



# PORTS & HARBORS

Official Journal of the International Association of Ports and Harbors

**New kid on the 'block'**  
Ports join 'chain' in software revolution

**Dark side of digitilisation**  
Ports fight back against cyber crime

**Three pillars for growth**  
SG Milà speaks on ports' sustainable future

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## container handling and port equipment



DK114  
Kalmar DRF450-60S5  
Year of manufacture: 2014



DK115  
Kalmar DRF450-60S5  
Year of manufacture: 2013



D3533  
Kalmar DRF400-60C5  
Year of manufacture: 2013



Dk116  
Kalmar DRF450-65S5  
Year of manufacture: 2010



D3478  
Kalmar DRF450-60C5X  
Year of manufacture: 2005



D3490  
Kalmar DRS4531S5  
Year of manufacture: 2004



D3528  
Kalmar DRF400-60C5  
Year of manufacture: 2003



D3543  
Kalmar DRF100-54-56  
Year of manufacture: 2010



D3512  
Liebherr LRS645  
Year of manufacture: 2012



D3511  
Liebherr LRS645  
Year of manufacture: 2011



D3552  
Linde C4531TL  
Year of manufacture: 2010



DK071  
Linde C4540  
Year of manufacture: 2008



D3546  
Linde C4026CH  
Year of manufacture: 2008



D3554  
Linde C4535TL5  
Year of manufacture: 2007



D3555  
Linde C4535TL5  
Year of manufacture: 2006



DK112  
CVS Ferrari F478  
Year of manufacture: 2012



D3553  
CVS Ferrari F379.5  
Year of manufacture: 2003



D3551  
Fantuzzi CS45KL  
Year of manufacture: 2004



D3436  
Valmet TD4212  
Year of manufacture: 1994



DK111  
Kalmar DCF100-45E7  
Year of manufacture: 2011



D3519  
Kalmar DCF70-40E5  
Year of manufacture: 2010



D3550  
SMV 5/6 ECB100DS  
Year of manufacture: 2011



D3514  
Hyster H22.00XM-12EC  
Year of manufacture: 2013



D3525  
Linde C80/6  
Year of manufacture: 2001



D3563  
Linde H320  
Year of manufacture: 2011



D3362  
Svetruck 32120-47  
Year of manufacture: 1999



D3503  
Valmet TD3012  
Year of manufacture: 1985



D3560  
Svetruck 25120-45  
Year of manufacture: 2010



D3535  
SMV SL-22-1200A  
Year of manufacture: 2005



ML1812R  
Meclift ML1812R  
Year of manufacture: 2017



D3534  
Svetruck 13,6-120-32  
Year of manufacture: 2013



D3397  
Svetruck 13,6-120-32  
Year of manufacture: 2008



D3558  
Svetruck 12120-35  
Year of manufacture: 2009



D3536  
Kalmar DCD120-12  
Year of manufacture: 1999



D3547  
Kalmar DCE120-12  
Year of manufacture: 2005



D3561  
Terberg RT282  
Year of manufacture: 2004

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# 12

The new EU port regulation aims to create a level playing field by opening up access to port services

Photo: Getty Images

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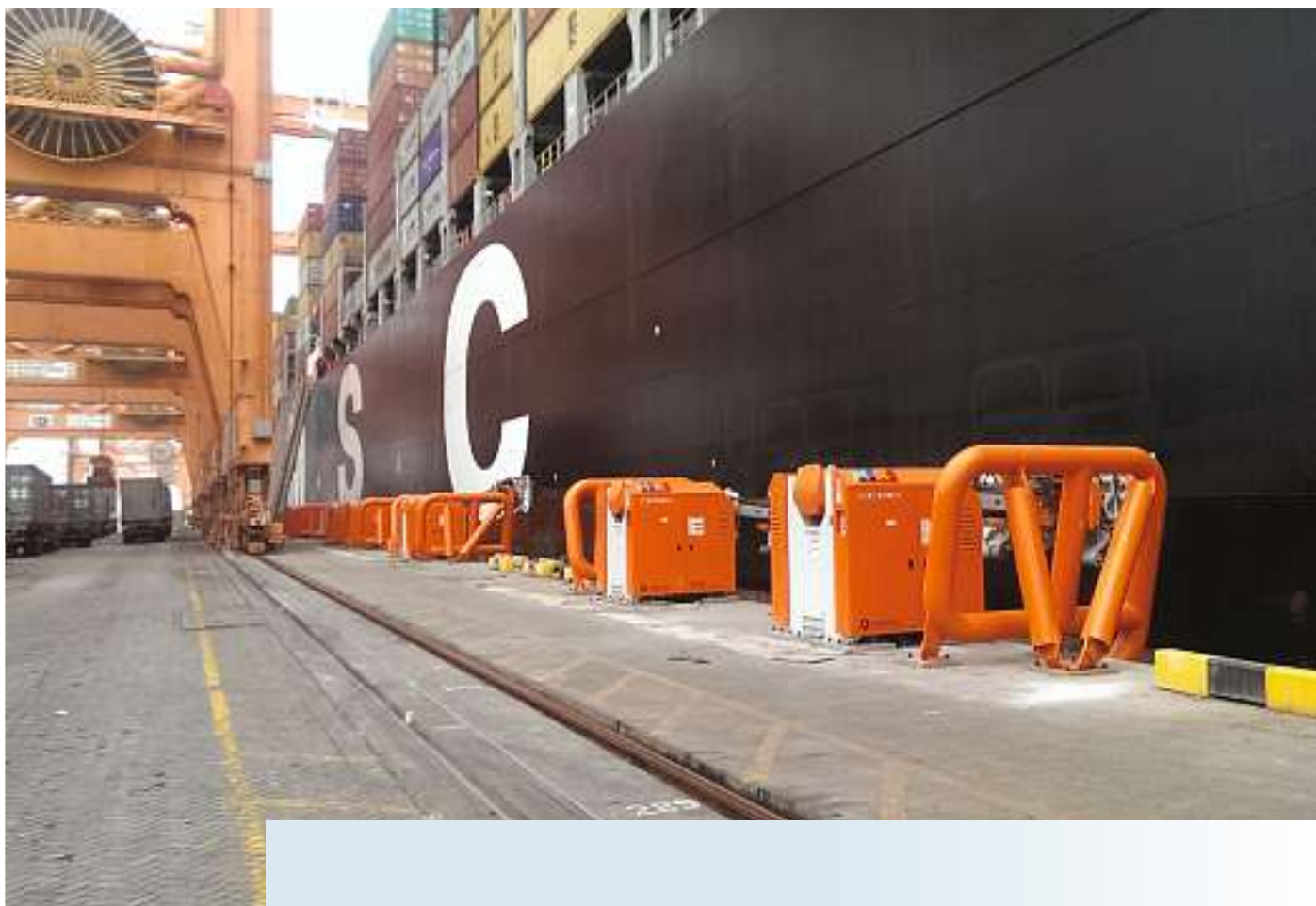
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# PORTS HARBORS

Official Journal of the International Association of Ports and Harbors

## PORTS & HARBORS

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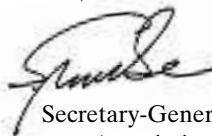
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# Future plans

Slower growth in throughput means ports  
should plan now to prepare for the next chapter



**Susumu Naruse**

Secretary-General – The International  
Association of Ports and Harbors



I MO progressed its environmental agenda in July. It agreed that the implementation date of the 0.5% global limit of the sulphur content of ships' fuel oil would be 1 January 2020. It was also agreed that existing ships should comply with the ballast water management treaty by September 2024 at the latest, depending on their renewal survey schedules.

At the moment, it is difficult to anticipate the impact these regulations will have on ports, so careful assessment will need to be carried out and, if necessary, measures taken. IAPH's World Ports Sustainability Program, which will be launched next spring, may include these items in its agenda.

Also in July, the International Monetary Fund updated its World Economic Outlook. It predicts world economic growth for 2017 and 2018 will be 3.5% and 3.6% respectively, a little higher than the estimated rate of 3.2% in 2016. These steady increases are expected because of the anticipated stronger and more sustainable economy in Europe, where political risks have diminished, and China's strong first quarter in 2017,

aided by continued fiscal support. It also estimated that world trade would grow by 4% in 2017 and 3.9% in 2018 because of the lower elasticity ratio between economic and trade growth, which might partly reflect protectionist attitudes to international trade in some countries.

Ports are inevitably heading for slower growth in the long run because of fundamental structural changes in the global economy and trade. At the same time, the port industry is facing a lot of challenges – new technologies such as terminal automation, autonomous ships, and the use of big data, alongside global warming, environment control, and cyber security. Now is the time for ports to create strategies to overcome this tough period of change because, with slower growth of port throughput, ports will not be under as much pressure to expand their capacities.

One of the important key aspects might be to develop the tourism industry in ports. The United Nations has designated 2017 as the International Year of Sustainable Tourism for Development. The cruise industry can play an important part in the development of tourism in port cities, and I think ports need to seriously consider promoting local tourism and developing their cruise business. **PH**

Ports need to seriously consider promoting local tourism and developing their cruise business



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## Port updates

### ► CMPORT IN HAMBANTOTA

Hong Kong-listed China Merchants Port Holdings (CMPort) has reached an agreement with the government of Sri Lanka to acquire an 85% stake in Hambantota Port for USD1.12 billion. The agreement, announced in Hong Kong on 24 June, gives CMPort the rights to develop, manage, and operate the port and a surrounding land area of 11.5 km<sup>2</sup> on the southern coast of the south Asian country for 99 years. In its filing to the Hong Kong Stock Exchange, CMPort said the strategic location of the port, within 19 km of the main Asia-Europe shipping route, would enable the development of a "comprehensive deepwater port" and industrial zone.

### ► HPH PROFITS DIP

Hutchison Port Holdings Trust (HPHT) has reported a 12% year-on-year drop in net profit after tax in the first half of the year and a 4% fall in revenue to HKD5.5 billion (USD701 million). The fall in revenue came despite a 5% year-on-year increase in throughput at its deepwater terminals for the year to 30 June. Volumes at Yantian International Container Terminals, near Shenzhen, grew 4% and combined volumes of the Hong Kong terminals – HIT, COSCO-HIT, and ACT – also grew by 4%, to just over 5.5 million teu.

### ► TUXPAN THROUGHPUT

Tuxpan Port Terminal (TPT) has recorded an impressive start to the year, attributed to its advanced handling equipment and automation capabilities. From January to April 2017, TPT handled 1,396 teu from nine container ships, 6,196 automobiles, and three ro-ro vessels. These figures highlight TPT's potential to improve the Gulf of Mexico's container handling capabilities. TPT has an automated yard and is capable of handling a variety of cargoes from containerised goods to general cargo and vehicles.



Simin Mainas/517735206

**Djibouti: the number of port facilities will rise from three to five in the next two years**

# Djibouti attracts shipping as its hub status grows

Djibouti's attraction as a base for trade and military activity on the main global shipping route between Colombo, Sri Lanka, and Suez, near the Red Sea's southern entrance, continues to win converts as the Djibouti Ports and Free Zones Authority (DPFZA), which already oversees five port facilities, brings a further three into operation in the next two years.

According to IHS Markit estimates based on World Bank and International Monetary Fund data and forecasts, Djibouti's GDP will exceed USD2 billion and container throughput will hit the 1 million teu mark, both in 2017.

The 690 ha Doraleh Multipurpose Port (DMP), said to be one of east Africa's most advanced, officially opened on 24 May. Work began this year on the 4,800 ha USD3.5 billion Djibouti International Free Trade Zone, in which several Chinese businesses are to invest and for which Djibouti is partnering with China Merchants Group, Dalian

Port Authority, and e-commerce platform IZP, as Belt and Road tentacles continue to flex.

Construction of DMP started in August 2014 and was completed in February 2017. It has been designed for annual volumes of 7.08 million tonnes of bulk cargo and 200,000 teu of containers. Quay length is 1,200 m and depth is 15.3 m. The facility also has six multifunctional berths.

In February 2013, China Merchants Holdings (Djibouti) FZE, a wholly-owned subsidiary of Hong Kong-based China Merchants Port Holdings Company (CMPort), acquired 23.5% of shares in Port De Djibouti SA (PDSA) for USD185 million to participate in the restructuring of Djibouti port.

Although several military bases are located there, including those of France, the United States, and Japan, China waves away criticism of its presence in Djibouti by saying it has developed a "support base" for People's Liberation Army naval forces participating in Gulf

of Aden anti-piracy patrols.

"2016 and 2017 have been important for Djibouti Ports and Free Zones Authority, finalising a number of projects to strengthen Djibouti's position as an international logistic hub," Aboubaker Omar Hadi, DPFZA chairman, who attended the Belt and Road Forum for International Cooperation in Beijing in May as Djibouti's representative, told *P&H*.

Following the recent inaugurations of Tadjourah and Ghoubet, there are now five operational ports in Djibouti, including DMP, Doraleh Container Terminal, and the Old Port, which is shortly expected to be converted into a business district, marina, and hotel, pending transfer of operations to DMP.

"We have invested in a further three ports, which are still under construction, including the Damerjog Multipurpose Port, a ship repair and drydock [facility], and an LNG terminal," Hadi said. "The [USD70 million] Damerjog

Multipurpose Port is expected to open later this year with a capacity for 10 million head of livestock per year, while the other two projects will be completed in 2018 and 2019 respectively."

Today, more than 90% of Ethiopia's imports pass through Djibouti, accounting for 70% of overall activity at its ports. The new ports at Doraleh and Tadjourah are expected to have a significant impact on the amount of Ethiopian cargo going through Djibouti. Today, much of that goes through Doraleh Container Terminal, managed by DP World, which opened in 2008.

DPFZA claims to be leading a USD15 billion infrastructure programme to establish the small Horn of Africa redoubt as "a multimodal logistics hub for the east African region". In a boost to Djibouti's logistics story, the USD4 billion Addis-Ababa electric railway officially opened in January. "The new 752 km track links one of Africa's most dynamic economies to Port of Djibouti," Hadi said.

Djibouti sees a major opportunity in sub-Saharan Africa. "Burkina Faso, Mali, Niger, Chad, the Central African Republic, Rwanda, Burundi, Uganda, South Sudan and Ethiopia form a band across the continent without any access to the coast," the chairman says on the DPFZA website.

CMPort said, "DMP is equipped with advanced and efficient facilities, and adopted ... a self-developed intelligent operating system ... designed by CMPort. With strong support from CMPort headquarters, Shenzhen West home port becomes the major training centre of DMP."

"Improvement of efficiency will play an important role in the competitiveness of DMP in order to reduce customers' operating costs and build [an] east African shipping centre [through] enhanced service.

"Consequently, it will benefit port operating efficiency as well as local employment."



The Abu Dhabi port of Khalifa. ADPC is considering IPOs to raise funds

## Abu Dhabi Ports eyes IPO

Abu Dhabi Ports Co (ADPC) is one of a number of UAE state-owned entities considering initial public offerings as government revenues dwindle three years into a halving of oil prices.

Bloomberg reported that the company expects to raise at least USD1 billion on the local ADX Abu Dhabi Stock Exchange. It has met with investment banks in recent weeks and may appoint financial advisers soon.

Governments in the Gulf Co-operation Council have ratcheted up sovereign debt issuance in the past year or so as they seek to cover budgetary

shortfalls, and IPOs of state assets may gain traction as an alternative method of raising funds.

Saudi Aramco, the world's largest oil company, is studying an IPO on international stock exchanges, but it is understood that because it has never published its financial statements it will take some time for the issuance to stand up to scrutiny on global exchanges, possibly including Singapore, London, and New York. Media reports earlier in the month said Abu Dhabi National Oil Co had invited 10 banks to bid for a role in an IPO of part of its distribution business.

