of automation," she explained. "A OneTerminal project will cover automation of the container handling equipment, the control systems with Kalmar TLS software, the Navis N4 TOS, and project services that support the terminal through the design and implementation phases.

"Optimised terminal performance can be realised with end-to-end automation consisting of automated truck handling on the land-side, AutoShuttles as a horizontal transportation system on the quayside, and fifth-generation Kalmar automatic stacking cranes (ASCs)."

Perhaps the nearest any port has so far come to

implementing OneTerminal – although the company representative could not confirm it – is Melbourne.

At the end of September this year, Kalmar was awarded a further automation contract from Philippinesbased International Container Terminal Services, Inc (ICTSI), which operates the new Victoria International Container Terminal (VICT) at Webb Dock East.

It will see eight additional ASCs and related equipment delivered towards the end of 2016 as part of Phase 2 of VICT's automation project that's planned to be operational by December 2017. Fully built, the terminal's annual capacity will be at least 1.4 million teu.

For Phase 1, scheduled to be in operation by the end of 2016, Kalmar is providing 12 ASCs, 11 AutoShuttles, and its automated truck handling system, all integrated by its TLS software and the Navis TOS.

The wave of automation has been spectacularly demonstrated at the port of Rotterdam, where both APM Terminals' Maasvlakte 2 container terminal and the Rotterdam World Gateway (RWG) terminal, also on Maasvlakte 2, officially opened this year.

APMT CEO Kim Fejfer said his flagship terminal, "Is the world's most technologically advanced, is significantly safer for our people and all users of the port, runs on zero emissions, and is a sustainable business model using renewable energy. Equally important, our shipping line customers will experience 40% higher productivity – thanks to automation."

That automation, includes eight remotely controlled ship-to-shore cranes that move containers between vessels and the landside fleet of 62 battery-powered lift-automated guided vehicles – the world's first that can actually lift and stack a container. These carry the boxes from the quay to the yard as well as to barge and on-dock rail facilities. A fleet of 54 automated railmounted gantry cranes then positions containers in the yard in a high-density stacking system.

Kalmar ASCs for delivery to VICT

RWG is run by an international consortium that consists of four shipping lines – APL (Singapore), MOL



(Japan), HMM (South Korea), and CMA CGM (France) – and Dubai-based terminal operator DP World. It too is both innovative and highly automated, as managing director Ronald Lugthart stressed at the opening.

"Our terminal, with its fully automated cranes, is run by a team of no more than 10 to 15 people on a dayto-day basis," he said. "RWG employs 180 people, most of whom are IT specialists. It is a completely new way in container operations. We are, in fact, an IT company that handles containers: an example for the world."

Green, sustainable equipment and automation has not been lost on bulk handling terminals. For example, international minerals group LKAB's new iron ore berth in Narvik, northern Norway, is being fitted with Europe's first bulk handling MoorMaster vacuumbased automated mooring application supplied by engineering group Cavotec.

The technology is also in use at a number of bulk handling applications in Australia, including Port Hedland and the ports of Dampier and Geraldton.

Ship loaders/unloaders have also been transformed in recent years. Cargotec subsidiary Siwertell, for example, offers equipment based on unique screw conveyor technology, in combination with belt conveyors and aeroslides, and can handle virtually any dry bulk cargo, including alumina, biomass, cement, coal, fertilisers, grain and sulphur.

The company broke new ground earlier this year, delivering, installing and commissioning the first UK multi-fuel unloaders at the Associated British Ports (ABP) port of Immingham. The two type ST790-D screw-type unloaders are equipped with slewable gantry tail conveyors and can discharge both wood pellets and coal at a rate of 1,200 tonnes/hour.

Although this is the UK's first combined coal/biomass unloader, it's unlikely to be the last, as government pressure on companies to source more energy from renewable, low-carbon sources continues to build.

"Biomass in bulk handling has the potential for fire and explosion, so companies will be seeking to minimise those risks when selecting machinery to handle a mix of fuels," Lundgren noted. "Siwertell unloaders incorporate safety systems that were originally developed for sulphur handling. Further, the economic benefits of investing in an unloader that can handle both coal and biomass without adjustment should not be underestimated."

Finally, and staying in the UK, Forth Ports Group's port of Tilbury on the River Thames near London is best known as the country's third-largest container port, but also handles more than 13 million tonnes of cargo each year, including construction materials, bulk goods, paper and wood products.

To enhance operations, Tilbury selected the latest Sennebogen 875 mobile port material handler, which has a 26 m 'curved banana' boom, four-axle wide-gauge mobile undercarriage, 2 m pylon, and a green, hybrid energy recovery system that Sennebogen says will save up to 30% more energy than conventional concepts. **PH**

Turkish debut

Andrew Spurrier reports on APM Terminals' preparations for its first Turkish box terminal

Raraharos

Istanbul

etkim Port

Korfez

TURKEY

Mersin

Iskenderu

PM Terminals hopes that the opening of its Turkish container terminal at Petkim Port, near Izmir, in the first quarter of next year, will mark the start of a phase of continuing expansion for its activities in Turkey.

Attracted to the country by its strong economic growth prospects, the AP Møller group company told *P&H* that it was already looking for opportunities to open terminals in other parts of Turkey.

The terminal it plans to open next year will have an annual handling capacity of 1.3 million teu and is part of the redevelopment of the existing general cargo port owned by the leading Turkish petrochemicals group, Petkim.

Petkim, a listed company which is itself a subsidiary of Azerbaijani state oil company SOCAR, is investing a reported USD400 million jointly with APM Terminals to develop both general cargo and container facilities at the port.

APMT has agreed a 28-year lease of the terminal with Petlim, the Petkim subsidiary set up for the port redevelopment project.

The first phase of the new container terminal, with 350 m of quay, a water depth of 16 m and capacity to handle 450,000 teu a year, is due into commercial service in the first quarter of next year. The second phase, which will double available quay length and take annual capacity up to 1.3 million teu, is scheduled to come into operation at the end of next year.

Petkim Port is situated in Nemrut Bay, north of Izmir, where there are currently two container terminals – the TCE EGE terminal, which is part of Spain's TCB group,

TOPICAL

200 km © 2015 IHS

Izmir is our first entry to Turkey. We are working to ensure that it won't be our last

Sha and

Mogens Wolf Larsen Managing director, APMT Turkey

and Nemport, which was developed by the Heris family-owned Akdeniz chemicals group.

APM Terminals argues that existing terminals in the lzmir region are served essentially by feeder lines and is banking on the new terminal to attract mainline vessels, resulting in reduced costs and transit times for shipping companies and shippers alike.

It has signed no firm contracts with shipping lines as yet, not even with AP Møller stablemate Maersk Line, but says it is confident that it will be able to do so over the next six months, given the favourable reactions the project has attracted from local exporters and shipping companies in the course of preliminary discussions.

APMT Turkey managing director Mogens Wolf Larsen told *P&H* that the success of the new terminal was "not

a safe bet" but "not a lottery ticket either", as the group's experience in similar situations around the world had proved in spotting markets where growth warranted direct mainline rather than feeder calls.

