March/April 2015 Vol 60 No 2

# PORTS HARBORS

Official Journal of the International Association of Ports and Harbors



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# ting to gas

Antwerp and Damietta demonstrate the vision needed for port growth

Photo: Carolina Lorenzo/Shutterstock

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#### COMMENT

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### Fighting disasters

Secretary-General Susumu Naruse reflects how members can react to recent depressing events

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



IAPH has, of course, nothing to do with international politics, but I still have to apportion blame to the terrorists for their brutal conduct. I sincerely believe that port state control should be more strictly imposed and the security measures at ports should be tightened so as to not allow cargo and passengers related to these vicious groups to move through ports.

We have seen many maritime disasters over the same period as well, including the sinkings of a cement carrier off Scotland and a bulk carrier off Vung Tau, Vietnam; an explosion of a Chinese product tanker; and all of which followed a deadly fire on the ferry Norman Atlantic at the end of last year. Since safety is one of the basic requirements for the transport industry, ports should evaluate and heighten their safety and security levels.

#### **G** Experiencing these uncomfortable and unusual events, I believe ports need to get back to basics

Some might wonder whether global warming is really ongoing because this winter has been extremely cold and snowy in some parts of the world. In fact, it was reported that throughout the US, average temperatures for this winter were 1° below the 20th century average.

Experts predict that cold winters paired with increasingly

warm summers may become the norm for a while but, eventually, cold winters may be driven by events such as La Nina and Arctic amplification (when sea ice melts, snow covering ice is replaced by dark ocean, which absorbs heat). According to NASA, not only was 2014 the hottest year on record, but nine of the 'top 10' warmest years since 1880 occurred in the first decade of this century.

Experiencing these uncomfortable and unusual events, I believe ports need to get back to basics:

- improve safety and security levels to provide reliable port transport
- combat environmental challenges, including global warming
- upgrade efficiency and cost-effectiveness.

Ports are an essential component of basic social infrastructure so while it may not be so easy to strike a balance between "safety, security and environment" and "efficiency and cost savings", they need to find sustainable solutions in order to serve the society of which they are a part. RH





#### Port **updates**

#### **BLEAVINS TO BE LA CFO**

The Port of Los Angeles has appointed Marla Bleavins as its chief financial officer. She will oversee the port's financial affairs, including accounting, financial management, debt and treasury, risk management, and audit functions. She will manage about 60 employees and report to Molly Campbell, deputy executive director of finance and administration.

According to the International Chamber of Commerce (ICC) International Maritime Bureau (IMB), attacks against small tankers off southeast Asia's coasts caused a rise in global ship hijackings, from 12 in 2013 to 21 in 2014, despite "piracy at sea falling to its lowest level in eight years" (see the Maritime Update pages for more facts and figures).

#### JAKARTA TERMINAL

PT Pelabuhan Indonesia II, Mitsui, NYK Line, and PSA International have agreed to jointly participate in the construction and operation of a new 1.5M teu container terminal at Tanjung Priok Port, Jakarta, Indonesia. With 850m of overall berth length and a 16m draught upon completion, it will be developed and operated by a newly established project company, PT New Priok Container Terminal One (NPCT1).

• GERMAN CHALLENGE Ports in the German state of Lower Saxony – including Wilhelmshaven, Brake, and Cuxhaven – had a challenging year in 2014 with volume gains in forest products, agri-products and vehicles largely offset by losses in containers and coal. Overall cargo throughput increased marginally to 46.4 million tonnes last year.



The planned container terminal in Corozal

# Panama plots new transhipment hub

A major new container terminal in Corozal on Panama's Pacific side has been discussed since early 2010. Five years later, this plan has finally been approved by the Panama Canal Authority (ACP), Greg Miller reports.

Additional approvals are required from Panamian cabinet and National Assembly before the project goes out to bid. As *P&H* went to press, those votes were still pending.

The plan calls for a 5.2M teu/ year transhipment hub with 2,081m of wharfage to be built in two phases on 119ha of ACPowned land. The site is on the east bank of the Panama Canal's Pacific entrance, near the Milaflores Locks. Like the Port of Balboa, which is on the same bank, the new terminal would have access to the Panama Canal Railway, which runs parallel to the waterway.

The first phase would feature 3.2M teu/year of capacity, 1,350m of pier and 69ha of yard space capable of handling three 'New Panamax' container ships (vessels that meet the dimensions of the expanded Panama Canal). The second phase would feature 731m of pier to handle two additional New Panamaxes, with 50ha of yard space, and capacity for an additional 2M teu/year.

Water depth would be 18m alongside the pier and 16.3m in the access channel. The terminal would be built using the 'Green Port' concept, with electrically operated equipment to reduce noise and environmental impact.

"Advancing the terminal in the Corozal region is a priority," said ACP administrator Jorge Quijano. "It is part of Panama Canal's goal to explore and develop areas, products, and services that are close to our core business and that add substantial value to our customers as a one-stop gateway with multiple services.

"This new facility will result in a significant increase in interoceanic cargo traffic, enabling the canal to add value to the route and consolidate Panama's position as an international logistics and maritime hub," said Quijano.