## Dalian integrates terminals

The Chinese port of Dalian has announced a plan to consolidate its container terminal assets.

According to a statement on 4 August, port subsidiary Dalian Container Terminal Company will consolidate the entire assets and liabilities of another two container terminal subsidiaries, Dalian Port Container Terminal (DPCT) and Dalian International Container Terminal (DICT). Dalian Container Terminal, DPCT, DICT, APM Terminals (APMT), COSCO, Dalian Port Singapore, PSA China, and NYK all signed the integration agreement.

DPCT is jointly owned by the

port of Dalian together with APM Terminal, PSA China, and COSCO. DICT is owned by the port, COSCO, and NYK. Following the integration, the value of the new Dalian Container Terminal Company will be USD634 million.

Port of Dalian has also signed a share purchase and sale agreement with APMT. The port will buy APMT's 20% share in DPCT for USD18 million. The port will then hold 55% of shares in the terminal.

According to APMT, Dalian plans to further optimise the port's structure and the services it can offer.

## Port updates

### ► HPA's DIGITAL VISION

Hamburg Port Authority has published a book, *Digitalization of seaports – visions of the future*, which gives an overview of strengths, weaknesses, opportunities, and threats. The book, which was co-authored by the authority and the Fraunhofer Center for Maritime Logistics and Services, is intended to offer a perspective of the digital landscape to "port authorities, their communities and indeed the wider maritime supply chain" according to a press statement distributed by the Global Institute of Logistics.

### ► DPW HELPS INDONESIA

DP World signalled its intention to support the goals of the Indonesian government to overhaul its port network and reduce logistics costs as a percentage of GDP. The Dubai-based ports operator, which currently has one Indonesian port in its network, offered to match its global experience of connecting countries with international markets to Jakarta's goal to improve its underdeveloped seaborne trade infrastructure.

### ► ICTSI BIDS FOR BISSAU

ICTSI has reportedly submitted a bid to develop and operate Port of Bissau in the west African country of Guinea-Bissau. Transport minister Fidelis Forbes said on 24 July that the Manila-listed mid-sized terminal operator was one of two companies competing to win the concession, which will be awarded this August. The move comes just two months after ICTSI announced its withdrawal from the agreement to operate Nigeria's Lekki International Container Terminal, which was planned to become one of the largest projects in sub-Saharan Africa.





## Port updates

### ► CHINA PORTS DO WELL

China's container ports continued to perform strongly in July, with an 8.77% increase in throughput compared with the same period last year, data released by the Shanghai Shipping Exchange show. The growth follows a strong first half of the year that saw the top 20 ports expand volumes by 7.46% over the first six months of 2016. The country's top 10 container ports, which include Shanghai and Ningbo-Zhoushan in the Yangtze River Delta, Shenzhen and Guangzhou in the Pearl River Delta, and Qingdao and Dalian in the northern Bohai Rim, together handled 15.55 million teu in July, up 7.43% from the 14.47 million teu handled in July of 2016.

### ► THIRD TERMINAL TENDER

Iran intends to speed up development at its main container port at Bandar Abbas, as a leading shipping official announced that a third terminal concession would be tendered to international partners by the government. Mohammad Saeedi, managing director and chairman of the board of Islamic Republic of Iran Shipping Lines (IRISL), said a third terminal would be announced as an international tender by the Iranian Ports and Maritime Organization.

### ► INCHEON INCHESES UP

Incheon Port Authority (IPA) president Nam Bong-hyeon said in a press briefing that the 2017 throughput target of 3 million teu was achievable, after the port's first half output rose 18.7% year-on-year to 1.47 million teu. Incheon port, with its proximity to the Yellow Sea, has ambitions to enter the ranks of the world's 50 busiest ports. Japan's Kobe port, which processed 3 million teu in 2016, was ranked 50th. Incheon, which processed 2.68 million teu in 2016, was ranked 57th.



Port of Kribi 934492

Port of Kribi's breakwater under construction

# Consortium finalises Kribi terminal operating deal

A Franco-Chinese consortium comprising shipping group CMA CGM, Bolloré Transport & Logistics, and China Harbour Engineering Company (CHEC) signed a 25-year operating concession in July for the new container terminal in the Cameroonian port of Kribi.

The signing confirms the initial award of the concession to the consortium by the Cameroonian government in August 2015 against keen competition from ICTSI and APM Terminals.

The partners said at the time that the new terminal, which will be Cameroon's second major container terminal alongside the existing one in the port of Douala, would become a hub for the whole of the African Atlantic coast from Senegal to Gabon.

They added that it would be able to take calls from vessels with capacity of up to 8,000 teu engaged in trade with both the European and Asian markets, as well as serving landlocked

countries such as Chad and Central African Republic. Following the signing ceremony, the three partners said the terminal would benefit from having "solid and complementary" investments partners.

Third-ranking container shipping group CMA CGM, which already operates some 30 terminals worldwide, claims to have a 35% share of the African west coast container market. The company said that the terminal would open in three months.

Bolloré Transport & Logistics, part of the larger Bolloré industrial and media group, is a leading port and logistics operator in Africa and has been active in Cameroon for more than 50 years.

CHEC already has a number of infrastructure projects in Cameroon to its credit and the three leading investors are being joined, it is understood, by a number of local investors.

The new terminal offers 350 m

of quay length and a water depth of 16m. A second phase of construction, due for completion in 2020, will enable it to accommodate ships of up to 11,000 teu. This will see an increase in quay length to 715 m and a yard surface of expanded to 32 ha. This will take annual handling capacity to 1.3 million teu.

The partners said both infrastructure and equipment were up to the highest international standards and that gantry cranes and other handling equipment would be brought into service within the next few weeks to allow the terminal to start operations quickly.

It is not clear why it took so long to finalise negotiations for the final concession agreement. There was controversy over the initial award two years ago. It was initially reported that Bolloré and its partners had been eliminated from the bidding before they subsequently emerged as victors.



## PSA's move to Tuas progresses

PSA has begun winding down operations at its Tanjong Pagar Terminal, ahead of the 2027 expiry of the lease on the premises, as part of Singapore's long-term plan to consolidate port operations at its Tuas mega-port.

A PSA representative told *P&H* the redeployment of about 500 staff members to Pasir Panjang was completed in 2016, as part of the move from Tanjong Pagar.

"The redeployment process involved port unions and included reskilling, upskilling, and onboarding to prepare staff for their new roles and environment at Pasir Panjang."

The cranes at Tanjong Pagar are gradually being removed but the terminal will continue to offer ancillary services, such as car

transhipment, and serve the occasional container vessel.

The lease on PSA's premises at Tanjong Pagar, Keppel, and Pulau Brani, collectively known as the City Terminals, expires in 2027. The lease on Pasir Panjang's premises expires in 2040.

Reports by local media raised the possibility that PSA may hand over the Tanjong Pagar site to Singapore's Urban Redevelopment Authority (URA) earlier than expected.

URA is the statutory board that oversees urban planning in Singapore. According to its website, the planned relocation of the City Terminals and Pasir Panjang Terminal to Tuas will free 325 and 600 ha of waterfront land after 2030. This presents "a

redevelopment opportunity of enormous potential".

Pasir Panjang Terminal is testing a range of technologies for operations on board container vessels, at the wharf, in the yard, as well as for transport of containers within the terminal.

"Pasir Panjang Terminal employs advanced port technologies, such as automated port equipment and intelligent systems to assist in operations," PSA noted.

Regarding progress at Tuas, it said the first terminal would be open in the early 2020s, and that all four terminals will open progressively up to 2040. When completed, the Tuas development will handle up to 65 million teu, up from about 40 million teu at the existing facilities.

## Port updates

### ► CHINA'S COAL BAN

The Chinese government, in an attempt to raise coal prices and support the domestic mining sector, has banned coal imports at terminals built by provincial authorities. The ban is expected to affect 150 terminals attached to power plants, rather than the large hub ports that are the destination of most coal imports. With coal demand at its seasonal peak in July, the import restrictions have caused coal prices to jump and coking coal futures are up 8%.



# TRANSAS

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## Port updates

### ► MALAYSIANS CONFIDENT

The ports of Pasir Gudang and Tanjung Pelepas in Johor, Malaysia, are confident of reaching 9.5 million teu by the end of the year, even though handling capacity has gone down so far. Together, the ports handled 4.56 million teu in the first half of 2017, down from about 4.71 million teu in the same period in 2016. Over this period, volume, at 423,493 teu for Pasir Gudang, expanded 5.42% on 401,721 teu a year earlier. On the other hand, volume at Tanjung Pelepas declined by nearly 4%, from 4.31 million teu in the first half of 2016 to 4.14 million teu this year.



### ► CONGO DREDGING

Dredging International has won a USD40.7 million contract to dredge selected sections of the 4,700 km-long Congo River. The work will allow bigger vessels to dock at the inland ports of Matadi and Boma in Democratic Republic of the Congo. DEME, of which Dredging International is an affiliate, signed the contract with ICTSI, which owns 52% of ICTSI DR Congo, a joint venture of its subsidiary ICTSI Cooperatif and La Societe De Gestion Immobiliere Lengo (SIMOBILE), which operates the Matadi Gateway Terminal (MGT) at Matadi port.

### ► BREAST RENEWABLES

Work has started in Port of Brest, France, on a dedicated area for the marine-related renewable energy industry. The USD258.5 million investment will see 51.5 ha of land developed, 14 ha of which will be reclaimed. The contracts were awarded by port owner Région Bretagne.



APMT's Suez Canal container terminal. The company's average port revenue per move fell by 10% to USD178

# APMT volumes up, profit dips

APM Terminals (APMT) has reported an underlying result of USD98 million for the second quarter, a drop of 10% on the same time last year, despite a 4.3% rise in weighted throughput at its global terminal operations.

Impairments of USD250 million due to what it called "a few commercially challenged facilities" resulted in a net loss of USD100 million compared with a profit of USD112 million in the same quarter of 2016.

The global terminal operating arm of the AP Möller-Mærsk Group said it lost liner business at some of its terminals and rates were hit by industry consolidation and overcapacity in certain markets.

"The consolidation of container carriers through acquisitions and alliances continues to create competitive pressure on terminal operators," the company said in the results announcement. "While APM Terminals lost some services following the formation of THE and Ocean Alliance, volumes were positively impacted by the slot purchase agreements signed in

Q1 with HMM and Hamburg Süd, which give them access to certain services on the 2M network."

Revenue for the quarter was USD989 million, down from USD1.1 billion a year earlier.

Weighted throughput was 9.8 million teu compared with 9.4 million last year, mainly due to strong volumes at joint venture operations in China and ramping-up of business at new terminals. Like-for-like throughput was up 3.3% on last year, below estimates for global container terminal throughput growth of 4% in the quarter.

Average port revenue per move fell by 10% to USD178 due to "adverse currency developments in west African countries and partly due to lower rates offered to attract volume in key terminals".

Costs per move fell by 3% to USD168. Excluding newly operating terminals, average utilisation was 67%.

In its outlook, APMT noted firming global demand and projections for 4.1% growth in global terminal throughput for the full year with positive signs

coming from most world regions.

"Strong improvements are expected in Latin America, where growth is expected to increase from negative 1.6% to positive 4.1%, and west Africa, with growth forecast up from negative 4.9% to positive 2.0%."

APMT was affected by the cyber security breach that hit the Maersk Group at the end of June (see page 22) but the impact on business will not show until the third quarter.

Shipping analyst SealIntel said the disruption was relatively short lived from an APMT global perspective but noted that vessel handling at some terminals was affected more than others. From a vessel handling perspective, it said, the effect of the attack was not far outside the normal operational fluctuations, and APMT had largely continued operations as normal.

There were exceptions, however, such as at APMT's fully automated Maasvlakte II terminal in Rotterdam, where operations were severely affected. There were no new arrivals there from 29 June until 6 July.



# Cargo volumes up 17% at Dubai's Jebel Ali facility

Dubai's Jebel Ali Free Zone (Jafza), a subsidiary of DP World, announced growth in non-oil foreign trade by 17% from 23.9 million to 27.9 million tonnes in 2016, worth a total of USD80.2 billion.

"The value and volume of trade through Jafza underlines the strength of the national economy and its ability to adapt to global trading conditions, create investment opportunities, and open up new markets to exports from the UAE," said Sultan Ahmed bin Sulayem, group chairman and CEO of DP World.

Of the world's top 10 ports, Jebel Ali is farthest from a main world shipping route – in this case from Asia to Europe – making its continued success all the more remarkable. Jebel Ali, which opened in 1979, started with strong gateway volumes but eventually became the Gulf's undisputed transshipment hub, accounting for more cargo annually than the next three biggest regional ports.

China was Jafza's largest trading partner last year, with

USD11.3 billion worth of trade. In recent years, several Chinese firms from Ningxia Hui autonomous region have set up branches in the free zone to import halal goods from China, China's Xinhua news agency quoted Adil Al-Zarouni, senior vice-president for global sales at Jafza, as saying.

Saudi Arabia was Dubai's second-largest trading partner, with trade worth USD7 billion, while Vietnam was third with USD4.3 billion through the import of electronics and electrical appliances, followed by the United States, with a trade volume of USD3.7 billion.

Machinery, electronics, and electrical goods accounted for 49% of Jafza's total trade, as a result of high consumer demand in the sector. The petrochemicals, oil, and gas sector saw 16% of the total, fast-moving consumer goods 8%, textiles and garments 7%, and automotive and spare parts 6%.

Last year, Jafza's trade with the Asia Pacific region stood at USD32.4 billion, followed by the Middle East at USD27.2 billion,

Europe at USD9.9 billion, the Americas USD5.5 billion, and Africa USD5 billion.

According to official data, Jebel Ali acts as a gateway for more than 90 weekly services connecting more than 140 ports worldwide. The delayed Terminal 4 expansion is now understood to be once again under way, set to bring total handling capacity at the port to 22.1 million teu by 2018.

Jafza maintained a position as a preferred investment destination for large-scale industrial and commercial projects during the first half of 2017, attracting 267 new companies from 48 countries around the world, for growth of 6% more than in the first half of last year. Jafza leased more than 340,000 m<sup>2</sup> of space for various facilities in the period. Plots of land saw the letting of 318,000 m<sup>2</sup>, 11,500 m<sup>2</sup> of warehousing space, more than 2,000 m<sup>2</sup> of office space, and 3,700 m<sup>2</sup> allocated to showrooms.

Middle Eastern companies accounted for 59% of the new concerns that joined Jafza.

## Port updates

### ► LIVERPOOL PHASE TWO

Peel Ports Group, owner of Port of Liverpool, is to invest in equipment and port infrastructure works to expand the terminal at Liverpool2. The second phase will add 3 more ship to shore cranes (STS) and 10 cantilever rail-mounted gantry cranes (CRMG) to the existing 5 STS cranes and 12 CRMG cranes installed as part of Phase 1. The new facilities will be able to unload two 380 m vessels at once and additional reefer points are being installed.

### ► JNPT CARGO CHALLENGE

India's plan to speed up cargo clearances through Jawaharlal Nehru Port (JNPT) has challenged the precedent set up by bills of lading. The move deviates from existing global procedure and may affect liability for cargo damage. The introduction of the Direct Port Delivery (DPD) service was intended to speed up transport to pre-approved clients by delivering containers directly to them at the port itself, rather than to a container freight station on the port outskirts, where they would await clearance. Problems arose when containers were not cleared by DPD clients within 48 hours of their entry to the port's yard or entry was not granted by customs.

### ► TRANSNET CHIEF

Shulami Qalinge has been appointed as chief executive Transnet National Ports Authority, taking office on 7 July. She is the first female chief executive of the organisation. Qalinge will provide strategic direction and leadership and will oversee the operation of eight commercial ports with more than 3,500 employees. "She will also drive Transnet's overall strategy to ensure attainment of growth targets and compliance to the National Ports Act 12 of 2005," according to a company statement.