"The volumes in Izmir are reaching 1.3 to 1.4 million teu per year these days," he said. "That size makes it suddenly attractive to move away from feeder services to being served directly by mother vessels."

He added that he expected the new terminal not only to cater for existing freight volumes but also to contribute to higher trade growth in the lzmir catchment area.

"Today, growth is restricted simply because it is excessively expensive and also because the transit times are excessive," he said.

APM Terminal's ambitions are not confined to the lzmir region, however. It is also keenly interested in establishing itself in the Istanbul area, where it estimates that 60% of Turkish container volumes are currently concentrated, and would like a facility, too, in southern Turkey in the Mersin-Iskenderun port range.

Larsen said that Turkey was currently one of the countries being targeted for development not only by APMT but by the AP Møller group generally because of the strong growth prospects its offered.

APMT itself had been looking to establish itself in Turkey, initially in the Istanbul area, for 10 years before the opportunity to work with Petkim in the Izmir area came up in late 2010.

"Izmir is our first entry to Turkey," he said, "we are working to make sure that it is not our last." **PH**

Terminal operators keen to develop Turkey's potential

APM Terminals is not the only global terminals group taking an interest in Turkey at the moment. Mediterranean Shipping Company's Terminal Investment Ltd has just opened its Asyaport facility in partnership with Turkey's Soyuer family at Barabaros on the Marmara Sea coast 70 km west of Istanbul, while DP World is due to open its terminal in Korfez, also on the Marmara sea coast, 73 km east of Istanbul, towards the end of this year.

Part of the attraction for the terminal "majors" is the relatively underdeveloped state of the existing Turkish container ports network, which leads to containers being handled at a variety of small to medium installations at scattered locations.

AMPT's Turkey director Mogens Wolf Larsen said that Turkey's container port network was "very fragmented" and "just calling out for consolidation", as well as construction of larger 1.5–2 million teu facilities.

Turkish ports have traditionally been operated by three different groups. The public sector is represented by Turkish state railway organisation TCDD, which remains a significant operator in a number of locations, and, to a lesser extent, by the Turkish Maritime Organisation (TDI).

Other smaller ports are owned and operated by municipalities, while a number of specialised facilities have been developed by private-sector companies. It is these private-sector companies, often family-owned conglomerates, that have played the leading role in developing new container facilities in recent years, with or without international partners.

Staying power

Asset management can ensure the reliability and longevity of new port infrastructure and equipment, as port engineers Kirk Riden and Brett Sposito of CH2M Ports & Maritime Asset Management explain to **Tony Slinn**

> ommissioning is done, officials have cut the ceremonial ribbon, and your hard work has culminated in a sparkling new terminal, or perhaps a wharf, quay wall, or jetty.

Creating new port infrastructure is an exciting accomplishment for every agency and owner – but the capital cost is only a small fraction of the wholelife cost of owning and maintaining that new asset. After the structure is built and handed over to the team of professionals responsible for its maintenance, operation, and upkeep for the next 50 or more years, the real work begins.

The challenge lies in organising maintenance activities associated with the new infrastructure, creating continuity in maintenance, and demonstrating to stakeholders that the capital investment is being cared for. Which is where an asset management plan comes in.

Developing such a plan early in the asset lifecycle presents a great opportunity to demonstrate a strong return on investment, 'future-proof' the long-term care and maintenance of the new facility, and lay the foundation for decades of reliable operation.

Key components of an asset management plan at this stage of the asset life cycle include development of:

- An asset register
- A maintenance strategy
- A condition assessment and monitoring programme
- A financial plan for ongoing investments..

Let's look at them in more detail.

An asset register – sometimes called an asset inventory – can help owners answer questions such as "What exactly do we own?" and "Do we have any unknown costs or exposure?"

Laying the groundwork for strong asset management practices, the register provides the owner with a solid understanding of what he or she owns while also allowing for better sharing of asset information throughout the organisation.

Turning to maintenance, a facility-specific asset management plan helps organise an owner's maintenance programme by developing strategies for both preventative and reliability-based measures, setting a schedule for when they need to occur, and listing the potential consequences should the owner decide to defer them. The plan can also help remove subjectivity in managing assets by developing criteria to objectively compare projects and spending needs.

A condition assessment programme helps keep an owner aware of his facility's health by providing critical and timely information on how the new asset is performing against the original capital plan. With an established condition assessment programme, an owner is empowered to determine the criticality of his assets, perform trend analyses, and monitor and identify risks.

Finally, the financial plan ensures appropriate resources are allocated to these programmes, as well as capital repairs and replacements, ensuring asset longevity, risk management, and service reliability.

By its very nature, maritime infrastructure is subject to accelerated deterioration because of the harsh marine environment. Since the costs associated with maritime assets are high, an owner can ensure that his new project has the lowest cost of ownership and highest staying power for generations to come by applying proven asset management principles.

Those principles support decision clarity and CH2M has carried out pioneering work in the use of asset management concepts and tools for ports' infrastructure.

There is no single solution for managing maritime assets, but many different paths to arrive at a similar destination. To demonstrate that, let's look at two unique approaches in two very different ports.

In New York City an organisation charged with developing world-class public access waterfront facilities began with a master plan and, through a strong collaboration with its technical team, developed a long-term understanding of its likely repair costs over the next 50 years.

Supporting what started as a more traditional inspection/design/construction project, CH2M was retained to prepare a lifecycle cost model in order to provide a comprehensive view of required operations and maintenance costs over those next 50 years for the enterprise-wide waterfront infrastructure.

Each structural element was run through a sitespecific deterioration model in order to estimate the required time frame and cost of repair. This task included input from CH2M's concrete technologists, as well as a destructive testing programme, in order to develop reliable estimates of useful remaining service life and help optimise the operation and maintenance cost estimations. The benefit to the client was a significantly more comprehensive understanding of future cost and financing requirements.

In the second example, CH2M and a software developer were selected by one of the world's largest ports to be on the development team for building new tools to add to the port's existing comprehensive waterfront asset management system.

ASSET MANAGEMENT



Asset management service level focus

Source: CH2M image: Shutterstock/ © 2015 IHS The tools broadened the system's capabilities, adding unique asset management solutions that will work not only for this port, but ports and the maritime sector in general. The system provides the asset owner and manager with a suite of tools to efficiently manage a portfolio of assets. Specifically, it allows the operator to:

- organise and input all maritime structures piers, wharves, bulkheads, etc.
- track all required maintenance for these structures
- prioritise all required maintenance based on risk analysis with user-controlled inputs
- generate a list of required maintenance with budgetary costs assigned to each repair item
- predict the remaining life expectancy of concrete and steel elements of maritime structures, and
- forecast lifecycle costs associated with individual maritime structures.

These award-winning projects demonstrate two answers to the same question. In New York, the

approach to obtain a better understanding of the client's infrastructure challenges developed organically. For the international port, a programmed and more formalised approach provided unprecedented insight into the performance, risks, and costs associated with operating and maintaining a large, complex facility.