# Essar to build Mozambique coal terminal

Indian port company Essar Ports has signed a 30-year concession agreement with the Mozambique government to develop a 20 million tonnes/year coal terminal at Beira Port in southern Mozambique.

Essar will own 70% of the public-private partnership (PPP) project, with Mozambican government-owned Portos e Caminhos de Moçambique (CFM) holding the remaining 30%.

The first-phase 10 million

tonnes/year-capacity development is expected to cost USD275 million and will be built on a design, build, own, operate, and transfer basis.

CFM owns and operates the Sena rail line, which connects the Moatize coking coal basin in the Tete region with Beira Port. The capacity of the line has recently been enhanced to 20 million tonnes/year through a USD180 million investment, but in January-June coal exports

from the Beira port totalled just 1.14 million tonnes, well below the annual record of 4.90 million tonnes in 2015.

Other than attacks by rebel groups on the rail lines, which have slowed volumes in the past year, Beira is facing increased competition from Vale's new northern Nacala port, which exported 4.8 million tonnes between January and June.

No timeline for the development has yet been divulged by Essar.



# Keep ahead with the game-changers

How will ports fit into the shifting supply chain landscape and remain competitive?

**Sanne Manders**, COO of freight forwarder Flexport and member of the advisory board for Port of Rotterdam's port accelerator programme, PortXL, believes it's all about automated operations, data transparency, and a commitment to the environment

**A**s technology changes the way people purchase and consume goods, shipping demands are becoming exponentially greater. Consumers have come to expect deals such as free two-day shipping.

In order to offer the lowest prices and fastest shipping times, retail companies are cutting out the middlemen and entering the logistics space. Last year, Alibaba launched Alibaba Logistics, a service that handles end-

to-end shipping. Earlier this year, Amazon also announced an expansion into ocean and air freight. The online retail giant added freight forwarding and parcel delivery to its arsenal in an attempt to eventually unseat American behemoths UPS and FedEx as the pre-eminent full-stack delivery company.

It is now more important than ever that each link in the supply chain adapts, innovates, and adopts new technologies to remain attractive

to retailers and avoid replacement. Luckily, ports will remain an established partner for retailers because of the unlikelihood of new entrants. Ports have a geographic monopoly: they are already situated on major trade lanes and have established links to the nearby rail, truck, and air shippers. Ports have also invested billions of dollars into turning ships and containers around as quickly as possible and this ability was grown and refined over the course of decades. Neither





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of these strengths can be easily co-opted by a retailer looking to build its own port.

But that doesn't mean ports don't have to innovate. Ports are competing against each other to offer their customers the lowest costs. There are three ways to stay in the game: automation, data transparency, and reduction of their environmental impact.

From a cost perspective, one could argue that updating the world's ports with automation, software, and clean energy is just not realistic. At the terminal OOCL just opened in Long Beach, California, the capital expenditure to move from manned diesel cranes to fully automated electric cranes was about USD600 million, including a large IT expenditure that ensures the terminal continues to have up-to-date software.

TraPac's Los Angeles terminal was the first in the United States to automate both ship-to-shore and ground transport, also at significant cost. In the long run, making these updates saves ports much more than the initial cost, by reducing labour costs and improving efficiency. Cranes that run on software not only free people for other tasks, but also allow terminals to work more efficiently.

Not everyone is happy with automation. The greatest resistance comes from labour unions, which see their members' jobs at risk. While it's true that automation displaces some jobs in traditionally union-protected labour pools, it also generates job opportunities to develop and maintain technology. Beyond that, ports that work more efficiently will gain market share, which leads to the creation of more throughput and jobs.

Today, ports have little data transparency. Truckers at certain US ports face an average wait of about 100 minutes, with congestion problems a long-standing sore point for all involved. Truckers are forced to deal with inefficient processes to pick up their loads, leading to higher costs for customers.

Resistance to greater data transparency comes from a desire from some existing parties, such as port workers, truckers, freight forwarders, and other players to maintain the status quo.

Their view has been countered by arguments including that some truckers benefit greatly from long wait times because of hourly pay rates. Meanwhile, freight forwarders charge premiums and can blame inefficiencies and mistakes on the lack of transparency.

However, as terminals become more automated, more data will become accessible and reduce wasted time and inefficiencies. With a smarter digital infrastructure, terminals can speed up supply chains. By switching to

electricity as the power supply of choice, ports can lower operating and maintenance costs and reduce their environmental impact. Not only do electric, automated machines allow terminals to make higher margins by working 24/7 without breaks or holidays, but diesel-operated machines are also much more expensive to maintain.

They also cause air and noise pollution, directly affecting the local environment and potentially causing health issues for anyone living close to ports. Electric cranes reduce the emission of air pollutants by about 70%.

However, replacing diesel with electric-driven operations has high upfront costs and meets a lot of resistance as a result. Some of the benefits to making replacements are difficult to measure, and the potentially huge reduction in healthcare costs for those living near ports does not affect the bottom lines of companies operating and investing in them.

To drive this transformation, governments and port authorities should use regulation, taxation, and subsidies to make sure that investors are sufficiently incentivised. Without a vision and incentives to fund this journey, environmental impact is likely to remain a prisoner's dilemma.

In today's shifting landscape, ports will need to do some catching up to stay relevant and competitive. If ports commit to investing in infrastructure for environment-friendly automation and data collection and distribution, they will not only stay competitive for business but also help the supply chain ecosystem become more efficient as a whole. As ports become faster, cheaper, and safer to operate, they become interactive tools and more effective for their partner shippers and carriers. **PH**

**i MORE INFO:** [www.flexport.com](http://www.flexport.com)

Without a vision and incentives to fund this journey, environmental impact is likely to remain a prisoner's dilemma

**Sanne Manders**  
COO, Flexport



Flexport/5058684

# EU ports regulation countdown

Eagerly awaited new regulation is expected to widen opportunities for port services and grant greater autonomy, but has heightened concerns about governance, **Andrew Spurrier** reports

**T**he European Union finally has its long-awaited ports regulation. After 15 years of trying and two failed attempts at legislation, the new regulation came into force on 24 March 2017.

Nothing has changed as yet, as the new regulation will not actually be implemented until 24 March, 2019. Even after that date, however, it is unlikely to dramatically affect the functioning of European ports – something the sponsors of its failed predecessors seemed to promise.

The regulation aims to make ports more competitive by opening up access to port services, which are still run on a monopoly basis in many ports, and by introducing financial transparency rules, particularly with regard to port service and infrastructure charges and investment funding. But, to the regret of many shipowners, cargo-handling and passenger services have been left out of the scope of the regulation's provisions on free access, and the deregulation of access to pilotage services is optional.

On port financial operations, although the regulation sets out new transparency rules, particularly with regard to the use of public funds, it leaves the question of penalties for failure to comply with its stipulations to the governments of member states.

The effectiveness of the regulation will not be properly seen until its implementation in 2019, after national governments have had time to incorporate it into their own legislation. There are concerns that some governments will attempt to bridle the increased level of financial autonomy the regulation seeks to give port authorities.

The European Sea Ports Organisation (ESPO), which represents EU port authorities, has been a long-standing champion of greater financial autonomy for port authorities, arguing that this is the only way of reducing government involvement in port financing. Its secretary-general, Isabelle Ryckbost, told *P&H*, "It's a very flexible framework, which is good, but this also

makes it difficult sometimes, because you do not know if a member state will take the opportunity of the regulation to change a model."

She argued that some of the regulation's provisions would need to be clarified, particularly article 13, which deals with port infrastructure charges. Some port authorities had the right to impose their own infrastructure charges, but others did not, she said, and the article, as it stood, could be interpreted in favour of either approach.

ESPO described the regulation as an "acceptable compromise" and Ryckbost believes it will be implemented without too much difficulty, if only because its content is so flexible. "It frames some things ... it sets out some principles but it is not the straitjacket the original proposal was in many aspects," she said.

She argued that the regulation reflects the diversity of European port and port governance models. "It is so different, so it is very difficult to design a full framework for European ports as such because you probably have 20 or 30 kinds of European port," she said. "That is one of the things that has been realised during these 15 years. It has taken a lot of years to realise that this is may be the limit of what you can regulate."

However, private port and terminal operators' federation FEPORT has argued that the latitude the regulation leaves national governments and port authorities could cause problems, particularly with regard to port investment decisions.

FEPORT secretary-general Lamia Kerdjoudj-Belkaid warned, "You may have some governments that are going to take the opportunity of this text to introduce some rationalisation measures. Then it's for the best. And you will have some more conservative approaches that will tend to say 'we will keep things as they are' or, even worse, 'we will be less transparent.'"

She argued that the port authorities had sought to obtain greater autonomy but less governance





## Towards a transparent framework

The European Commission has put forward some likely benefits of the ports regulation when it comes into force on 24 March 2019.

- The port regulation introduces a framework to attract investments in ports. One of the issues holding back investments is the unclear conditions regarding public funding and charging of port infrastructure. Rules on transparency of public funding and port charges are introduced to ensure equality of opportunities for ports, help attract private investments and stimulate more efficient public investments. The transparency rules apply to port managing bodies, dredging, and all port services including cargo and passenger handling.
- It ensures an open and transparent access to the market for the provision of towage, mooring and bunkering services and the collection of ship-generated waste and cargo residues. It clearly sets out the terms and conditions under which any limitations may apply to the number of providers offering these services in a port. It introduces an open

tendering procedure for granting the corresponding exclusive or special rights.

- It contributes to high quality port services by defining minimum requirements, such as the professional qualifications of personnel and the equipment required to operate safely and comply with environmental provisions. Furthermore, the regulation defines the conditions under which public service obligations such as ensuring affordable and permanently available port service may be applied.
- The regulation enhances the governance of ports by strengthening the capacity of ports to define infrastructure charges according to their own commercial and investment strategies. It also makes sure that port users and stakeholders will be consulted on important decisions affecting port activities such as infrastructure planning or charging. It also creates a mechanism for handling complaints and settling disputes that avoids lengthy and costly litigation procedures.

through the regulation. That is a problem, as many port authorities appear to be looking to behave like companies without accepting company governance rules – notably with regard to accounting. “We need to separate what is actually commercial versus what is safety, security, and public-related,” she said. “This is absolutely crucial.”

The regulation provides for wider consultation of port users and other stakeholders in its article 15, but Kerdjoudj-Belkaid argued that this did not take sufficient account of the entrepreneurial role many port authorities sought to play. “If it is about promotion of the port, this is very welcome,” she said. “If it is about starting business in competition with private undertakings, this is problematic because it is a distortion of competition.”

The FEPORT secretary-general believes the European Commission could take the lead in creating guidelines to clarify the relationship between public and private-

sector port stakeholders, and ensure that the new rules are interpreted by national governments with consistency. Such guidelines would, among other things, provide for private-sector stakeholders to be consulted on such matters as major terminal developments and the introduction of new charges.

“The major projects in the port sector are receiving public money, European public money,” she pointed out. “The commission could start by saying that each time we are financing a terminal or a connection to a port, we would have a real impact assessment in terms of the competition that is created and the risk of distortion if a new terminal is built. Then we could prevent cannibalisation [of existing terminals] for instance.”

FEPORT plans to address this problem by pressing for the creation of a port governance sub-group within the new European Ports Forum, which the European Commission plans to set up to “facilitate” implementation of the ports regulation. **PH**

# Ports get help to follow the rules

A forum will facilitate implementation of the EU ports regulation, **Andrew Spurrier** reveals

It is perhaps a measure of the flexible nature of European Union regulation 2017/352 “establishing a framework for the provision of port services and common rules on the financial transparency of ports” and the challenge posed by its even implementation in the 28 EU member states that the European Commission has set up a new concertation body to oversee and support the process. The European Ports Forum is being set up by the commission’s Directorate General for Transport and Mobility (DG MOVE) and is still in the process of being constituted.

The commission told *P&H* that the forum’s main purpose would be “to promote, facilitate and support a uniform implementation of the regulation”. It said it would also support co-operation between the relevant authorities in member states on implementation questions and act generally as a platform for the exchange of information between member states, European organisations representing port stakeholders, and the European Commission on port policy.

Membership of the forum promises to be wide-ranging. The commission has set the number of members at 60 and indicated that these will comprise bodies representing port authorities, port users and service providers, port equipment manufacturers, port

employees, port cities, and environmental protection bodies. Also included will be member-state port-sector authorities and other public entities, including the International Transport Forum. Member-state authorities apart, members will be appointed by DG MOVE, which issued a call for application for membership in June.

European Sea Ports Organisation (ESPO) secretary-general Isabelle Ryckbost welcomed the decision to set up the forum, saying her organisation was always happy to see opportunities for consultation. She added, however, that ESPO was waiting for further information regarding the role of the forum, “how it works, what its agenda is, and what its purpose is.”

Lamia Kerdjoudj-Belkaid, secretary-general of terminal operators’ and stevedoring companies’ representative body FEPORT, already has an idea as to one task she believes the forum could undertake. She is concerned about the way the provisions of the regulation on port authority autonomy will be interpreted, notably by member states, and the governance problems it is likely to throw up.

FEPORT is pressing for a governance sub-group to be set by the forum to monitor implementation of the regulation with particular reference to the roles of public-sector port authorities and private-sector port operators of the kind that make up FEPORT’s membership. She argues that this is necessary to take account of the increasing propensity of port authorities to involve themselves in commercial activities, often at the expense of FEPORT members. **PH**

# A taxing issue for Europe

The European Commission has ordered France and Belgium to end tax port exemptions, **Andrew Spurrier** reports

**A**n ongoing debate regarding European Union (EU) state aid rules to ensure fair competition continued when in July the European Commission called on Belgium and France to cease granting their ports tax exemptions that it says run counter to the rules.

"From 1 January 2018, all ports are subject to the same corporate taxation rules as other companies," the commission announced in a statement. Its ruling follows one made against the Netherlands in January 2016 ordering it to cease exempting ports from corporate tax. The EU state aid rules were introduced to ensure equal trading conditions between ports in its member states. These are often in competition with each other.

The Netherlands, which has been under the commission's scrutiny the longest, was ordered to abolish the exemption from corporate tax it currently grants its six publicly owned seaports – Amsterdam, Den Helder, Groningen, Moerdijk, Rotterdam, and Zeeland Seaports.

The commission, which first asked the Netherlands to end the corporate tax exemptions enjoyed by certain Dutch public companies in May 2013, noted that the six seaports had been excluded from new legislation making public undertakings liable to corporate tax from 1 January this year.

In Belgium, the commission said, several sea and inland waterway ports, including Antwerp, Bruges, Brussels, Charleroi, Ghent, Liège, Namur, and Ostend, as well as along the canals in Hainaut Province and Flanders, were exempt from the general corporate income tax regime and paid tax at a lower level than

other companies in the country.

In France, 11 major ports, including Bordeaux, Dunkirk, La Rochelle, Le Havre, Marseille, Nantes-Saint Nazaire, Rouen, and the inland port of Paris, are currently fully exempt from corporate income tax.

The commission said it took the preliminary view that Belgium and France's tax regimes gave their ports an advantage that could be in breach of EU state aid rules. In particular, the tax exemptions do not pursue a clear objective of public interest, such as the promotion of mobility or multimodal transport.

It has proposed corrective legislative measures to bring ports' tax obligations into line with those of other companies. It has given the two countries two months to respond. If they do not accept the commission's proposals, it could start an in-depth investigation of the kind it has already carried out in the Netherlands.

Competition commissioner Margrethe Vestager said, "Ports are key infrastructure for economic growth and regional development. Recently, the commission has introduced new rules to save member states time and trouble when investing in ports and airports, while preserving competition".

These new rules, introduced in May this year, allow states to offer ports "unproblematic" investments that will not be scrutinised under the aid rules. States can invest up to EUR150 million (USD177 million) in seaports and up to EUR50 million in inland ports to cover, for example, the cost of dredging and infrastructure developments.

"At the same time," Vestager continued, "the commission decisions for Belgium and France, as previously for the Netherlands, make clear that unjustified corporate tax exemptions for ports distort the level playing field and fair competition. They must be removed".

The French transport ministry said it had noted the commission's decision but that the French authorities would save their response for a later date. It hinted, nevertheless, that it could oppose the decision. "They [the French authorities] will be looking to achieve a double objective: maintenance of fair competition between European ports and preservation of the French ports' economic model," it said.

It indicated that France had argued in favour of the exemptions on the grounds that the ports were public authorities carrying out public missions rather than simple commercial companies. **PH**

“The commission has introduced new rules to save member states time and trouble”

**Margrethe Vestager**  
EU competition commissioner



European Union 2014, 503851





# Disruption gives way to dialogue

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Spain's docker dispute has had a broader impact on European ports as one industry body encouraged wider strikes and stepped back from social dialogue. But talks look set to resume, reports **Andrew Spurrier**

**T**he recent Spanish ports dispute has made it clear and obvious that industrial relations in European ports have not yet been completely pacified. Spain's failure to abolish its existing dock labour scheme as per the December 2014 ruling of the Court of Justice of the European Union can be seen a specific set of circumstances.

Under the scheme, terminal operators are obliged to go through local companies called SAGEPs to get access to dock labour and even to take shareholdings in them. The European Commission, supported by the Court of Justice, found that this ran counter to EU treaty provisions for companies to have freedom of establishment. The issue was brought to a head in early 2017 by the Spanish government's decision to pass a decree to bring Spain into line with EU legislation while dockers' unions and terminal operators were in the process of trying to negotiate a

new EU-compliant dock labour scheme.

After a first unsuccessful attempt, the minority Partido Popular government succeeded in mustering parliamentary support to have the decree passed, but left it to the unions, led by the dockers' Coordinadora, and terminal operators' body ANESCO to negotiate its detailed application.

The talks led to a major split within ANESCO, however, as leading international terminal companies made it clear that they wanted to settle with the dockers, while other – mainly smaller – Spanish operators argued for local talks to reach agreement adapted to conditions at individual ports.

A number of companies have left ANESCO after the international groups started signing agreements directly with the dockers, notably to guarantee that the 6,000-plus stevedores employed by ports supervised by Spain's national ports body, Puertos

“ The social dialogue for ports belongs to all partners and this should be acknowledged and respected by all parties ”



del Estado, would be guaranteed security of employment once the new dock labour scheme came into force.

ANESCO has now accepted the dockers' demand for job guarantees and the two sides are engaged in negotiations on the detailed application of the new scheme. These are expected to be concluded by late September 2017.

The Spanish dispute has wider implications for European ports, however. Spanish dock disputes were supported throughout by the International Dockworkers Council (IDC) and the European Transport Workers' Federation (ETF), which called for industrial action by dockers internationally in support of their Spanish colleagues. The IDC called on European dockers to stage a two-hour stoppage on 29 June and to protest at the "ultra-liberal" policies it

said were being promoted throughout Europe by the European Commission. It added that it would rejoin the EU ports social dialogue committee, which it had been boycotting during the Spanish dispute with the aim of promoting "new changes that would benefit workers".

"The IDC completely opposes any attempts to increase job instability and precariousness in the ports along with any form of privatisation that opposes the interests of workers," it said, calling on EU member states to ratify International Labour Organization conventions 137 and 152, which deal with the social impact of new cargo-handling methods and dockers' health and safety.

The ports social dialogue committee was set up in June 2013 in what was widely interpreted at the time as a way of avoiding conflict with the unions over the European Commission's already proposed port regulation. It followed the decision to exclude cargo

handling from the scope of proposed measures in the regulation to open up access to port services.

The European Sea Ports Organisation (ESPO) and the Federation of European Private Port Operators (FEPORT) voiced their regret at IDC and ETF's decision to not partake in the last two meetings of the committee. They said in a joint statement in June that the absence of the two port workers' bodies had interrupted talks on training and qualifications and port health and safety, and forced postponement of a study on the "socio-economic impact of market-based and technological developments" in EU ports. "It is essential that the attendance to [sic] the social dialogue meetings does not become a matter of negotiation or a means of putting pressure at national or local levels," they said. "The social dialogue for ports belongs to all partners and this should be acknowledged and respected by all parties."

The secretary-general of FEPORT, Lamia Kerdjoudj-Belkaid, said that during the three years in which the committee had been in existence, there had been a major change of mindset among participants. Rather than simply presenting the demands of those they represented, they had begun talking about such subjects as competitiveness, productivity, and the challenges posed by increasing vessel size and automation. "There is a mind shift," she said, "and this is for me the most valuable outcome".

Surprisingly, IDC's general co-ordinator, Jordi Aragunde, agrees on the matter. He told *P&H* that the IDC wanted to pursue the discussions it had already begun with its partners on the social dialogue committee. He indicated that his organisation's decision to suspend its participation in the committee's meetings had been connected to its disapproval of the behind-the-scenes role it believed the European Commission had been playing in recent months against the interests of port workers.

The IDC will, therefore, be taking part in the next meeting of the social dialogue committee later this year in the belief that employers and port workers have a shared interest in discussing how to deal with change in the cargo-handling sector. "In the end, the challenges are the same for them and for us," he said. "If we have traffic, then it is good for everybody. If we don't have traffic, then it is bad for the companies and it is bad for the workers because we lose our jobs. We have to work together." **PH**



# Ports take their place in blockchain revolution

Ports and their supply chains are starting to realise the massive potential of blockchain technology to help streamline logistics, improve security, and transform the way global trade is carried out, **Stephen Cousins** reports

**P**ort of Antwerp is no stranger to the bureaucracy involved in container transport. Moving a box from A to B can involve more than 30 parties in the supply chain, hundreds of interactions, using email, fax, and phone, and enough paperwork to account for more than half the overall cost of the transfer.

In an effort to reduce its administrative burden and improve logistical efficiency, earlier this year the port initiated trials of a system based around blockchain, the disruptive digital technology behind the digital currency Bitcoin.

The port's proof of concept is built around an immutable digital ledger shared by a network of computer nodes (see page 22 for background on blockchain technology). It integrates communications between multiple members of the supply chain on a platform that is virtually immune to hacking.

Christiaan Sluijs, head of marketing and communications at T Mining, the software developer behind the system, told *P&H*, "By connecting all parties on an integrated system, blockchain helps

eradicate the need for interactions between many different legacy systems, such as EDIFACT messaging, email, or Excel spreadsheets. The network creates a high level of transparency so all parties can immediately identify the chain of custody, which helps avoid disputes."

Port of Antwerp is not alone in its experimentation with blockchain technology. Several major maritime businesses and organisations, including shipping giant Maersk, Port of Rotterdam, terminal operator PSA International, and freight forwarder Marine Transport International (MTI), are all either engaged in pilots or on the cusp of rolling out live applications.

Earlier this year, IT heavyweight IBM partnered with Maersk to build a blockchain network able to track millions of containers and potentially save the industry billions of dollars a year.

The aim is to create a global digitised platform that gives every stakeholder in the supply chain, including freight forwarders, carriers, and ports, end-to-end visibility of container locations at every stage in the documentation process.



Blockchain technology ensures that no individual party is able to modify, delete, or even append any record without consensus from other users on the network. This high level of transparency helps reduce fraud and errors and improves inventory management. In addition, the use of a single integrated system should help cut paperwork and the time products have to spend in transit.

This is no minor undertaking for Maersk, which has plans to manage up to 10 million containers, or one in seven of its entire haul, using blockchain by the end of 2017.

Port of Antwerp's blockchain trial starts small, but aims big. The proof of concept aims to solve the problem of how to authorise a truck driver to enter the port when collecting a container and is a collaboration between container carrier MSC, terminal operator PSA, a freight forwarder, and a transport company.

Under the port's existing system, a PIN code is generated by the carrier, then passed through the logistics chain, via the forwarder, to the driver. This process is cumbersome and carried out using a combination of email, fax, and phone, which introduces the potential for errors or a security breach.

"The way things operate it is still possible for organised crime units to penetrate IT systems and steal the PIN, or bribe individuals to get codes," said Sluijs. The blockchain solution, based on a 'permissioned' version of the open source blockchain platform Ethereum, digitally transfers the driver's 'right' to access the container yard via a super-secure distributed network of computer nodes.

The network employs a consensus algorithm, designed to ensure that any transaction – in this case clearance for the driver to access the container yard –

can only go ahead only if it is validated by all parties on the network. This excludes the possibility of fraud or tampering, and eliminates the need for a 'trusted intermediary' to manage the process.

The blockchain is linked to a smart contract, a computer code that defines what data and information is shared where, when and with whom on the network.

"The smart contract structure could enable a variety of other features or services in future," said Sluijs, whose company carries out the specialist coding. "It could be configured to block container release if an invoice is not paid, or if customs documents are incomplete. It could enable greater visibility of the utilisation of a container and the exchange of information on when a container will be returned, with the potential to lower cost for all parties involved."

Blockchain technology has been tried successfully by freight forwarder MTI to help transform administrative processes related to new International Maritime Organization verified gross mass (VGM) regulations, designed to ensure containers are loaded on board a ship, and for recycling transport.

The platform SolasVGM, developed with the big data company Black Swan, enables shippers to submit VGM information for containers direct to multiple carriers via a single digital portal, rather than having to submit data separately on different carrier systems.

The recycling proof of concept, launched in July, aims to connect parties in the recycling supply chain, including the port operator, haulier, shipper, and ocean carrier, via a blockchain system linked to FRED, the most widely-used recycling software in the UK. The platform instantly shares data that would otherwise





**Port of Antwerp is carrying out research into blockchain technology to improve logistical efficiency**

Port of Antwerp: 966938

need to be uploaded into the individual parties' systems, entailing dozens of emails and much paperwork.

"Our main achievement is to create trusted data on a network shared by multiple actors," said Jody Cleworth, founder of MTI. "The use of smart contracts eliminates the requirement for people to worry about who can see what information, because the network processes and communicates everything automatically."

According to Cleworth, the network encryption is so tight it would be faster to "count all the atoms in the universe" than the time it would take to hack.

The company has been working to adapt the system to integrate with legacy software communications protocols used by maritime players, such as EDIFACT, to make it more financially viable.

"Combining blockchain with EDIFACT enables us to augment the data to perform specific functions not possible with today's systems," said Cleworth. "Shipping needs a high volume and cheap method of communication. Our proof of concept is able to convey about 1.8 MB of data covering 44 different data elements."

MTI is about to move into production on a separate project using blockchain to co-ordinate the real-time communication of container loading on a network connecting a "few hundred load points" across the United Kingdom. As more projects demonstrate the efficiencies and security benefits of blockchain's distributed ledger, so the technology looks increasingly likely to live up to the hype, perhaps even outpacing the internet in terms of its value to maritime business. **PH**

## Blockchain: the background

Blockchain is a form of incorruptible digital ledger, originally devised for the digital currency Bitcoin, that records transactions in a sequence that can be viewed by anyone on a distributed network.

It is a form of database but, unlike conventional databases that store information in a centralised location and may therefore be targeted by a hacker, it is hosted by many computers simultaneously.

It is useful to think of blockchain as a spreadsheet that is duplicated and regularly updated across a network of computers. Any changes can be viewed immediately by all other users.

The system has built-in robustness. By storing identical blocks of information across its network, the blockchain cannot be controlled by any single entity and, similar to the internet, it has no single point of failure.

A blockchain network comprises multiple computing 'nodes' that each store the latest version of the digital ledger and regularly validate and relay transactions. The network lives in a state of consensus, automatically checking in with itself every 10 minutes to audit and

reconcile each transaction that occurs. Each group of these transactions is referred to as a block.

This set-up ensures transparency: data are by definition public and cannot be corrupted because altering any unit of information on the blockchain would mean using a huge amount of computing power to override the entire network. Blockchain is often described as a 'trustless' system because it is not reliant on any single company or authority to monitor, update, and distribute information.

Blockchain's digital ledger has become popular in the world of finance because it cuts out the need for a middleman to manage transactions. The R3 consortium, comprising about 70 members, developed the CORDA platform in an attempt to port the concept of blockchain technology to corporate banking.

Blockchain technology enables the coding of 'smart contracts' that automatically execute when specified conditions are met. For example, if the conditions of a bill of lading were coded into a smart contract, payment to the shipper could be authorised automatically when the cargo is delivered to the destination. The open

source blockchain Ethereum was built specifically to realise the possibility of smart contracts.

Public blockchains, such as Bitcoin, are often referred to as 'permissionless' because anyone can join the network, participate in the process of block verification to create consensus, or create smart contracts.

Many enterprises and industries are now developing 'permissioned' blockchains, which restrict the number of parties with the rights to contribute to the consensus of the system, validate transactions, or create smart contracts.

A permissioned blockchain has privacy benefits, in terms of restricting access to data within the ledger and only allowing approved parties to validate transactions. In this way, blockchains shift the lens from disparate bits of information held by a single owner. On the negative side, although the ledger is technically decentralised – the blockchain is running on spatially distributed data centres – it is still heavily centralised in terms of the reduced number of parties involved, which introduces the need for trust, something the original blockchain was designed to do away with.

# Artificial intelligence offers to solve port problems

A growing interest in using artificial intelligence is raising the possibility that ports, shippers, freight forwarders, and shipping lines can make vastly more informed planning decisions for moving cargo

**C**ompanies including Maersk, Panalpina, and Flexport (see Open Forum, page 10) are trying to harness the techniques of artificial intelligence (AI) – the use of computers to simulate human intelligence – to tackle a variety of industry challenges, with the help of IT companies such as ClearMetal and Maana. They are targeting issues such as how to pick the best alternative port when the original destination is blocked and better estimating the arrival time of a ship so logistical resources can be ready.

"In a world as complex as supply chains, with so many interdependencies between variables, there should be fertile ground for artificial intelligence," said Ryan Petersen, CEO of Flexport, which is working to incorporate AI techniques into its products. "Shippers will benefit from better decisions about when and how their cargo is shipped to lower working capital needs, transit times, or logistics spend, depending on their preferences," he said.

From a port terminal perspective, conversation about applying AI and machine learning (ML) to the terminal operating system (TOS) is becoming more common. "AI offers a lot of potential for the TOS, for sure," Yvo Saanen, commercial director at TBA Group, told *P&H*. "The question is whether terminals, which are already reluctant [to implement] existing technology, such as automated container grounding, or automated vessel planning, will quickly embrace such new technology."

Industry experts are not yet clear on future developments of AI in relation to a TOS. It could be at the heart of the system or it could play a more peripheral role. Scott Holland, vice-president of

global product management at Navis, believes there is ample evidence to suggest that in the next five years AI will be applied to the TOS to more effectively resolve some of the problems that we resolve today with traditional algorithms.

"Potentially, one way to help optimise the current algorithms is by using machine learning to improve the quality and kind of data that feed the algorithms or even deciding what strategy to use within the existing algorithms based on identified patterns over time," he said. "Right now, this is at the theoretical or proof of concept stage as the industry is still trying to identify the best problems to resolve with this technology."

“One way to help optimise the current algorithms is by using machine learning”

**Scott Holland**, VP of global product management, Navis

He cited exception handling as one area where it might be useful to look at applying principles and techniques of AI to learn and perhaps even improve upon human-machine interaction.