The benefits of asset management are, of course, not restricted to ports. For example, through implementing the asset management principles described here, the Cincinnati Metropolitan Sewer District achieved a 36% reduction in reportable accidents, reduced reactive maintenance by 30.6%, and attained a 7:1 cost savings ratio on maintenance.

In summary, the good news is that a multitude of asset management approaches can support the port and maritime sector in setting a strategy for operating and maintaining facilities. These approaches will aid you in better allocating vital budgetary resources to improve and strengthen the bottom line. **PH**

Locked-in to trade disadvantages

Fortune Laurence of TTPM International Consultants considers how logistics can help landlocked nations

Ports are increasingly becoming a major determinant of economic growth and development of many nations, particularly landlocked nations that depend on coastal countries' seaports for access to international markets.

A port is a strategic economic asset to coastal and non-coastal nations of the world. The strategic role of ports today demands repositioning of their management and performance within the global supply chain if they are to promote global trade and facilitate economic development and growth in all countries, whether landlocked or not.

Demand for a port derives from international trade between nations. Conceptually, the 'no trade, no port' mantra culminates in the 'derived demand' inclination of ports.

It is imperative to understand that the strategic role and impact of ports in the economic development of countries is no longer confined to only the coastal port countries whose geography has placed them in an advantageous position.

No countries need a port more than those that are landlocked. Their geography requires their dependence on ports of coastal nations for imports and exports to and from international markets. In this circumstance, the effectiveness of a landlocked nation's supply chain depends on the efficiency of ports of transiting countries.

Today, there are about 33 landlocked countries in the world. Of these, 16 are in Africa, 10 in Asia; five in Europe, and two in South America. Their international trade is subject to undue stress and institutional constraints consequent on national laws relating to cross-border trade, customs and excise regulations, and international trade laws.

Furthermore, it is necessary to ensure security within and outside every national border in order to forestall any security breach in the process of port-transitcorridor trade.

Every nation in the world should have an equal opportunity to develop and access to world market, hence the United Nations Amarty Programme of Action 2003 addressing the needs of landlocked countries through port-transit-transport.

The dependence on the efficiency and performance of any nation's seaport by another for its economic development and growth is a function of effective port-transit-corridor policy. Operations enshrined in a bilateral trade co-operation and agreement between



two or more countries can remove delays, frustration and failure of economic plans. Without such an agreement, policy would hamper the economic development and growth of landlocked nations particularly.

In improving matters, the question arises as to how landlocked nations can overcome efficiency problems at ports of transiting countries in the global supply chain.

The economics of transit-transport are mired by high and hidden transition and transaction costs. These costs make the business and operations of any port-transittransport corridor complex and inescapably expensive, for both the transiting and the landlocked countries. Recent studies show that 70% of costs incurred in the port-transit-transport corridor supply chain to landlocked countries result from port inefficiency. The remaining costs are 15% from rail transport, 10% from road transport, and just 5% from documentation and processing of exports and imports at dry ports.

This should not be allowed to continue, otherwise the economic development of landlocked countries will be at stake. Contextually, the port bears the highest costs incurred in port-transit corridor operations. Therefore something must be done to reduce these costs. There are three methods.

First is building more institutional capacity through port transit-corridor management arrangements, including formal agreements, where and as appropriate.

The second method is by improving the reliability and predictability of port-transit-corridor operations by creating mechanisms to overcome institutional constraints, that is to say, trust-building measures between public regulators and private operators, and risk-management customs systems that remove bottlenecks in the port-transit-corridor supply chain.

Finally, developing and operating transport nodes, freight hubs, and dry ports or inland cargo terminals that are fully equipped, with a particular focus on the consolidation of small flows, should create critical mass required to achieve economies of scale and a higher return on investment on both infrastructure and transport services. This will lead to effective intermodal transit operations.

These actions should be viewed as precursors to an economically viable and environmentally sustainable operation of a port transit-transport trade corridor.

Obvious achievements will translate into a change of culture that can increase the confidence of shippers and carriers; operate a port transit-transport trade corridor set-up that would benefit compliant behaviour and trust-building; provide investment returns capable of attracting further investment; promote larger-scale trade operations; improve transport service quality and reliability; and enable strong co-operation among stakeholders along port transit-corridors, which include ports servicing port transit-transport trade corridors to and from landlocked countries.

Amid increasing demands for improved efficiency, almost every port in the world is involved, directly or indirectly, in transhipment logistics and, more recently, in port-transit-transport trade corridor operations.

An April 2009 report entitled *Economic benefits* of an efficient north-south corridor, contained a pilot 'aid-for-trade' programme for Africa. It is administered through the COMESA-EAC-SADC (Common Market for Eastern and Southern Africa - East African Community - Southern African Development Community) Tripartite process and focuses on port transit-trade corridor and transit issues in southern Africa.

The north-south corridor runs between the port of Dar as Salaam in Tanzania and the copper belt of Zambia and the Democratic Republic of Congo and

Corridors under pressure

The following port-transit-transport trade corridors in Africa are operating under enormous pressure to improve services.

Northern corridor. This 2,000 km corridor links the landlocked countries of Uganda, Rwanda, and Burundi with Kenya's port of Mombasa. It also serves the eastern part of the Democratic Republic of Congo, South Sudan and northern Tanzania. This increases pressure on the infrastructural capacity of the Port of Mombasa to meet growing demand from these countries' export and import trades. This is the busiest trade and transport corridor in east Africa, handling the bulk of regional and international trade.

The Trans Caprivi Corridor. Operated by Walvis Bay Corridor Group (WBCG), this provides the shortest route between the Namibian west coast ports of Luderitze and Walvis Bay and the important transport hubs of Livingstone, Lusaka, Ndola in Zambia and Lubumbashi in southern Democratic Republic of Congo. Despite efforts to upgrade infrastructure it is obvious that these ports are overwhelmed.

The trans-Kalahari corridor. This links Walvis Bay to Botswana's capital, Gaborone, and South Africa's industrial capital, Gauteng. It serves trade between South Africa, Botswana, Europe, the Americas, and the Far East.

The trans-Cunene corridor. This is another artery of the Walvis Bay corridors, links the port of Walvis Bay to the southern region of Angola via Tsumeb and Ondangwa, to Oshikango, Nambia, and the Santa Clara border port in Angola.

down through Zimbabwe and Botswana to the ports in southern Africa, en route taking in spur connections through Malawi and Mozambique in the east.

The pilot programme aims to bring together the economic trade development co-operation initiatives taking place along this corridor, while identifying activities that can be dealt with in a co-ordinated way.

The study's main objective was to prepare an overarching economic document that would convince donors (and private funds) that, ultimately, an efficient north-south corridor was economically viable in the medium- to long-term period.

The components of any port-transit-transport corridor are generally a seaport, rail transport, road transport, and a dry port. Among these the port inextricably occupies a lead position so its efficiency is critical.

West and central African sub-regional growth and development, particularly in the landlocked countries of Burkina Faso, Niger Republic, Chad Republic, and the Central African Republic, have been hit by transit and transaction costs associated with port congestion, lengthy cargo processing delays at ports, and poor performance of rail and road transport systems.