Another area where the potential of AI could be exploited is port and terminal connections to their hinterland. Industry experts concur that this could open up a host of possibilities. "Slowly, terminals are trying to connect to the hinterland, to get more grip on where a container is going, when it is going, and by which mode," said Saanen.

The more accurate real-time information that can be fed into a TOS, the better the decisions it can make. For example, it could get ready for ships and the trucks that are coming to the terminal to collect or deliver containers. "Patterns could certainly be identified within that data by using machine learning," said Holland, "which could prove beneficial for all the different parties involved in this ecosystem". **PH**

## AI and machine learning

In the logistics and shipping context, AI is currently most focused on large-scale number-crunching that can analyse and organise data from different sources, shape it, and then use it as the basis for decision-making, sometimes with reduced or no human input.

That ability is enhanced by 'machine learning', a subset of AI, in which algorithms analyse data and, based on the knowledge gleaned in the results, constantly adjust their logic to provide a more accurate analysis.



# Fighting the faceless criminal

Best practice is essential to mitigate against cyber crime as ports become more reliant on data, writes **Namrata Nadkarni**

**G**rowing digitalisation across the world's ports has multiple benefits, including greater reliability, decreased operating costs – although there is likely to be a high capital investment required – and increased transparency. “You cannot afford not to go digital; technology will be the name of the game,” CMA CGM CEO Rodolphe Saade told delegates at the TPM 2017 annual conference in February this year.

The ‘internet of things’ concept is commonplace and modern terminals are equipped with automated yard cranes that are not only able to adjust the velocity of the cranes in real time but also read container numbers and a lot more.

However, the flip side to this digital transition is the fact that the greater connectedness creates cyber vulnerabilities, which could seriously affect operations. A case that comes easily to mind is that of Maersk, which was brought to its knees by the NotPetya ransomware attack in June this year and anticipates a huge impact on earnings.

“Business volumes were negatively affected for a couple of weeks in July and, as a consequence, our Q3 results will be impacted. We expect that the cyber attack will impact results negatively by USD200–300 million,” AP Møller-Mærsk CEO Søren Skou said in its second-quarter interim report in mid-August.

As a large company that prides itself on its technical prowess, Maersk had made considerable investments in digital safety protocols but was still caught out by the attack. While it was able to limit

the impact of the cyber invasion, and has since adapted its security protocols, the fact is that we are entering a new area of risk.

“The maritime market is the most fascinating sector for cyber risk at present because of the speed of change it is undergoing and will continue to experience,” Steve Williams, a partner at consultancy Moore Stephens and leader of its governance, risk and assurance services, told *P&H*, adding that it had been difficult for insurers to keep pace with the changing landscape. “Insurers have been told by their regulators to beware of latent cyber risks ... but insurers are still struggling to come up with a clear definition of what constitutes a cyber risk.”

There are already instances where ports have been the victims of cyber infiltration. Port of Antwerp made headlines when it revealed it had been the victim of hacking by criminals who manipulated the system in order to steal containers filled with contraband including money and drugs at the port. The attackers manoeuvred around port authorities’ efforts over two years, up to 2013, to oust them. They used not just malicious software attached to emails but also physical devices that logged staff’s keystrokes and transmitting every word that employees typed to the hackers.

The port has since put in place the Antwerp Port Community System (APCS) taskforce to disseminate cyber best practice to companies operating on its premises while the port community set up the NxtPort initiative to connect all its logistics stakeholders.

## Cyber security guidance code for ports

The *Code of practice on cyber security for ports and port systems*, which can be downloaded from [www.theiet.org](http://www.theiet.org), was commissioned by the United Kingdom’s Department for Transport and prepared by the Institution of Engineering and Technology (IET). “

Cyber security should be considered as part of a holistic approach throughout an asset’s lifecycle,” the IET said.

This code of practice, which was designed for UK ports, provides actionable good practice advice on areas such as:

- Developing a cyber security assessment and plan

- Devising the most appropriate mitigation measures
- Having the correct structures, roles, responsibilities, and processes in place
- Handling security breaches and incidents
- Highlighting the key national and international standards and regulations that also need to be reviewed and followed.

Phil James, partner and head of marine at insurer Weightmans, pointed out that the code put into place a number of administrative requirements that may prove difficult to achieve in cases where resources are limited.

“The code suggests that individuals responsible for

cyber security at a port should be identified and formally designated as cyber security officers (CSOs). A port security committee could be created if one does not already exist. Where a port has established a port security authority (PSA) under the Port Security Regulations 2009, it may be appropriate to discuss cyber security matters at meetings of the PSA.

Ports should consider the establishment of a security operations centre and consider the arrangements for releasing information to third parties and for managing security incidents or breaches. These will be heavy burdens to discharge.”

"NxtPort is taking charge of the digital evolution and we are seeing how things can go smoothly when we share data," Annik Dirkx, representative of Antwerp Port Authority told *P&H*. "At the moment we have both APCS and NxtPort running as simultaneous platforms but, since both have the same goals, I think that in the next five years we will have just NxtPort as the digital platform for data sharing at the port."

While many individual ports have taken it upon themselves to create internal cyber security, it is worth noting that there is also an industry-wide effort under way. IAPH made a commitment to members in May when it agreed a resolution to gather and share information to protect ports against cyber attacks. Also, the *Code of practice on cyber security for ports and port systems* was launched in the UK last year to provide guidance to port employees tasked with protecting their facilities from cyber attacks (see box).

"Port facilities are now increasingly complex and dependent on information and communication technologies," Phil James, partner and head of marine at insurer Weightmans, said in a blog on the company's website. "This technology can be found in the fixed and mobile assets used to operate the port or remotely located in other systems used to schedule vessel and cargo movements

"A failure to address security risks could lead to serious personal injury or fatality, disruption or damage to port systems and operations, loss of use of buildings, loss of revenue, reputational damage, financial penalties, and litigation," he wrote.

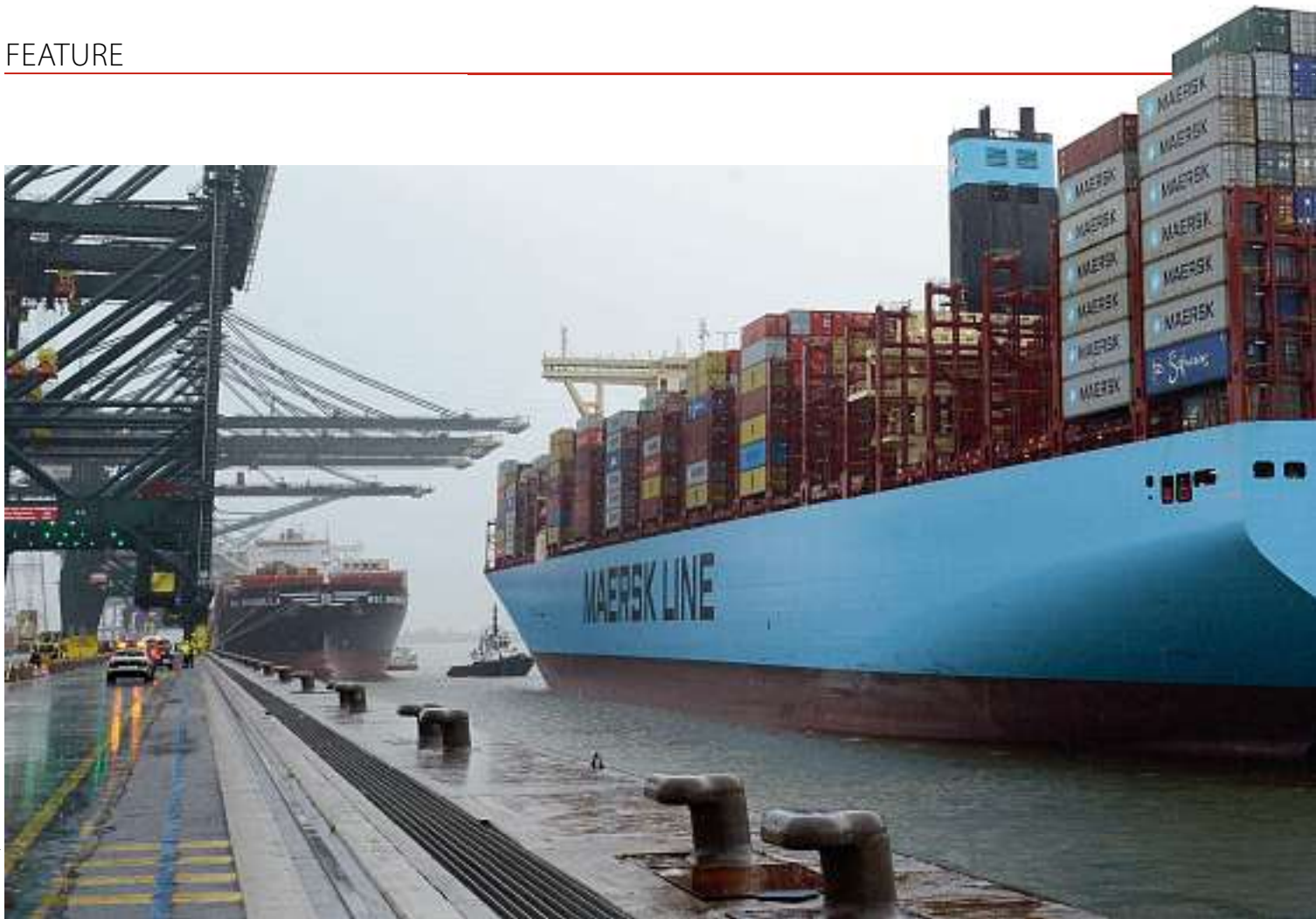
James also highlighted the importance of recruiting employees and contractors with integrity and loyalty to the port, as this would reduce the risk of cyber sabotage, and he underlined the importance of maintaining system integrity.

It is of note that, for ports, it is not just their own equipment that is vulnerable, but also that of their customers. Williams highlighted the risk that e-navigation may be compromised or fail on a large vessel, possibly resulting in a grounding and collision. A starting point for this discussion could be the impact of the grounding of 14,300 teu *CSCL Jupiter* at Antwerp. The vessel, which was stranded on the east bank of the Scheldt as a result of changing tidal conditions, blocked entry to the port for a day. Were multiple vessels to be attacked by viruses, the consequences of such a situation would be exponentially multiplied – and there would be potential for large-scale physical damage to port property.

The next few years will see the maritime industry as a whole do its best to adapt to the steep learning curve that rapidly advancing technology creates. While more attacks are inevitable across all sectors that are undergoing digitalisation, there is a silver lining for this cloud: ports will be able to draw upon the wealth of shared experience and learning points that will be quickly accumulated. **PH**



Getty Images: 5058737



Port of Antwerp p.5057132

# Ports turn to tech as ship sizes rise

Increasing pressure to handle container surges from larger ships making calls at peak periods is pushing ports to seek out technology solutions, reports **Greg Knowler**

**W**hen the 20,568 teu capacity *Madrid Maersk* called at Antwerp on 9 June, more than 7,000 container moves were made during its two-day stay. Dock workers at the Belgian port offloaded 3,000 boxes and loaded 4,000 more from the giant vessel in the time it was alongside.

These dramatic surges in container volume are now the norm at the world's gateway ports. Between January and May this year, Antwerp handled 43 ships of 18,000 teu and above, and terminal operators are constantly exploring ways to improve vessel

turnaround times and ease the flow of boxes.

Some of the investment being made in these hubs is in the form of infrastructure, such as lengthening and shoring-up berths, installing greater numbers of longer-reach gantries, or digging deeper approaches. However, digitising port operations and automation is being increasingly recognised as a key part of the process.

An industry leader in this technology solutions arena is Singapore, the transshipment hub of Asia. In January, the ministry of transport and terminal operator PSA signed agreements with Scania and Toyota for the development of an autonomous truck platooning system to transport containers between container terminals.

Singapore continues to seek out new ways to digitise its container supply chain and the city-state's Maritime and Port Authority (MPA), in June, brought together shipping industry players, technology start-ups, and venture capitalists to identify and develop new solutions.

Andrew Tan, MPA chief executive, said its Smart Port Challenge 2017 (SPC 2017) project was aimed at having new and existing start-ups research and develop innovative applications for IT solutions in the maritime sector, with the key proviso that they can be commercially applied.





by findings of the IHS Markit-JOC's Port Productivity Programme, which collects data from shipping lines operating more than 75% of global cellular fleet capacity. The programme found that by collecting and analysing data and developing port productivity metrics and tools for benchmarking, it could support efforts by carriers and other interested parties to enhance berth and port productivity, cut costs, and improve efficiency.

Calculations indicated that it should be possible for the time spent to handle 1,300 moves in port to be reduced from 25 hours to 18.3 hours. Based on 50,000 calls at the top 30 ports per year, if this number could be achieved, the global industry would save 335,000 hours per year of time spent in port. For each hour saved, carriers can save fuel by reducing speed, particularly on long ocean crossings, and IHS Markit-JOC calculations show the collective potential savings for the industry on fuel alone would be at least in the nine-digit range.

Automation of data-sharing between parties and the removal of manual input are important, especially at gateways serving mega ships with the surges in volume, such as Rotterdam, Europe's busiest container port, which handled 12.4 million teu in 2016.

CargoSmart is involved in helping Rotterdam digitise its business and connect its network of shippers, transport providers and depots to improve planning and shipping through the port's new online route planning tool, Navigate. The tool has integrated CargoSmart's deepsea vessel schedule data with its barge, rail, and truck schedules for shippers to find and compare routes. Incorporating the ocean schedules with the intermodal schedules allows the port to provide a complete picture of its logistics coverage for shippers. It also avoids the time-consuming task of obtaining and continually updating schedule data from ocean carriers.

In the United States, the Port of Los Angeles and GE Transportation launched a joint portal pilot project in May what aimed to harness big data. This will allow all members of the transport supply chain to identify their equipment and labour needs one to two weeks ahead of when the containers arrived at US ports.

The pilot project, which is expected to produce initial performance results in July, includes big stakeholders at the largest US port: APM Terminals, Maersk Line, Mediterranean Shipping Co., and national retailers such as Home Depot and Lowe's. If successful, the portal will improve shipment efficiency and potentially save participants millions of dollars in supply chain costs, according to GE Transportation.

Port of Charleston implemented a new automated gate system at the beginning of 2017, to make truck turn times faster and more consistent after last year's glitches that left trucks stranded outside the gates of the port's largest terminal for hours. Known as the 'advanced gate system', or AGS, it has been rolled out to manage traffic flow at many major ports worldwide, from India's Jawaharlal Nehru to Port of Virginia, where the system helps speed up and standardise truck turn times. **PH**

**Maersk Madrid in Antwerp in June: 300 dockers worked to load and unload the vessel during its two-day stay at the port**

The project is part of the MPA's wider industry transformation effort to develop an innovative maritime start-up ecosystem to take advantage of the growing application of automation, information and communication technology, and data analytics in the maritime industry.

Partners in SPC 2017 include Batam Fast, CMA CGM, Hong Lam Marine, Jurong Port, Kanlian, NYK Line, Pacific International Lines, Port of Rotterdam, PSA Marine, PSA unboxEd, Symphony Creative Solutions, and Synergy Marine Group.

The advent of technologies such as the internet of things (IoT), wider data analytics, and machine learning have created smarter ships, while carriers such as Maersk Line are looking into the development of blockchain (see pages 18–20) solutions to digitise, manage, and track shipping transactions that could potentially save the ports and liner industry billions of dollars.

In a recent study, Technavio quantified potential savings from data analytics, e-freight, web portals, and cloud-based systems. Enhanced operational efficiency, on-time delivery, and improved satisfaction could yield up to 12% potential savings for forwarders. Similarly, the World Economic Forum estimates that logistics savings of up to USD789 billion could be achieved by 2025.