Further issues include poor transport services, language differences, problems with business practices, customs procedures, poor governance, and inadequate infrastructure.

The World Bank Study (Arvis et al. 2007) noted the high logistics costs paid by the shipper/consignee in a landlocked country, and referred to the "economic impact of delays and uncertainties, including transit inventory capital cost (related to transit time) and costs incurred as part-hedging against unreliability".

Trade flows in west Africa are carried on network of eight corridors linking ports in seven countries – Senegal, Guinea, Cote d'Ivoire, Ghana, Togo, Benin, and Nigeria – to the landlocked countries of Mali, Burkina Faso, Chad, and Niger.

Demand for improvement is increasing. The efficiency drive, therefore, must start from the ports.

The International Association of Ports and Harbours should consider creating a full or subcommittee with dry port/port transit-transport trade corridor experts (without duplicating its role with the Committee on Logistics and Trade Facilitation) to work in tandem with the United Nations Almarty Action Programme of 2000 for landlocked countries of dry ports.

This may require a redefinition of seaports to robustly include the existence and strategic role of dry ports and transit-transport corridor operations in facilitating economic development and growth in both transiting countries and the landlocked nations of the world.

IAPH should also design, develop and execute a specialised training programme on dry port and port-transit-transport trade corridor policy, planning, operations and management, given that this area is becoming more complex to operate and manage without a strategic policy instrument. PH

Mombasa Container Port: gateway to the busiest trade and transport corridor in east Africa

South African ports play a leading role in stimulating the Blue Economy in Sub-Saharan Africa.

With 3 900 kilometres of coastline, 330ha of coastal land, eight ports and three coastal provinces at its disposal, South Africa is geographically well-placed to leverage the opportunities arising in the oil and gas sector.

In the spotlight: The Port of Saldanha Bay

South Africa's deepest natural port, the Port of Saldanha Bay, is strategically located in close proximity to West Africa's offshore oil and gas fields, the continental shelf that supports these commodities and has the marine industrial backup needed to exploit the opportunities in the up- and midstream sector. The Port of Saldanha accommodates vessels with a draught of up to 19 metres and has been identified as a key and strategic port to be developed into a dedicated oil and gas hub and services complex.

A significant increase in the number and frequency of requests for purpose-built facilities from large rig operators has necessitated that the Port of Saldanha be established to international standards in order to increase its competitiveness in relation to services such as rig repairs, bunker fuel supply and pipe storage.

Africa's challenges inspire new development and growth

Africa currently produces more than 10 million barrels of crude oil per day – approximately a tenth of global production – the compounded annual growth rate of oil production in West Africa being estimated at 5.8%, Southern Africa at 6% and Central Africa at 7.7%. This growth, however, may not be achieved if the region is not equipped with ports that can serve as dedicated oil and gas hubs and offshore supply to support services centres which meet the growing infrastructure-intensive needs of current and future oil and gas exploration on the seas of the continent.

Given the current production of around five million barrels of oil per day in West Africa alone, the South African Oil & Gas Alliance (SAOGA) estimates that the drilling infrastructure already in place would need to be serviced and maintained over the next 30 to 40 years, meaning that the demand for the facility is definitely sustainable in the medium to long term.

Recent developments in Africa, particularly in the oil and gas sector, have seen maritime activity increase, with Durban growing in activity as a result of the significant finds in East Africa. To support this growth, many up- and midstream service and equipment providers have clustered their offices in Cape Town, a traditional port of call.

Operation Phakisa: Bringing the vision to life

The South African government has established a collaborative forum, Operation Phakisa (a seSotho word meaning 'hurry up') comprising of the National Ports Authority, together with the Department of Trade and Industry and Department of Public Enterprises, to enable the implementation of the Saldanha Bay Industrial Development Zone (IDZ) and fast-track priority developmental projects that drive economic development. To improve infrastructure and services to support the oil and gas industry that directly impact the cost performance of the industry, the private sector has demonstrated its support of the project by investing approximately R250 million (approx. USD \$20 million) towards establishing fabrication-related infrastructure in the Port of Saldanha Bay. This investment will assist in positioning the Port of Saldanha as one of the strategic catalysts in unlocking South Africa's untapped ocean economy potential, aptly known as the blue economy and estimated to have a potential total GDP contribution of R177 billion and the capability to create thousands of jobs, skills creation and new business opportunities.



Creating an import and export investor's paradise

Over the next five years, investments in port infrastructure for the oil and gas industry are expected to exceed 10 billion rands (US\$1 billion). Foreign investors looking to use South Africa as a base for expanding African operations will benefit from reduced secondary and dividend taxes offered by the Saldanha free port facility.

The Industrial Development Zone, which is set to be located adjacent to the main port, will have a variety of back-of-port activities offering investors the benefit of being located in a customs control area (CCA), or a free port facility, which means that no Value Added Tax (VAT) will be payable on goods, services, land, buildings or infrastructure items imported and exported at the CCA.

The IDZ will have dedicated quayside access to enable seamless and efficient turnaround of vessels in and out of the facility. The complex will also offer a world-class, one-stop shop for regulatory services such as permit applications and approvals, immigration administration and business support. In addition, companies operating within the IDZ will also have access to financial and nonfinancial support for employment and training activities for both skilled and semi-skilled staff on site.

South Africa is set to position itself as an integral player in the oil and gas sector!





delivering freight reliably

national ports authority



Operational by 2020

Busan to build LNG bunkering facility

An LNG bunkering terminal will be up and running in Busan New Port by 2020.

South Korean shipping company Polaris Shipping is to build the facility, which will require a KRW600 billion (USD500 million) investment.

The terminal will occupy a 185,700 m² site in Busan New Port and will have four berths and two LNG storage tanks.

Although cheaper heavy fuel oil or CST380 fuel is still widely used in international waters, cleaner fuel or treatment systems are now compulsory in emissions control areas (ECAs).

Busan also anticipates that if

use of the Northern Sea Route increased, this would facilitate more LNG imports from Russia, giving it an edge over Singapore, which is currently the world's biggest bunkering port by sales volume.

In September, the port of Antwerp recorded its first shoreto-ship LNG bunkering operation when the LNG/diesel dualpowered LPG carrier *Sefarina*, operated by the Dutch company Chemgas Shipping, was successfully refuelled with LNG.

Bunkering with this cleaner type of fuel has been possible in Antwerp for some time, but so far it has been used only for barges, with the LNG being supplied by truck.

At present LNG is supplied by the import terminal in the Belgian coastal port of Zeebrugge and delivered by road tanker to the quayside in Antwerp.

However, the port authority is tendering a concession to build and operate an LNG bunkering and filling station on Antwerp's Quay 528. The aim is for barges to bunker with LNG at a permanent facility in the port of Antwerp by the beginning of 2019 at the latest.

French Canadian ferry operator Société des Traversiers du Québec (STQ) has commissioned the *FA Gauthier*, the first ferry to run on LNG in North America and the first Canadian ship to be powered by LNG.