Contributing to these immense logistics savings will be an improvement in vessel handling, borne out



## Maritime Silk Road paves way for sustainable future

Belt and Road could lay the foundation for sustainable ports and help counter the rising threat of protectionism on world trade, the IAPH president tells a forum in Ningbo

IAPH president Santiago Garcia Milà gave an opening address at the third Maritime Silk Road International Cooperation Forum in Ningbo, China.

Milà, who is deputy executive director at Port of Barcelona, sees many opportunities in the Belt and Road strategy and told delegates it was not only a geopolitical tool but could also deliver a major contribution to the sustainable development of global

cargo flows. Sustainability is a topic that IAPH members have been championing for some time and in keeping with this and the theme of the event – ‘New change in market, new development in port’ – Milà highlighted some of the many ways in which IAPH is addressing the changing dynamics at play on the world ports stage.

Ports, he said, should generate added value to the economy and to do that they need to be efficient nodes





**IAPH President  
Santiago Garcia Milà  
speaking at the  
third Maritime Silk  
Road International  
Cooperation Forum  
in Ningbo, China, in  
July 2017**

in the logistics chain. He believes logistics chains should contribute to sustainable growth based on three pillars: social, environmental, and economic. A lot of attention has, rightly, been paid to the environmental pillar, said Milà, but true sustainability is about integration with the economic and societal dimensions.

He took the opportunity to present the pioneering role of IAPH in 2008 when it created the World Ports Climate Initiative. This work will extend into what will be known as the World Ports Sustainability Program (WPSP) and will identify how the global port sector can contribute to the 17 sustainable development goals adopted by the United Nations in 2015, covering biosphere, society, and economy.

As interfaces between land and sea, ports are affected by and can address nearly all the challenges identified by the United Nations, from clean seas, air quality, decent working conditions, and economic growth, to sustainable cities and communities, industry, innovation and infrastructure, affordable and clean energy, as well as elimination of poverty, quality education, and gender equality, Milà told delegates.

These sustainable development goals also tap into the 'smart port' concept, which IAPH is actively promoting among all ports, large or small. "Digitalisation offers ample opportunities to make this concept work in every port across the globe. Being a 'smart port' is not about sophisticated, high-tech systems, but about pragmatic, everyday solutions that can increase the efficiency and sustainability of port operations," he told delegates.

Through WPSP – to be officially launched in Antwerp in March – IAPH aims to single out the most important opportunities arising from the UN sustainable development goals and set a series of ambitious targets for ports worldwide, Milà told delegates. The sustainable use of port capacities in the regions that Belt and Road covers – Asia, Europe, and Africa – is an essential factor in the success of the plan.

Belt and Road, he said, sends a very powerful message in support of free trade, which is "very relevant in times of rising protectionism".

This opinion was echoed by another speaker at the event, Tim Smith, chairman and chief representative of Maersk Line in north Asia. He believes Belt and Road and industry consolidation are two major factors that could counter the potential impact of protectionism.

Although the container shipping industry has been feeling the benefits of firmer demand in a strengthening global economy, Smith warned that the improvement in the business environment for container lines would be a gradual process and that there were significant concerns such as rising levels of trade protectionism and the falling ratio of world trade to GDP growth.

"Our business is global and relies on free trade for growth. Protectionism is not good for world shipping," he told delegates, adding that the current wave of industry consolidation was good grounds for optimism because it would ultimately bring greater stability to the market.

"Over the past two decades the industry has had three waves of consolidation but the latest is by far the most significant as 8 of the top 20 players have disappeared from the market in the past two years."

With plans to generate USD2.5 trillion in additional trade between China and Belt and Road countries over the next 10 years, the initiative would have a major positive impact on the global container industry, Smith said.

Belt and Road champions connectivity as the main enabler of trade growth and trade-driven prosperity. A 10% improvement in connectivity between countries along the route would deliver a 3% decrease in Chinese trade costs, which would in turn boost China's imports and exports by about 6% and 9% respectively, he noted. "It is a massive pump-priming initiative that will contribute substantially to helping shipping and transportation recover and to deal with the ongoing overcapacity issues."

Smith said the careful and systematic management of costs, as well as the digitalisation of processes, would be two areas of major focus for global container

“Digitalisation offers ample opportunities to make this concept work in every port across the globe”

**Santiago Garcia Milà**

*IAPH president*

shipping companies over the coming years. "Lower costs make carriers more competitive. It makes organic growth profitable, and it makes inorganic growth add value for shareholders."

Digitalisation would create new products and services to create and share value with customers, and technologies such as blockchain (see pages 20–22) had the potential to bring major improvements to the global industry, he added.

"Transparency reduces fraud and errors, it reduces the time products spend in the transit and shipping process, it improves inventory management, and it ultimately reduces waste and costs."

Referring to the recent cyber attack on Maersk Line, Smith acknowledged the challenges of doing business in an increasingly connected world. "We need to recognise the risks of cyber connectivity and we need to work together to protect ourselves."

As Milà pointed out, win-win solutions need to be found for the interests of ports, port cities, and the wider societies involved. **PH**





# Grand designs for development at PhilaPort

Authorities at Port of Philadelphia reveal their plans to drive forward development using a recent influx of state money, writes **Scott Berman**

**Port of Philadelphia is pushing ahead with plans to attract more vessels**

**E**xcavators recently spotted grading land to expand a vehicle-processing terminal are just one sign of changing times at Port of Philadelphia on the USA's Delaware River and its environs. *P&H* visited this state-owned US east coast landlord port, where officials see tantalising possibilities to build upon refrigerated, container, automotive, and breakbulk business.

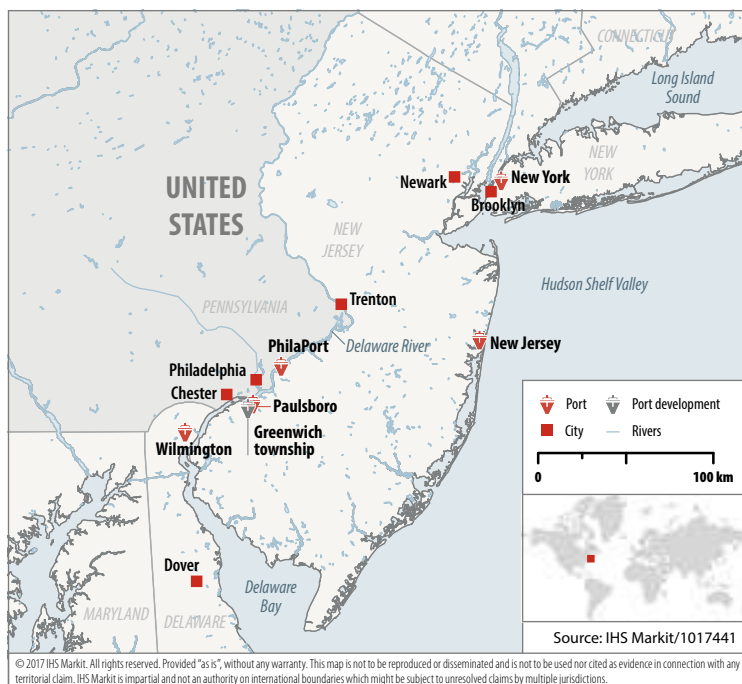
They are forging ahead with planning, acquiring land parcels and new equipment to significantly boost the size and efficiency of the port's container and car terminals and to continue upgrading its breakbulk terminal. The goals are competitiveness, jobs, and a revitalised economic engine driven by greater depths in the Delaware River, a growing regional distribution hub, and an influx of USD300 million in state money announced in November 2016.

These goals are driving development at this port – rebranded in May 2017 as PhilaPort – with about 16 terminals and other facilities, perhaps best known for handling refrigerated cargoes.

Fruit, cocoa beans, forestry products, and steel are among the key commodities, with pharmaceuticals, chemicals, wines and alcohol, vehicles, liquid bulk, project cargoes, and breakbulk also playing a role. According to the port, a full 50% of cargo tonnage, including increasing amounts of fruit, was in containers by 2016. However, the port has just a small share of the market for containers on the US east coast.

Various initiatives seem to be coming together for PhilaPort. Philadelphia Regional Port Authority marketing executives Sean Mahoney and Dominic O'Brien told *P&H* that the state money came as another important impetus for the port's development plans neared completion: the long-awaited USD392 million deepening of the main channel of the Delaware River.

The federal deepening project is taking the channel's mean low water depth from 12.1m to 13.7m, with work scheduled for completion in January 2018. Ideally, the project would have brought depths to 15.2m, but the deepening was decades in the making. Mahoney



explained that the new depth would meet the needs of port operations, which will schedule with the Delaware River's 1.8m tide to service ships that can efficiently operate in 13.7m. These include vessels plying the mid-Atlantic from Europe that offload some cargoes in Nova Scotia or New York before reaching Philadelphia. Others heading to Philadelphia through the Panama Canal first call with some cargoes at Houston, Savannah, and Norfolk, he said.

Citing a 2016 report in IHS Markit's *Journal of Commerce*, port officials see high land costs and low vacancy rates at warehouses in the New York metropolitan area as pushing developers to eastern Pennsylvania and southern New Jersey. This is another key factor in the port's development plans and it said there were now more than 300 distribution centres in the region, making it an "increasingly important" hub, not only for perishable cargoes, but dry cargoes as well.

The port touts various assets, and even its relatively small east coast stature, in the hunt for discretionary cargoes. The benefits it cites include Philadelphia's intermodal capabilities, such as a CSX (a US real estate company that includes a focus on railways) facility, near-dock warehousing and staging, and access to two interstate highways. It has an enviable situation: urban but with room to grow, and a smaller footprint, which helps enable truck turn times of 45–50 minutes, including queuing on surrounding streets, it says.

Thus, the port is building on what it has. And in the biggest move, its Packer Avenue Marine Terminal is being expanded using USD188 million of the total state package, along with USD78 million from the port. It will be equipped to bring the terminal's container capacity from 455,900 to 900,000 teu by 2019.

By 2019, PhilaPort plans to add cranes, improve the quay wall and yard, and add reefer plugs at Packer. The approach is about densification and more productivity on the existing and growing footprint. For example, the port has installed optical character recognition technology, moved car handling away the container terminal to open up more space for boxes, and announced in June that it had bought an 11.7 ha parcel for warehousing, with other land buys being discussed.

There are changes and upgrades to on-dock warehouses at Tioga Marine Terminal, which handles breakbulk wood pulp cargoes, to boost pulp capacity from 350,000 to 600,000 tonnes, by 2019.

Finally, the port is expanding the Philadelphia Auto Processing Facility, which currently handles about 155,000 Hyundai and Kia cars annually, adding 47 ha of space, renovating an old hangar on the site, and it has recently reactivated an adjacent pier to take cars. This is all part of an effort to double the terminal's capacity from 150,000 to 300,000 import/export vehicles by the end of 2017, and possibly as many as 350,000 later.

It's a busy agenda and much work remains but port officials are enthusiastic about the possibilities. A comment by O'Brien about the auto terminal is telling about the vision for the overall port. "It's about jobs and these are good jobs here," he said. "We think there's a lot of potential for growing this business." **PH**

## Regional competition

Philadelphia is part of a competitive regional scene and its rivals have been busy in various ways in recent years, including:

- Port of Wilmington, Delaware: The port recently restored and fortified a berth in a USD9.8 million project. Officials have also floated the idea of a major expansion of this port with container and auto berths envisioned. Fresh produce facilities will be enhanced to cater to major tenant Dole Food Company and the intention is to move facilities for cargoes, including steel, petroleum and cars, from the Christina River directly on to the Delaware River. Another nearby site has been identified for potential storage.
- Port of Paulsboro, New Jersey: A new port on the Delaware River, this was recently opened

for business on the closed site of a BP oil refinery. The port site was bolstered with road and rail connections after the 76.8 ha site was raised with dredged material. Russian steel manufacturer NLMK USA is the first tenant and its first shipment arrived in March 2017. Holt Logistics is the terminal operator.

- Greenwich Township, New Jersey: Fortress Investment Group subsidiary Delaware River Partners (DRP) is preparing plans to turn a long-shuttered DuPont plant into a river port and industrial park. According to local reports, DRP envisions an import/export port with cold and underground storage facilities. There is no timeline yet for construction, but a local planning board has approved two phases of the project.





NYK Barcode

Artist's impressions of LNG bunkers being taken at port of Zeebrugge's LNG terminal. A group of three shipping lines has taken delivery of an LNG bunker supply ship which will be based at the port

## Ports launch LNG bunkering

South Korea and Japan have launched plans to offer LNG bunkering by 2020, the date of the IMO global sulphur cap, joining Malaysia and Singapore, which recently started by offering truck-to-ship bunkering.

In South Korea, the state-run natural gas company, Korea Gas Corporation (KOGAS), is driving the infrastructure developments. KOGAS has signed a memorandum of understanding (MOU) with shipbuilder Samsung Heavy Industries, engineering and design consultancy KC LNG Tech, and class society

DNV GL to develop a protocol for LNG bunkering.

Truck-to-ship bunkering is already available in Incheon, while KOGAS plans to spend USD9 billion to develop ship-to-ship LNG supply in Tongyeong. After Tongyeong, the cities of Gwangyang, Boryeong, and Incheon are expected to see further development of LNG bunkering facilities. In August 2016, Ulsan Port Authority signed agreements with 14 public and private organisations to develop an LNG bunkering network in the port, which

has ambitions of becoming an oil hub in northeast Asia.

The South Korean government is also expected to place orders for LNG-fuelled vessels, a move expected to provide much-needed orders for struggling domestic shipbuilders. Discounted port charges and tax exemptions for LNG-fuelled vessels are also being considered.

As in South Korea, truck-to-ship LNG bunkering is already in place in Yokohama, but the Japanese port is also looking to implement ship-to-ship LNG bunkering and plans are afoot to upgrade the

Sodegaura LNG terminal in Tokyo Bay to supply LNG fuel to vessels by 2020.

Japanese shipping lines have been engaging in schemes to promote LNG bunkering. NYK, Mitsubishi, and Engie of France launched Gas4Sea to invest in LNG bunker-supply ships around the world. The group has already taken delivery of its first LNG bunker-supply ship this year – a 5,000 m<sup>3</sup> vessel to be based at Zeebrugge in Belgium.

Mitsui OSK Lines said in January 2017 that it had reached an agreement to launch a joint study of an LNG-fuelled Capesize bulk carrier with five other companies: BHP Billiton, DNV GL, Rio Tinto, Shanghai Merchant Ship Design and Research Institute, and Woodside Energy.

In May, Malaysian state-run oil company Petronas and its affiliated shipping company, MISC, said they had signed an MOU with Gas4Sea to promote LNG as a marine fuel. Petronas' LNG facilities would enable the company to offer LNG bunkering.

While LNG bunkering took off in Europe a decade ago in response to the implementation of emission control areas, the take-up in Asia has been slow because of the relative lack of environmental regulation and higher LNG prices.

## Singapore-initiated LNG bunkering port network gains three members

With the addition of three new members, there are now 11 ports and maritime administrations across regions in a Singapore-initiated focus group aimed at bolstering liquefied natural gas (LNG) bunkering efforts.

These new recruits are Port of Ningbo-Zhoushan, China, Port of Marseille Fos, France, and Port of Vancouver in

Canada. Ningbo-Zhoushan's participation was formalised on 10 July at a signing ceremony held on the sidelines of the third Port Authorities' Roundtable, organised by the Ningbo Municipal Port Administration Bureau.

In April this year, the group, whose members include Maritime and Port Authority of Singapore (MPA), Antwerp

Port Authority, Port of Rotterdam, Port of Zeebrugge, Port of Jacksonville, the Norwegian Maritime Authority, Japan's Ministry of Land, Infrastructure, Transport, and Tourism (MLIT), and Ulsan Port Authority, held its first meeting at Yokohama, Japan, agreeing to focus collaborative efforts on enabling global uptake of LNG as a bunker fuel.

## Notable numbers



# 705

Number of ships that have joined ESI since January

# 2024

Deadline for certain ships to comply with BWM regulation

# European emissions monitoring support goes live

A system has been launched at the European Maritime Safety Agency (EMSA) to help shippers calling at European Union ports monitor, report, and verify (MRV) their CO<sub>2</sub> emissions.

Under the EU's MRV regulation, which becomes mandatory on 1 January 2018, owners of all cargo and passenger vessels more than 5,000 gt calling at EU ports must register monitoring plans for each of their vessels.

The system, a module called THETIS-MRV within the THETIS information system that is already used for port state control inspections in the EU, has been created and implemented in advance of the January deadline to allow shipping companies time to establish their MRV plans and have them verified by one of the

recognised bodies operating under the system, EMSA told *P&H*.

"As from today [7 August], on a voluntary basis, companies may build their monitoring plans directly in the system while making it available for verifier's assessment," an EMSA official said.

Companies must monitor the CO<sub>2</sub> emission of each vessel under their control on a per-voyage and an annual basis.

EMSA said it had received a large number of enquiries from shipping companies in recent months, but that it had been advising them to wait for the system to go live to get the answers to their questions. This has now happened and the THETIS-MRV web-based application can now be accessed via [www.emsa.europa.eu](http://www.emsa.europa.eu).

The agency had been given the task of setting up a system for monitoring and reporting CO<sub>2</sub> emission data, annual fuel consumption, and other energy efficiency parameters by the European Commission's Directorate General for Climate Action. The two bodies signed a four-year co-operation agreement to this end in March 2016, shortly before the MRV regulation officially came into force on 1 July 2016.

The regulation provides for companies to submit verified annual emissions reports for each vessel under their responsibility to the European Commission and relevant flag state bodies before 30 April in the year immediately following the year in which the data have been

gathered. The commission must then publish the emissions and other relevant vessel data before 30 June in the same year.

EMSA said it believed the introduction of the system would encourage shipping companies to go beyond simple emissions monitoring and reporting. "The move is expected to encourage the uptake of greenhouse gas emission-reduction measures within the maritime sector, as the emission data will be made public and updated yearly," it said in a statement.

The regulation enjoins EU member states to set up a system of penalties for companies that fail to meet their obligations and warns that it will take the necessary measures to ensure the relevant penalties are applied.

## Ships still joining ESI

IAPH's Environmental Ship Index (ESI), a scheme that forms part of the World Ports Sustainability Program (WPSP) – continues to see more ships sign up, benefiting from incentives offered by providers such as ports that have signed up to the scheme.

From 1 January to 1 July this year, 412 ships with a score of 20 or more have joined the scheme – an increase of nearly 12 %.

Overall, 705 ships joined the scheme since the beginning of 2017, bringing the total to 5,804. An additional incentive provider has also joined, taking that

number to 50.

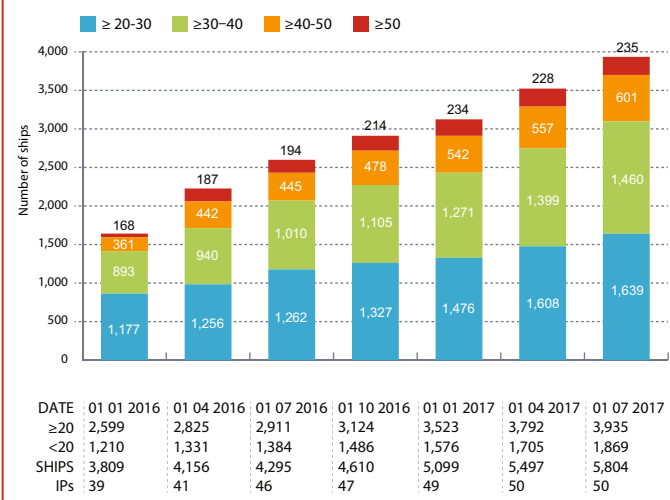
The ESI measures ships' emissions of CO<sub>2</sub>, SO<sub>x</sub>, and NO<sub>x</sub> using a formula that can be found on the ESI website and gives a score of between 0 and 100.

Over the past six months, 189 ships with a score between 30 and 40 points joined the scheme, more than in any other band. In the 20–30 points bracket, 163 vessels joined, 59 with a score of 40–50, and one with a score of 50 or more.

 **MORE INFO:** [esi.wpci.nl](http://esi.wpci.nl)



### ESI scores



\*Please note that the bars only show ESI scores over 20

Source: IAPH

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# 1 January 2018

Deadline for EU  
monitor, report, verify  
emissions scheme  
implementation



# 13.7 m

New depth for  
PhilaPort following  
dredging work



# Two-year extension for BWM systems

Since the Marine Environment Protection Committee (MEPC) 71 meeting took place in July, conversation has been dominated by the two-year extension deadline (to 8 September 2019) of the Ballast Water Management Convention for existing vessels. New vessels must adhere to the original 8 September 2017 enforcement date.

However, those shipowners that chose to decouple their International Oil Pollution Prevention (IOPP) survey over the past 12–18 months as a way to delay installing ballast water equipment for up to five years after the 2017 enforcement date do not benefit. The amended regulation stipulates that vessels that completed, or plan to complete, their IOPP renewal surveys between 8 September 2014 and 8 September 2017 must stick to the original schedule.

But vessels that are able to hold off decoupling and renewing their IOPP until after 8 September 2019 will have until as late as



Delegates at MEPC 71 last month agreed to push back ballast water deadline

8 September 2024 to comply with the regulation. “Those [shipowners] that decoupled get the benefit they got when they did so – buying time post-effective date,” according to Jeanne Grasso, maritime regulations specialist for law firm Blank Rome. However, she said, “They don’t get to get another decoupling benefit.”

Shipyards anxious to fill up excess dockyard capacity – or at least be able to better plan short-term retrofitting schedules – took issue with the implementation extension. Delaying implementation “cannot be read otherwise than to mean that those who have done nothing to reach the goals of the convention have been given more influence

in the process than those who have lived up to the objectives of the convention and those that have invested in the equipment and technologies to put the requirements of the convention in place”, according to a joint statement by the Community of European Shipyards’ Associations (CESA) and the Shipyards’ & Maritime Equipment Association (SEA Europe).

Christophe Tytgat, SEA Europe’s secretary-general, said that pushing implementation out to as late as 2024 delayed the regulation by 20 years since the convention was adopted in 2004, which creates environmental risks as well. It “will undoubtedly mean a further deterioration of the marine environment by invasive species coming from ships’ ballast water”, while putting out “a very wrong political signal”, he said.

MEPC also adopted a resolution on the “experience building phase” associated with the convention, which outlines “a rational explanation” of expected activities leading up to and following the convention’s entry to force this year. One of the activities considered was not penalising “early mover” ships that installed ballast water equipment in advance of the compliance date, but now find it does not work despite proper use and maintenance.

The US Coast Guard made a point of reminding shipowners during MEPC 71 that the United States was not a party to the IMO’s ballast water convention

## Busan may pre-empt global sulphur-fuel cap

Busan port may require ships to burn low-sulphur fuel as they enter the port before IMO’s global fuel sulphur cap of 0.5% comes into effect in 2020.

Busan Port Authority and other municipal authorities have submitted a proposal to the Ministry of Oceans and Fisheries, suggesting that Busan be designated an emission control area (ECA) that obliges ships to burn fuel with a

sulphur content of below 1%. This would be a gradual step towards complying with the IMO’s requirement.

Polaris Shipping is building a terminal that can supply LNG-based marine fuels to vessels in Busan in 2020. Busan, the busiest transshipment port in northeast Asia, expects that greater use of the Northern Sea route will facilitate greater LNG imports from Russia.

Busan authorities plan to build facilities that can analyse particulate matter in Busan North Port and Busan New Port. Similar facilities would be erected in other parts of Busan and the whole scheme could cost KRW338.3 billion (USD296 million).

The initiative is part of a city-wide plan to reduce pollution. South Korea has become one of the world’s most polluted countries, after smog levels rose to record high.



USD200–  
300 million

Potential Maersk  
losses through  
cyber attack

17%

Cargo volume  
increase at Jebel Ali  
in 2016

and that such leniencies may not be extended to vessels trading in the United States. US ballast water regulations went into effect in 2012. The agency's bulletin warned that shipowners must maintain up-to-date ballast water management plans specific to each vessel as per US regulations.

"These plans should include options for the master to consider if the [ballast water equipment] stops operating or becomes unexpectedly unavailable during a voyage and the need to contact the cognisant captain of the port or district commander as soon as possible to discuss options."

Violating US ballast water regulations "may result in costly delays, environmental deficiencies, civil enforcement action, and ineligibility for the QUALSHIP 21/E-Zero designation", the agency said.

Also on the agenda at MEPC 71 was the 1 January 2020 implementation date for the global marine fuel sulphur limit of 0.50% m/m. There had been concerns in some quarters about insufficient access to suitable fuel come that date. Nonetheless, the deadline remains.

An IMO statement said the Sub-Committee on Pollution Prevention and Response (PPR) had been instructed to explore what could be done to ensure the deadline could be met, and MEPC agreed that an intersessional working group meeting would be held in the second half of 2018 to discuss this.

## Cyber guidance puts ports in the picture

The US Coast Guard's (USCG's) new cyber risk guidance, rolled out on 12 July, is aimed specifically at port facilities and offshore oil platforms. It will be regulated under the federal Maritime Transportation Security Act, a 2002 law created in the aftermath of the attacks on the United States in July 2001.

Terminals affected by the guidance include those that serve foreign cargo vessels greater than 100gt and those that service passenger ships with more than 150 passengers.

Paul Thomas, the USCG's assistant commandant for prevention policy, revealed in March that the coastguard would begin strengthening its cyber risk oversight beginning with port terminals, potentially following up with vessel operators at a later date.

However, cyber connections between vessels and terminals are so intertwined that ships will benefit from any risk mitigation conducted among terminal operators, said Sean Kline, director of maritime affairs for Washington, DC-based Chamber of Shipping of America, which represents US and foreign-flagged vessel operators.

"Even though we're a ship operators' group, the [new USCG guidelines] are important to us," Kline said. "Any time a ship pulls into a port there's an exchange of data," whether it be through cargo stowage plans, crew status, or other information, "so it would certainly help the vessel operator to know, for example, if a particular terminal



**Cyber crime: insider threats are currently the main concern**

is operating a computer system that's not supported."

Kline added, "What everyone is concerned about now are insider threats from employees who innocently click on a link that causes malware to infiltrate IT systems and delete commercially sensitive files."

Among the recommendations in the new USCG guidelines, which were issued as a draft Navigation and Vessel Inspection Circular (NVIC), is a framework for establishing a cyber risk management team (CRMT). The guidelines note that a CRMT "with a variety of perspectives and expertise" is best able to identify safety and security critical systems, as well as recognise if those have been hacked by outside parties.

"While [IT] specialists should be part of this effort, they may not fully recognise the various operational systems on a waterfront, the potential consequences should they fail, or have an operator's perspective on potential non-technical [and lower cost] solutions," the NVIC

pointed out. "In short, a team consisting only of IT professionals will only identify IT-related threats and IT-related solutions."

A risk management team would therefore ideally include, in addition to IT personnel, facility operators, port engineers, industrial safety experts, and terminal facility security officers, the guidelines pointed out.

The USCG issues NVICs as policy guidance with the purpose of letting the maritime industry know the agency's expectations on a particular issue.

While NVICs can sometimes be precursors to more formal regulations, they cannot themselves be enforced as regulatory requirements.

The cyber NVIC, for which the coastguard has requested industry comment on the feasibility of the draft, (deadline 11 September), is not the first time it has published official guidance on cyber risk management. The agency issued its Cyber Strategy in June 2015, a document that outlines how it will address cyber threats.

# 2027

PSA's lease runs out at Pasir Panjang, already prompting redeployment of 500 staff in 2016



## 1 million teu

Djibouti's projected 2017 throughput





John Pignati 906338

From 1 October, ships will be required to submit a reporting form on when the hull was last cleaned

## Hull biofouling rules for California come into force

A regulation requiring vessels arriving at Californian ports to manage ship hull biofouling – when often unwanted organisms are transported to other areas attached to a ship's hull – was due to come into effect on 1 October 2017.

The regulation, Biofouling Management Regulations to Minimize the Transport of Nonindigenous Species from Vessels Arriving at California Ports, codifies into US legal procedures that many shipowners are already performing voluntarily, primarily as a means of allowing their ships to run more efficiently and burn less fuel.

Parts of the regulation are more

restrictive, however, than current industry guidelines. For example, shipowners will be required to submit an annual vessel reporting form 24 hours in advance of the vessel's first arrival at a California port during a calendar year. Information required to be submitted in the report includes listing the last time the ship's hull was cleaned during a scheduled drydocking and whether the vessel has recently visited freshwater ports.

In most cases this requirement should not be a problem, according John Berge, vice-president of the Pacific Merchant Shipowners Association, which represents vessel and terminal

operators on the US west coast.

Of the more than 250 non-indigenous species in California coastal waters, up to 81% are believed to have been introduced through ballast water and vessel biofouling, according to the California State Land Commission (CSLC), which will oversee enforcement of the regulation. The agency noted that non-indigenous and invasive species threatened California tourism and recreation industries, which represent nearly USD17 billion of gross state product.

It is estimated that there are more than 9,000 vessel arrivals at California ports each year. Monetary penalties for non-

compliance range from USD5,000–27,500 per violation, depending on the seriousness of the infraction.

Invasive species introduced through hull biofouling have been a concern within the commercial global shipping sector for more than a decade. The International Convention on the Control of Harmful Anti-Fouling Systems on Ships, known as the AFS Convention, went into force in 2008. The latest data from the International Maritime Organization (IMO) shows that 76 countries have signed up to the convention, representing a combined 93.7% of world merchant fleet tonnage.

While the AFS Convention regulates anti-fouling systems in order to prevent adverse environmental effects from the biocides that the systems themselves may contain, it does not stipulate how biofouling should be controlled and managed as a means of reducing the transfer of invasive aquatic species. The IMO has sought to address the issue through its biofouling management guidelines, which the organisation has been promoting through workshops in various regions of the world.

The IMO is looking to step up awareness and implementation of those guidelines among shipowners even further by partnering with the United Nations Development Programme on a biofouling management project. The GloFouling Partnerships project, which will focus on reducing trans-boundary invasive species in developing countries, was given "the go-head" for preparation on 7 August.



17

Climate goals set out by UN and which IAPH will align itself with

11

Members of a Singapore-initiated LNG bunkers network



Hufon + Crow: 5057299

The award winning Heydar Aliyev Centre was designed by Zaha Hadid and will be the main conference venue

# Baku: building hubs, accelerating connectivity

A message from the organisers of the 2018 IAPH Conference in Baku. The Belt and Road strategy will be one topic of debate at the event

Belt and Road, smart ports, and green ports are just three topics for discussion at the next big IAPH event. The alluring capital city of Azerbaijan – Baku – is hosting a diverse and thought-provoking programme at the IAPH Baku 2018 Conference from 8 to 11 May under the banner, 'Ports of Future: Building Hubs, Accelerating Connectivity'.

As the first port in the Caspian region ever to host this event, Port of Baku is poised to become a leading trade and logistics hub of Eurasia. With its strategic location at the crossroads of Europe and Asia, as well as with the new free trade zone currently being developed, Port of Baku is set to stimulate growth in the non-oil economy of the country by creating a stable and protected investment climate and attracting new sources of

foreign direct investment.