The Italian-built passenger vessel is 133 m long, can accommodate 800 passengers and 180 vehicles, and will operate on a fixed route in the lower St Lawrence River.

WPC

On the basis of an agreement concluded in 2013, Gaz Métro LNG was chosen as the LNG supplier for three new STQ ferries. When the two other ships are commissioned, they will be assigned to a crossing further up the St Lawrence River.

Notable numbers

Investment in LNG facility in Busan New Port

2019

Deadline for LNG barge bunkering facility in the port of Antwerp

US continues to loosen Cuba regulations

The Obama administration in the United States continues to gradually ease sanction rules that restrict business with Cuba.

As a result of this burgeoning détente, hopes for fresh maritime activity – and new port developments on the island – have grown.

US secretary of state John Kerry reopened America's embassy in Havana in August and commerce secretary Penny Pritzker travelled to Cuba in October to "facilitate more effective implementation of new US policies toward Cuba".

On 21 September the US Treasury Department put into effect further amendments to its sanctions regime, including a removal of regulatory barriers for cruise and ferry operators.

The consequence of these revisions is that "transportation by vessel of authorised travellers – between the United States and Cuba only and without stops in third countries – will be authorised by general license. Certain related lodging services aboard vessels used for such travel will also be authorised."

Vessels will be permitted to remain in Cuba for up to 14 consecutive days. Furthermore, entities providing allowable travel services to Cuba can open offices on the island.

Although several cruise and ferry companies had already obtained special licences from the US government for services to Cuba, the latest round of regulatory changes removes



US Secretary of State John Kerry reopens America's embassy in Havana

additional complications for such operators. "The environment for travel to Cuba has just become even better with the recent changes by the US government," asserted Carnival Corp CEO Arnold Donald on his company's 22 September earnings call.

Two cruise companies have announced plans to serve Cuba while carrying allowable American travellers: Carnival Corp, which will call with the 710-passenger *Adonia* under its new Fathom brand; and Haimark Line, which will call with the 201-passenger *Saint Laurent*.

In addition, five ferry companies have confirmed licences to bring US passengers to Cuba: United Caribbean Lines, Havana Ferry Partners, America Cruise Ferries USA, Baja Ferries USA, and Balearia.

However, there is still a long way to go before the maritime business opens up to the extent that would spur large-scale port infrastructure investments in Cuba. According to a recent client note by law firm Freehill Hogan & Mahar, "While these further amendments liberalise dealings with Cuba by persons under US jurisdiction, they do not lift the Cuban trade embargo, which remains in place. Of particular concern to foreign carriers, the recent amendments do not alter the 180-day rule, which provides that a vessel cannot call at a US port for 180 days after calling at a Cuban port."

While authorised cruise and ferry vessels have been exempted from the 180-day rule, US and foreign commercial shipping vessels have not. This effectively limits interest in Cuba calls among shipping operators.

Carlos Urriola, senior vicepresident of ports group Carrix, highlighted the potential advantage of repealing the 180day rule. "That would be a major decision and is one way to easily ease trade without lifting the embargo," he explained.

"Right now, services may go from Brazil to Mariel [Cuba] to Europe," said Urriola. "If the sixmonth restriction was lifted, ships going to Mariel could go to Miami and Port Everglades, or cargo left in Mariel could be picked up by a feeder [to the US], which would mean better [slot] utilisation."

According to Freehill Hogan & Mahar, the 180-day rule "cannot be changed by unilateral action of the presidential executive powers of the White House". The law firm explained that "the legislation underpinning this position is within the province of the houses of Congress".

In fact, a push is now under way in US Congress to repeal the 180day rule. An amendment to the Financial Services and General Government Appropriations Act for Fiscal Year 2016 was sponsored by Montana Senator Jon Tester to "repeal the requirement that a vessel entering a port or place in Cuba may not load or unload freight at any place in the US within 180 days".

The amendment survived a vote in the Senate Appropriations Committee in July and the full bill is expected to be voted upon by the end of the year.

11,000

Estimated tonnes of greenhouse gas emissions prevented at Port Metro Vancouver since shore powe for cruise ships was introduced

Vancouver shore power secures funding

The Canadian government and Port Metro Vancouver have allocated funding for the installation of shore-power facilities for container vessels at two Port Metro Vancouver container terminals.

The total project funding is CAD12 million (USD9.25 million), with half from Transport Canada's Shore Power Technology for Ports Program and the other half from Port Metro Vancouver.

The installation of shore-power technology at a berth at DP World Vancouver's Centerm Container Terminal, and necessary upgrades on nearby property, will cost CAD7.3 million. The remaining CAD4.97 million will be also used to install shore-power technology



Robin Silvester Port Metro Vancouver (FO)

at a berth at Global Container Terminal's Deltaport terminal in Delta, British Columbia.

"This represents another positive step in work that has resulted in significant



improvements in Metro Vancouver air quality," said Robin Silvester, president and CEO of Port Metro Vancouver.

Each ship connection to shore power cuts greenhouse gas

emissions by an estimated 75 tonnes. At Port Metro Vancouver, Canada's first port to implement shore power for cruise ships, that means more than 11,000 tonnes of greenhouse gas emissions have been avoided since 2009.

Both shore-power operations are expected to be operational by April 2017.

According to a report from Navigant Research, shore-power utility electricity revenue in port operations is expected to grow from USD32 million in 2015 to USD334.7 million in 2024.

The report, *Energy-Efficient Port Operations*, analyses the global market for energy-efficient port operations, with a focus on trucks powered by natural gas shore

LNG billed to become dominant marine fuel by 2030

The keynote speaker at a seminar on LNG Bunkering in the Mediterranean, held in Barcelona in September, forecast that LNG would be the dominant fuel powering the global shipping industry by 2030, since it was considerably cheaper than lowsulphur marine gas oil.

However, it would also mean that four-fifths of the current global fleet, which cannot be converted to LNG, would have to be scrapped and replaced, said James Ashworth of energy consultant Tri-Zen. This will be expensive for owners, but good for national economies since it will create jobs, particularly in the shipyards and auxiliary industries.

Ashworth said exhaust gas treatments such as scrubbers were "not sustainable in the longterm, since they generate toxic waste". Additionally, there is currently no reliable means of policing the disposal of the toxic sludge and preventing it from being dumped at sea.

Panayiotis Mitrou, Lloyd's Register research development and innovation manager, pointed out that initiatives developed by individual ports such as those by Benelux and US west coast ports could make a difference in promoting alternative ship fuels. "As regards persuading companies to adopt alternative fuels, a combination of new energy infrastructure, regulation, and business incentives is the best way forward," he told delegates.

Elena Ordás of Enagas said Spain now had seven LNG import terminals but there was a need for small-scale services for trucks, trains, and vessel bunkering. She looked forward to the development of the LNG satellite plants that would fill this gap.

Jeff Seisler, CEO of Clean Fuels Consulting, spoke of the incentives needed to persuade companies to switch to alternative fuels. He stressed that government involvement was essential in creating infrastructure for the more promising alternative fuels but that it should be left to customers to make the business decisions about what fuels they should adopt.