The four-day conference will give participants the opportunity to come together to debate important and thought-provoking topics such as emerging transport corridors along the Belt and Road initiative, the contributions of free trade zones to domestic economies and the economies of the neighbouring countries, and the concept of smart ports and green ports in the 21st century.

The conference programme

will be complemented by evening events, cultural programmes, and sightseeing tours. Tours to vineyards, the Baku Fire Temple, mud volcanoes, and a silk workshop offer an exciting sense of the exotic and are sure to leave an impression.

At the crossroads of Europe and Asia, Baku is easily accessible with direct flights from many cities in the European Union, Central Asia, Russia, and the Middle East. The country is stable and has reinvested much of its

recently gained oil wealth on developing a 21st century infrastructure that includes new roads, hotels, and state-of-the-art conference and sports facilities.

The capital, Baku, has been gaining attention in recent years, especially since 2016, when Formula 1 audiences worldwide caught a glimpse of the city. That year Baku hosted the European Grand Prix, with cars passing grand century-old Parisian-style apartments, a walled medieval inner city, and a range of modernist architecture. Baku's parkland promenade sweeps around a bay of clear water on the fabled Caspian Sea. At dusk, a trio of 30-storey flame-shaped skyscrapers appear to be burning.

Across town is a 21st-century landmark, the Heydar Aliyev Centre, designed by the late architect, Zaha Hadid. This iconic building will also be the main conference venue where the opening ceremony, forums, and various meetings of the IAPH Baku 2018 Conference will be held.

Located in the heart of the capital city and just a minute's walk away from the Heydar Aliyev Centre, is the Baku Congress Centre, which will be the exhibition venue. Completed in 2015 and designed by Austrian architectural firm Coop Himmelb(l)au, Baku Congress Centre is a multifunctional centre with well-structured but flexible rooms and extensive public areas.

Further information about all conference venues will soon be available at [www.iaphbaku2018.com](http://www.iaphbaku2018.com).

Visa rules have been radically simplified since January 2017 and with 50 direct flights and the promise of a highly relevant and interesting programme at the IAPH conference, there has never been a better time to consider visiting Azerbaijan.

Port of Baku team is looking forward to welcome you in Baku at IAPH Baku 2018.

## Early bird discount

Make sure you book early to enjoy the early bird discount at [registration.iaphbaku2018.com](http://registration.iaphbaku2018.com). Registration is very simple – in just couple of clicks you will be able to register yourself and your accompanying person, select your accommodation and the activities that you would like to be involved in, and provide additional information about your travel itinerary. A registration option with five-star hotel accommodation is also available.



# Visitors at the IAPH Secretariat

Dr Alexandre Lavissière, professor in strategy, logistics and international business at the Ecole de Management de Normandie, France, visited the Tokyo secretariat on 26 June. He was greeted by Secretary General Susumu Naruse and his staff. Dr Lavissière was on his way to Kyoto, Japan, to attend the IAME (International Association of Maritime Economists) Conference.

He also teaches at IPER (Le Havre Port Training Institute) and is a member of IAPH.

The following day, Irfan Rahim, head of Special Projects at the International Maritime Organization's Maritime Safety Division, also visited the secretariat.

Rahim and SG Naruse exchanged



Dr Alexandre Lavissière met Susumu Naruse

information and opinions on issues of mutual interest and discussed ways in which it might be possible to foster more collaboration



Secretary General Naruse and Irfan Rahim (left)






between the two organisations, such as at the 70th IMO Anniversary in 2018 and through the FAL Convention.

## Membership notes

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







### Regular member

#### National Port Authority of Liberia

 Address: Bushrod Island PO Box 1849, Monrovia, Liberia  
 Telephone: +321-886-957-569  
 Email: willida59@yahoo.com/willida56@gmail.com  
 Website: www.npa.gov.lr/  
 Representative: David F Williams, managing director







### Associate member

#### Novatug BV

 Address: Lemelerberg 7, 2402ZN Alphen aan den Rijn, Netherlands  
 Telephone: +31 172 533705  
 Email: joggel@novatug.nl  
 Website: www.novatug.nl  
 Representative: L Muller/P Nuijten, CEO  
 Nature of business activities: Development and provision of innovative tugs for harbor towage duties

### Temporary member

#### Terminals and Tanks Petrochemical Company (TTPC)

 Address: Unit 6, No8 Farshid Alley, Mola Sadra Intersection, Kordestan expressway, Tehran, IRAN  
 Telephone: +98-21-42579600  
 Fax: +98-21-88064031  
 E-mail: manouchehri.gh@ttpc.ir  
 Website: www.ttpc.ir  
 Representative: Mohammad Sharif Shahriary, managing director

## A new VP for Africa region

A new vice-president for the IAPH Africa region was officially elected in July 2017.

Hadiza Bala Usman, managing director of the Nigerian Ports Authority, was elected by the region's members. She was one of two candidates who applied for the position, following a call for nominations in June.



The voting was conducted by email ballot of all regular and honorary members in the region in July.

Usman was appointed as managing director of the Nigerian Ports Authority in July 2016. Prior to that she was the chief of staff to the Kaduna state governor, as well as a member of the Presidential Advisory Committee on Anti-

Corruption, appointed by Nigerian President Muhammadu Buhari.

She is a graduate of Ahmadu Bello University, where she was awarded a BSC in business administration in 2000. Nine years later she received a master's degree in development studies from the University of Leeds, UK.

Commenting on her appointment as vice-president of the Africa region, Usman said, "I will seek to strategically promote inter-port co-operation and collaboration among African ports to enable African ports to compete effectively in global trade, sound environmental practices in our ports, and participation of women in the industry."

 I will seek to strategically promote inter-port co-operation 

**Hadiza Bala Usman**

Vice-president for the IAPH Africa region



2017

2018

2019

# Dates for your diary

A selection of forthcoming maritime courses and conferences



## September

**Commences** Certificate in KPIs for Ports and Terminals  
**27:** Distance learning  
[www.lloydsmaritimeacademy.com](http://www.lloydsmaritimeacademy.com)

**28-29:** Baltic Sea Ports & Shipping  
(\*20% discount for IAPH members), Tallinn, Estonia  
[www.transportevents.com](http://www.transportevents.com)

## October

**1-4:** AAPA 106th Annual Convention & Exposition  
(3 October: IAPH Regional Meeting)  
Long Beach, CA, USA.  
[aapa2017.com](http://aapa2017.com)

**2-3:** WPCI LNG Working Group Meeting  
Amsterdam, Netherlands  
[www.lngbunkering.org](http://www.lngbunkering.org)  
(Please contact chairman Peter Alkema  
[peter.alkema@portofamsterdam.nl](mailto:peter.alkema@portofamsterdam.nl) for details)

**2-6:** IADC Seminar on Dredging and Reclamation (Singapore)  
Singapore  
[www.iadc-dredging.com](http://www.iadc-dredging.com)

**2-6:** ICHCA International Conference  
Las Palmas, Spain  
[www.etches.com/ichcaconference2017](http://www.etches.com/ichcaconference2017)

**2-13:** APEC Seminar on Port environmental policy & technology  
Antwerp, Belgium  
[apecporttraining.com/course/port-environmental-policy-technology](http://apecporttraining.com/course/port-environmental-policy-technology)

**10-12:** Port Investment and PPP Course  
Nairobi, Kenya  
[www.portfinanceinternational.com/pppnairobi2017](http://www.portfinanceinternational.com/pppnairobi2017)

**10-12:** TPM Asia Conference  
Shenzhen, China  
[events.joc.com/tpm-asia](http://events.joc.com/tpm-asia)

**10:** Green Port Cruise 2017  
Amsterdam, Netherlands  
[www.greenport.com](http://www.greenport.com)

**11-13:** Green Port Congress 2017  
Amsterdam, Netherlands  
[www.greenport.com](http://www.greenport.com)

**16-27:** Single Window Ports & Maritime Logistics Planning,  
Operations & Management  
London, UK  
[www.ttpminternational.co.uk](http://www.ttpminternational.co.uk)

**17-18:** African Ports Evolution 2017  
Durban, South Africa  
[www.portsevolution.com](http://www.portsevolution.com)

**17-19:** TOC Americas  
Lima, Peru  
[www.tocevents-americas.com](http://www.tocevents-americas.com)

**18-19:** British Ports Association Annual Conference 2017  
Poole, UK  
[www.britishports.org.uk/conference2017](http://www.britishports.org.uk/conference2017)

**23-26:** WMU Regional Alumni Conference for the Americas  
Lima, Peru  
[www.wmu.se](http://www.wmu.se)

**26-27:** 5th MED Ports (\*20% discount for IAPH members)  
Barcelona, Spain  
[www.transportevents.com](http://www.transportevents.com)

**20-1 Nov:** Port Week Conference and Bunkering Forum  
Johor Bahru, Malaysia  
[bit.ly/2vIXZw8](http://bit.ly/2vIXZw8)

## November

**6-8:** Ports and Port-Cities – Post 2030  
Malmö, Sweden  
[www.port2030.com](http://www.port2030.com)

**6-17:** Port Transit Transport Policy, Operations & Transshipment  
Hub Logistics Management  
London, UK  
[www.ttpminternational.co.uk](http://www.ttpminternational.co.uk)

**9-10:** CEDA Dredging Days 2017  
Rotterdam, Netherlands  
[www.cedaconferences.org/dredgingdays2017](http://www.cedaconferences.org/dredgingdays2017)



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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](mailto:ph@iaphworldports.org) and we'll be happy to include them



Wind of change:  
sustainability goals of the  
United Nations need to be  
translated for ports



## Scoping out IAPH's sustainable future

Patrick Verhoeven began his new position at IAPH on 1 September. He tells *P&H's* executive editor, **Nicola Good**, about his plan to create a strategy based on members' expectations and global drivers

Ensuring that the International Association of Ports and Harbors is visible and has a strong voice in global sustainability discussions is a key focus for the organisation's new managing director of policy and strategy, Patrick Verhoeven.

Recognising that IAPH was among the first maritime bodies to address climate sustainability issues in 2008 when it launched the World Port Climate Initiative (WPCI), the former European

Community Shipowners' Associations secretary-general intends to reassert the organisation's leadership position.

"The WPCI programme is nearly 10 years old now and the plan is to widen its focus to a World Port's Sustainability Program that goes beyond climate and is aligned with the sustainability goals set out by the United Nations in 2015," Verhoeven said.

"These goals – 17 in total – are

broad. They encompass environmental, social, and economic objectives. For us the challenge is ensuring that we translate these for ports. That is the homework to be done at the moment and we must again show leadership here."

The past few years have seen significant change within IAPH. The implementation of a new constitution and governance model, which included the

creation of Verhoeven's new role, has resulted in the association having a smaller board and clear regional accountabilities.

Foundations have been laid and priorities been set, so now is the time to make good and capitalise on all these changes, said Verhoeven, who is also charged with revitalising the organisation's membership.

"The needs of the IAPH members are extremely varied



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“The big question is how we can add value to our port members”

**Patrick Verhoeven**

*Managing director - policy and strategy, IAPH*



IAPH: 5068327

and we need to offer assistance that will cater to its specific audiences. The big question we need to address is how we can add value to all our port members. This will require a more tailor-made approach. The needs and interests of a small regional port can be very different from those of a global hub. That is a reality we must acknowledge and respond to.

“All should feel IAPH has something to offer them. Our role with the International Maritime Organization obviously caters for everyone but we need to find out more about what makes the ports tick and how we can ensure that all the connections we have at other international organisation such as the World Bank, UNCTAD

[the *United Nations Conference on Trade and Development*], and the ILO [International Labour Organization] for example, will work for them.”

Strengthening the membership base is at the top of Verhoeven’s job list as he takes office. At present IAPH has about 170 port members. Considering that Europe alone counts more than 300 ports of commercial interest, there is considerable scope for expansion.

“We need to find out why some ports are not or are no longer members. We need to ask them what would attract them to rejoin,” he said, adding that growing the membership would serve to draw more attention to IAPH and reinforce its voice in the

global discussions that affect the port industry.

So how exactly does the former ECSA secretary-general plan to do this, given that there is usually more crossover in shipowners’ needs while port requirements can vary significantly?

The maritime industry is ultimately a people’s business: you deal with people daily and are always looking for ways to make people work together, he said. “The change for me is that I will no longer just be focused on Europe, where you already have to navigate many national cultures. My focus will now be global and that will come with dealing with much more diversity. Listening to people and understanding what drives them will be essential.

“I will initially devote my time to finding out what people expect from us. Through extensive personal contacts and a small survey we should get a better understanding of what present and potential members really want. We can then use this information to develop a longer-term strategy, a business plan, and a communications policy,” he added. “I intend to present the board with concrete proposals on those by the end of the year.”

Verhoeven will continue to work from Belgium, where he lives with his wife and three children. While the official seat of IAPH is in Tokyo, he believes that being located in Europe will work

in a complementary way to the role of the secretariat.

“The IMO is in London, the International Labour Organization and UNCTAD are in Geneva, and the Organisation of Economic Cooperation and Development (OECD) is in Paris. I can easily be at their events and this should allow me to ensure that IAPH is at the centre of the action,” he said.

Verhoeven started his shipping career in the early 1990s and it is not the first time that he has had a leadership role in the ports industry, having worked at both the Federation of European Private Port Operators and the European Sea Ports Organisation.

For him, strategy is essential and he is quick to acknowledge how membership organisations have had to become more strategic in their operations in their ongoing drive for relevance. Given the changes IAPH embraced in 2015, this process is well under way and a new sustainability programme is will be launched in March next year in Antwerp.

Verhoeven is excited, and not just because it is happening on his home patch – the venue was decided before he’d applied for his role in January this year – but because these plans should enable IAPH to command a leadership position in the sustainability debate.

As a natural and willing communicator, he just cannot wait to share the message. **PH**





Griff Lynch: 5956304

# GPA dredging will offer more flexibility

Shipping industry trends play to the strengths of Georgia Ports Authority's single-terminal design, says the port's executive director, **Griff Lynch**

Georgia Ports Authority may have five terminals, but its entire container operation is handled in a single yard at the Garden City Terminal, the largest in the Western Hemisphere. We expect Garden City Terminal to surpass the 4 million teu mark this year.

Garden City Terminal has 26 ship-to-shore cranes working nine vessel berths on nearly 3 km of contiguous berth space and 146 rubber-tyred gantry cranes spread throughout the 486 ha terminal. The terminal's 48 truck lanes ensure cargo fluidity. These features were key to Savannah's successful, congestion-free handling of sharp volume increases due to the US west coast labour issues in 2015.

We have long touted the single-terminal design for its many operational efficiencies. A single container yard means more assets can be used at any given time. However, in this new age of carrier consolidation and growing ship sizes, a single-terminal yard becomes even more advantageous. Consolidated

carriers using larger ships equates to larger exchanges at fewer ports of call.

A year ago, the first 10,000 teu ships began calling at our port. In May 2017, 13,000+ teu ships started calling, and a 14,000 teu ship was scheduled to call as this issue of *P&H* went to press. In just one year, our average exchanges per vessel have jumped dramatically. Big ships mean even bigger moves. We're taking the necessary steps to better accommodate new-Panamax ships.

The ongoing Savannah expansion project will deepen the harbor to 14 m, with a high tide depth of 16.5 m by 2021. This will allow new-Panamax vessels to transit the channel with heavier loads and greater scheduling flexibility.

However, in this new age of larger ships, it is important to remember that landside infrastructure is just as important as deeper water. As the nation's fourth-busiest and fastest growing container port, we will continue to find ways to improve efficiency while growing sustainably. **RH**

“ In this new age of larger ships, it is important to remember that landside infrastructure is just as important as deeper water ”



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