His experience had led him to the conclusion that public-private partnerships were the most successful model for the switch to other fuels. Government engagement with independent fuel suppliers and the transport operators was "challenging but essential", he added.

Stavros Niotis, lead engineer with ABS, set out the safety standards needed for the secure transfer of LNG fuel, noting the

Notable numbers

\$2.3bn

Estimated cost of piracy to shipping in the western Indian Ocean



Reduction in fees for LNG-powered vessels in the Port of Barcelona power, environmental regulations, and port authority incentive schemes such as the Environmental Ship Index.

Additional energy-efficient port technologies studied in the Navigant report include electric rubber-tyred gantry cranes, electric forklifts and trucks, battery-powered ships, hydrogen fuel cell technology, renewable energy, and data analytics.

According to the WPCI, plugging into shore-side electricity is estimated to reduce engine emissions of nitrogen oxides (NO_x) by up to 97% per vessel call. Sulphur dioxide (SO₂), diesel particulate matter (PM), and volatile organic compounds are also drastically reduced. At present, a 12 MVA cruise ship berthed at a port for eight hours generates as many NOx emissions as 10,000 cars.

industry had a very good safety record but lacked a universally adopted international safety code. He called on the IMO to speed up the adoption of an LNG bunkering standard.

Shell now handles more gas than oil, according to its business development manager Arjan Stavast, who outlined plans to create LNG bunkering hubs in Gibraltar and Malta.

Alain Bourgeois, vicepresident of gas and LNG for Bergen Energi, described LNG as the last energy segment where his company saw potential for real growth. LNG is becoming a more stable market as regards with price fluctuation but there was a need for more price transparency, he explained.

Piracy risks change but costs remain

The latest annual report from Oceans Beyond Piracy (OBP), a project of the non-profit international conflict-prevention organisation One Earth Future Foundation, makes difficult reading for shipowners.

Although piracy in the Indian Ocean off the east coast of Africa is showing few signs of resurgence, the world's shipping industry still bears the heavy annual cost of implementing counter-piracy measures. The OBP report estimates the total economic cost of piracy in the western Indian Ocean in 2014 at USD2.3 billion.

This is down from a peak of about USD6.8 billion in 2011 and reflects a steady decline since piracy activity off the coastline of Somalia was at its height. Whether that steady decline can be maintained in the future is open to question.

A tipping point will soon be reached where owners will have to make difficult decisions about the ongoing overheads imposed on their businesses as a result of taking counter-piracy measures.

In 2013, OBP estimated that, of the USD3.2 billion total cost of piracy in the Indian Ocean, about USD2.5 billion was associated with items that are risky to factor out, such as the USD1 billion for security personnel stationed on board vessels.

With little evidence to suggest pirate activity is about to make a comeback, economic pressures may well force some companies to take risks and dispense with their armed security guards.

The international political

Estimated cost of piracy in the western Indian Ocean (USD)



consensus is that such a move would be premature. With high levels of illegal fishing now being reported off the coast of Somalia, some of the pre-conditions for another possible upsurge are being created.

Most commentators believe many of the fishermen seeing their livelihood plundered by large factory ships would be ready to return to piracy if they saw a reduction in the level of security in vessels transiting the area. Once a threshold is crossed where piracy could again escalate, shipowners could be forced to reintroduce security patrols rapidly.

In the Gulf of Guinea, OBP believes that the cost of piracy has increased significantly. In 2013, it estimated this was in the region of USD565–681 million. In 2014, this was revised upwards to USD983 million, an increase of nearly 60%. OBP attributed half of this cost to military operations designed to provide a secure maritime environment.

With pirates in the Gulf of Guinea enjoying considerable freedom to manoeuvre and often operating outside territorial waters, the likelihood that the current level of activity will decrease is slim.

One of the largest increases in the costs being borne by shipowners operating in the Gulf of Guinea comes from additional security measures to protect vessels operating in the area.

In 2014 this was estimated at USD314 million, in comparison with the 2013 figure of USD150.9– 225.4 million. Clearly, while the situation off Somalia appears to have stabilised, the figures suggest the situation in the Gulf of Guinea is getting worse.

However, since the start of the year, the degree of co-operation between the countries bordering the Gulf of Guinea has improved and it may be that next year, when OBP publishes its 2015 assessments, the situation will have started to improve.

Early indications of the numbers of piracy attacks in the Gulf of Guinea this year to September suggest that such a prognosis is valid. Whether that will exert a similar downward pressure on the increasing cost of piracy in the region however, remains to be seen.

\$334.7m

Estimated increase from shore-power utility revenue in 2024 Estimated proportion of global fleet that cannot be converted to LNG



Introduction to Maritime Law for Port Officials

With a new edition of *the Introduction to Maritime Law for Port Officials* soon to be made available on IAPH's website (in the member's area), IAPH legal committee chairman **Frans van Zoelen** (Port of Rotterdam) highlights the need for relevant updates to maritime law

Port authorities and port officials from all over the world encounter various problems in their daily work involving ships that intend to visit their port, ships that are currently in their port, and ships that have visited their port.

Although the issues may vary considerably in nature, there is one aspect that all seem to have in common. And that is that there is almost always an international legal connotation, because the ship, its ownership, or crew are foreign.

In order to address this issue of internationality of maritime law, IAPH started to build a legal database with an overview of all international maritime conventions relevant for ports.

The Legal Database of Maritime Conventions Relevant for Ports became active after the IAPH Conference in Shanghai in 2005.

But a database, even a legal database, is just a database.

Gradually it appeared that, in addition to the inventory of the



Frans van Zoelen

conventions, a wider format would be useful.

Therefore it was decided that a general introduction to various subjects of maritime law should be prepared under the auspices of the Legal Committee of IAPH. This resulted in the *Introduction* to Maritime Law for Port Officials which was designed to provide the reader with an introduction to this complex and specialised area of law.

The structure of the first volume was prepared in co-operation with Prof Frank Smeele of Erasmus University, Rotterdam, in the Netherlands, who laid the ground work with the chapters 'How ships are regulated', 'Limitation of liability', and 'Overview of maritime conventions relevant to ports'.

Chapters on more specialised subjects followed and were kindly provided by the International Tribunal on the Law of the Sea, Prof Gertjan van der Ziel from the Netherlands, on 'The United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea 2009 (the Rotterdam Rules)', and by Anthony P Morrison from Australia, the chapters 'Places of refuge for ships in distress', 'Particularly sensitive sea area', 'SOLAS', and the 'Law of salvage'. International and EU port law centre Portius contributed material on port regulations that is very useful for ports considering or reconsidering their strategy for the public nautical regulation of their port.

By working in this way, a manual came into existence, intended for port officials. The perspective chosen and the topics selected reflect what is or may be relevant to them and their work.

The main aim is to provide the reader with, as the title indicates, an introduction into this rather complex and specialised area of the law – an introduction to give them an overview of relevant sources of international maritime law and to provide easy access to these legal sources in combination with the regularly updated legal database on the IAPH website.

In more recent times it has become clear to the legal committee of IAPH that the manual could become an avenue for introducing port officials to new and evolving areas of relevant law. In this context, the most recent shoot on this legal tree is a chapter on insurance, which was kindly prepared by the TT Club and will be introduced by Marcus John in the next issue of *P&H*.

The jurisdiction clause in international contracts

A few practical words about the jurisdiction clause in international contracts.

If two international parties are concluding a contract, the jurisdiction clause is essential in the context of where – the forum – and under which concept of law a dispute will be resolved.

Normally parties seek neutrality. But issues with how and where neutrality is sought are very often underestimated. Parties are not always fully aware of the consequences of a particular choice. Be aware of boiler-plate contracts, where the choice is made for you: pay attention to and take your time to make a considered choice. In the first place, do you opt for a court procedure or should it be arbitration? And under what type of law – civil law or common law – should be litigated?

Experience shows that a party coming from the family of civil law countries should be very careful in opting for common law. In such a case, the principles and techniques that come into play may be outside your experience if you are based in a civil law country.

Next, there are cost differences: under some circumstances litigating under common law is considerably more expensive. The causes of this can include disclosure proceedings, extensive pleadings and cross examinations. In other words: stay as close as you can to the legal methodology you are acquainted with. A regional example of an approach where this idea will be tested is the model of Hanse arbitration: the so-called Hanse cities all have a strong commercial sense, have historical ties through commerce and trade, and are located around the North Sea and the Baltic Sea. Coincidentally, these countries are all in the family of countries with civil codes: Germany, Denmark, the Scandinavian countries and the Netherlands.

The message is: seek your neutrality close at home in and the family of law you are acquainted with. And seek advice before you deviate.

maritime sector: at London International fostering the skills of those Shipping Week (LISW), the UK chapter of who are currently working in maritime related roles." Tickets the Women's International Shipping & Trading Association (WISTA), held activities to the WISTA session sold out: the first seminar, 'Women in on the first day of the week-long event and, separately, a survey of the health and command' examined the role of wellbeing needs of women seafarers women in the industry; the second, worldwide was also launched. 'The perfect dilemma – an interactive The Women's International Shipping & workshop' focused on the complexities of Trading Association (WISTA) is an maritime casualties and provided advice on international organisation for women how to react to such incidents; and the in management positions involved in the third session, 'Old Father Thames - there's

more women into shipping

and also recognising and

Meetings focus on

women in maritime

The drive to attract women into the maritime sector and ensure they receive fair treatment in terms of ambition, health and welfare continues, with several significant recent events

Two recent meetings have focused on the

roles and experiences of women in the

maritime transport business and related

trades worldwide. It is a major player in

in supporting women in management

mentoring, WISTA seeks to enhance

attracting more women to the industry and

positions. With networking, education and

members' competence and enable career

success. WISTA as a whole is growing, and

members in 34 National WISTA Associations.

Sue Terpilowski OBE, President of WISTA-UK

those women working in the industry, "It's

a positive step towards encouraging

said LISW was a chance to pay tribute to

currently counts over 1.600 individual

present and future of the River Thames. The survey of the health and wellbeing needs of women seafarers worldwide arose from a joint initiative by the International Seafarers' Welfare and Assistance Network (ISWAN), the International Transport Workers' Federation (ITF), the International Maritime Health Association (IMHA), and the Seafarers Hospital Society (SHS).It aims to look at the health and welfare needs of women seafarers and how organisations can best make/campaign for improvements to the health infomation and services

life in the old man yet', explored the past,

available to women seafarers. The top health challenges include joint/back pain; stress/depression/anxiety; weight issues/ obesity; heavy/painful periods. Issues arising from the research included: 55% of respondents feel health issues are workrelated; 40% of respondents have no access to a sanitary bin on board; 17% of respondents have experienced sexual harassment on board.

The joint initiative intends to formulate an action plan to address back pain, mental health, nutrition, gynaecological issues, and sanitary waste disposal.

Women's forum

New chair appointed

Masaharu Shinohara, executive officer of the Kobe-Osaka International Port Corporation, Japan, was appointed by the IAPH president as chair of the IAPH Port Operation and Logistics Committee in September 2015.

Shinohara, who had served as vice-chair of the committee since 2014, succeeded Juan Delgado, who stepped down in May 2015 on leaving his port.

Shinohara is a longstanding contributing member to the committee and is expected to continue to bring his expertise to the committee's activities.

MORE INFO: www.iaphworldports.org/AboutIAPH/TechnicalCommitttee.aspx





Membership notes

The IAPH secretariat is pleased to announce that the following have joined the association

Regular members

Port Akdeniz - Antalya

	Address	Port Akdeniz Buyuk Liman 07070 Antalya, Turkey
Q	Telephone	+90 242 259 13 80
6	Fax	+90 242 259 11 83
0	Email	info@portakdeniz.com
۲	Website	http://www.portakdeniz.com
	Representative	Capt Özgür Sert, general manager

Port Authority of the Cayman Islands

Address	PO Box 1358, GT Grand Cayman, KY1-1108,
	Cayman Islands
🔇 Telephone	+1-345-949-2055
🖶 Fax	+1-345-949-5820
🕘 Email	ksmalldon@caymanport.com
🛞 Website	http://www.caymanport.com
🔝 Representative	Clement Reid, acting port director

Associate members

Vadinar Oil Terminal Ltd.

	Address	Refinery Site, 39 KM, Jamnagar-Okha Highway
		Vadinar 361305, Gujarat, India
Q	Telephone	+91-2833661377
8	Fax	+91-2833661366
0	Email	deepak.sachdeva@essar.com
۲	Website	http://www.essarports.com
Ω	Representative	Capt Deepak Sachdeva, chief executive officer
Θ	Nature of business	activities: Crude handling, liquid
		cargo handling

SafeSTS Ltd

	Address	Diss Business (Centre, Dark Lane Diss, IP21 4HD, UK
Q	Telephone		+44-1379640021
0	Email		operations@safests.com
۲	Website		http://www.safests.com
	Representative	2	Yvonne Mason, managing director
Θ	Nature of busin	ness activities:	Ship-to-ship (STS) transfers
			of oil and gas, marine consultation

Shanghai Merchant Ship Design and Research Institute

	Address	2633 Zu Chong Zhi Ro	ad Shanghai 201203, China
0	Telephone		+86-21-38139388-7626
6	Fax		+86-21-64040009
0	Email		mq_sjtu@163.com
۲	Website		http://sdari.cssc.net.cn
Ō	Representative	2	Ma Qiang, chief officer
Ó	Nature of busin	ness activities:	Ship design and research

Other news

IAPH vice-president **Geir Kalhagen** (Port of Longview, USA) will represent IAPH at the upcoming American Association of Port Authorities (AAPA) Annual Convention, being held from 2-4 November, in Miami, Florida, US. IAPH and AAPA co-operate with each other to promote and advance port interests in the world.

Secretary-general **Susumu Naruse** recently attended the fourth session of the Multi-year Expert Meeting on Transport, Trade Logistics and Trade Facilitation: 'Sustainable freight transport systems: Opportunities for developing countries'. It was organised by the United Nations Conference on Trade and Development (UNCTAD) in Geneva, Switzerland.

IAPH honorary member **Alexander Krygsman** passed away on 12 September at the age of 83, in Stockton, California, US. He is survived by

his wife, Kyoko, and their two children. Mr and Mrs Krygsman attended numerous IAPH conferences and meetings in the 1980s and 1990s.

When Mr Krygsman was port director of the Port of Stockton, California (1977-1999), he served the association in various capacities, including on the IAPH executive committee (1989-1997). For his contribution to the IAPH, he was elected an honorary member in 2001 during the 22nd IAPH Montreal Conference in May of that year.



Business Continuity Plan (BCP) in

Ports (in the event of any threats,

The former is a product of

research and a study carried out

latter by Port Safety and Security

IAPH members can use their

password to log in and download

interruptions or disasters)

by the Port Operations and

field survey.

the reports.

Logistics Committee and the

Online publications available

Just a reminder to members that a couple of special committee reports have recently been published by IAPH on two hot topics – container terminal automation and business continuity plans (BCP) – as follows.

• The Study on Best Practices of Container Terminal Automation in the World

• Report on the Survey Results on

We value your opinions

Do you have strong views about any of the articles in *Ports & Harbors*? Are there other industry issues you feel strongly about?



Email your views to ph@iaphworldports.org and we'll be happy to include them

IAPH INFO



Ηd

The delegation from Zhoushan Marine Comprehensive Development and Investment Co Ltd

Chinese delegation visits IAPH head office

A delegation from Zhoushan Marine Comprehensive Development and Investment Co Ltd, headed by Liangjun Zhou, deputy chief engineer, visited the IAPH head office in Tokyo on 25 September. Secretary-general Naruse detailed recent IAPH activities to them, as they are interested in IAPH membership.

We're waiting to hear about your port's plans

Ports & Harbors is part of your IAPH membership and provides articles of interest to port professionals, keeps members abreast of IAPH activities and offers them the chance to share their experiences and insight with other ports.

The editorial team is pleased to consider article ideas. Perhaps you can provide a case study on a recent port development or training initiative. Maybe your port is working with government to extend its hinterland links, or has been privatised or merged with another company. If so, please tell us about it.

Next year we have a mixture of technical and managerial features planned and these are listed below (although they may be subject to change):

March/April issue

Cover feature: APAC (Asia Pacific) regional focus Feature: Vessel traffic management Feature: Port design and planning

May/June issue

Cover feature: Climate change/ green ports Feature: Dredging and contaminated sediment/ remediation Feature: Container and bulk handling equipment

July/August issue

Cover feature: EMEA (Europe, Middle East and Africa) regional focus Feature: Port automation Feature: Port security

If you have any ideas for articles that you would like to discuss with the editor, in the first instance, please email ph@iaphworldports.org

If you are interested in an advertisement, please contact Natasha Bailey at natasha.bailey@ihs.com.

IAPH members can place an ad at a 20% discount.

)15

2017

Dates for your diary

A selection of forthcoming maritime courses and conferences

November

11-12:	7th Arctic Shipping Summit 2015, London, UK http://www.wplgroup.com/aci/event/ 7th-arctic-shipping-summit/
16-27:	Port Operations Demand Sensing, Deployment & Management, London, UK <i>http://ttpminternational.co.uk</i>
17-19:	Intermodal Europe, Hamburg, Germany http://www.intermodal-events.com
23-4 Dec:	Port Management and Operations Course - Overseas Course, Singapore https://www.psa-institute.com
25–26:	14th Intermodal Africa 2015, Lagos, Nigeria http://www.transportevents.com
26:	Ship Finance and Trade Conference, Abu Dhabi, U.A.E. http://flagshipme.com/tms-shipfinanceandtrade
30–3 Dec:	AAPA Latin America 2015 Congress, Arica, Chile http://aapa2015chile.com/en/
Commences 30:	Certificate in Bunkering Operations and Management (*10% discount for IAPH Members), Distance learning http://www.lloydsmaritimeacademy.com/ FLR2638IAPH
Decem	ber
1–11:	Port Transit-Corridor Policy, Operations & Transhipment Logistics Management, London, UK <i>http://ttpminternational.co.uk</i>
2-3:	2nd Africa Ports & Railway Summit, Dar es Salaam, Tanzania <i>http://www.africaportexpansion.com</i>
2-3:	Cargo Logistics America Expo and Conference http://cargologisticsamerica.com
8-9:	TOC Middle East, Dubai, UAE http://tocevents-me.com

8-9: JOC Port Performance Conference North America, New Jersey, USA http://events.joc.com/ppnorthamerica2015

January 2016

11-29: Short course on Port Planning and Infrastructure Design, Delft, Netherlands *http://www.unesco-ihe.org*



■ Maritime piracy hampers liner shipping and damages the image of coastal countries ■

Ambitious development projects at Abidjan

The port of Abidjan is undergoing major change, *Sie Hien Yacouba*, managing director of the Port of Abidjan and new IAPH vice-president for the Africa/Europe region, reports

Open to navigation in 1951, the Port of Abidjan, lynchpin of the Ivorian economy, generates more than 91% of the total foreign trade between Côte d'Ivoire and the world.

This accounts for 70% of national GDP, 85% of customs proceeds.

Within the area of the port are gathered the most important industrial units of the country, providing 54,000 direct and indirect jobs.

A large transhipment and transit port, Abidjan handles yearly more than 21 million tonnes of goods, including 2 million tonnes for landlocked countries such as Burkina-Faso, Mali, and Niger, and about 65,000 containers.

It is also a big fishing harbor and the first African producer of canned tuna. In addition, the Abidjan Port Authority is certified to ISO 9001: 2008 and ISO 14001:2004 level 1.

All its facilities are compliant with ISPS Code standards.

To reinforce its leading position on the Atlantic coast of Africa, the port authority has undertaken many projects, including the widening and deepening of the Vridi canal at a cost of XOF130 billion (USD 225 million) and, the building of the second container terminal and a ro-ro terminal for XOF339 billion. These works are expected to start at the end of 2015. Notable, besides these, is the construction of the mole of the fishing harbor at a cost of XOF28.6 billion, which will be inaugurated at the end of 2015.

The IAPH Africa/Europe region faces two main challenges: to make the southsouth co-operation more dynamic through the sharing of the means of the sub-regional associations to enable IAPH to spread worldwide, serving as a true link to the implementation of the established reforms; and to re-orientate north-south co-operation based on inter-port exchanges to enable southern ports to benefits from expertise in key port professions and knowhow, and from sustainable development and safety.

The southern ports should allow European ports willing to provide their assistance, to work out some large markets related to these fields of expertise.

Moreover, it is urgent to strive to eradicate maritime piracy, which hampers liner shipping and damages the image of the coastal countries, particularly those in the Gulf of Guinea.

Such an ambition will be supported by IAPH in order to give the above mentioned projects a chance of succeding.

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