Once the Corozal project secures the necessary government approval, the ACP will begin a prequalification process "aimed at having the main port operators in the world present a proposal for the design, construction, development and operation" of the terminal, said ACP. The winning bidder would obtain a 20-year concession, plus a renewable option for an additional 20 years.

Despite the existence of multiple transhipment hubs in Panama (Balboa, PSA-Panama, MIT, Cristobal, and CCT), the ACP believes more capacity is needed after the expanded canal opens for business next year.

Indeed, the ACP's planned new toll structure for the reopened canal has been specifically crafted to encourage transits by the New Panamax vessels Corozal is designed to accommodate.

It would charge less per teu of total capacity for New Panamaxes larger than 6,000teu than it would for smaller, older Panamaxes and would charge less per loaded teu for New Panamaxes above 9,000teu.

This new facility will result in a significant increase in interoceanic cargo traffic **Jorge Quijano** ACP administrator

# Rail and port logistics tie-up

VTG and Brunsbüttel Ports have signed a co-operation agreement:

Under this, VTG's LNG tank wagons will provide "safe and environment-friendly rail transport and Brunsbüttel Ports will position itself as "the location for an LNG terminal in Germany to supply the shipping and industrial sectors

In addition, the co-operation agreement "should demonstrate the potential for supplying LNG throughout Europe".

VTG Aktiengesellschaft is a leading European wagon hire and logistics company, and Brunsbüttel Ports is owner and operator of the Brunsbüttel group of ports. The companies signed the agreement to reaffirm their commitment to develop liquefied natural gas (LNG) transport and logistics system.

"Together, we intend to use and extend opportunities for a land-based LNG supply across Europe from Brunsbüttel Port," said Heiko Fischer, CEO of VTG.

Brunsbüttel Ports has been pressing ahead with plans for its own LNG terminal, while VTG has developed and is building two tank wagon prototypes for transporting LNG.

"We can see great potential for synergies," said Frank Schnabel, managing director of Brunsbüttel Ports and the SCHRAMM group. "LNG is the ideal solution for environmentfriendly, sulphur-free ship propulsion. Furthermore, liquefied gas is emerging as an attractive alternative to pipeline gas for the industrial sector.

"A Europe-wide industrial supply, which extends to cover inland sites, is the fundamental precondition driving this development forward.

"Having an LNG terminal at Brunsbüttel ... and distribution by rail with the VTG LNG wagons, would ensure we can provide industry, as well as potential inland gas users with an efficient supply."



VTG's LNG tank wagons

#### More reclamation for Pulau Tekong

Singapore's Pulau Tekong is being expanded again, writes Crystal Chan. The Maritime and Port Authority of Singapore said the works on Pulau Tekong, one of Singapore's outlying islands, would last until 10 July 2015.

Two dredgers (*Toa Maru No 3* and *Ajia Maru No 2*), nine crane barges, 14 flat-top barges, 39 hopper barges, and three jack-up barges are among the craft involved in reclamation works, which are to be done by Japanese dredging company TOA.

The work will involve 24-hour dredging, construction of revetment, soil investigation, and soil improvement work. Stabilised dredging, sand piling, and deep cement mixing will be done to improve the soil. The dredgers will be used to build the bund within the working area.

Safety boats will be placed to warn craft in the vicinity to stay away from the reclamation works.

With an area of 24.43km<sup>2</sup>, Pulau Tekong is still expanding due to



An aerial view of Pulau Tekong and the military training centre

reclamation works on its southern and northwestern coasts. The island, off Singapore's northeastern coast, is used exclusively for military training.

Work to transform Pulau Tekong into a military training base began in 1972 when Singapore's first prime minister, Lee Kuan Yew, told the island's residents that, within the 10 years, it could be turned into an industrial site or used for military training.

In June 1976, the Port of Singapore Authority (PSA) announced a major reclamation project that increased Pulau Tekong's land area from 17.71km<sup>2</sup> to 21.71km<sup>2</sup>. Further land reclamation projects were carried out post-1976 and today the island's land area totals 24.43km<sup>2</sup>.

#### Port updates

#### **KNOWLEDGE SHARE**

Busan Port Authority has pledged to share its knowledge of port development and operations. It has signed a memorandum of understanding with Myanmar Port Authority for mutual growth and co-operation, following a visit by BPA president Lim Ki-tack to Yangon. The MoU contains various measures that BPA and MPA will implement jointly: these include port development, management, and operation, as well as co-operation, seminars, exchanging information and manpower regarding vitalisation of port-adjacent areas.

#### MORE MANILA CRUSH

Congestion and delays at the Port of Manila have significantly eased since the pre-Christmas import rush when ICTSI's terminal utilisation hit 110%, forcing it to 'park' boxes in roads and slipways. But some executives expect traffic congestion to recur once demand increases later this year, unless more action is taken to improve trunk links to industrial hinterlands.

#### **CHANGING PLANS**

Port development in Mauritius has taken a new turn with the December 2014 change of government. Mauritius Ports Authority (MPA) owns 58ha of reclaimed land adjacent to Port Louis's cruise jetty at Les Salines. Previously leased to Indian company Patel Engineering for \$600M, it has now been taken back to be used for port facilities, including a \$4.5M purpose-built cruise and ferry terminal with customs facilities and a duty-free outlet, due to open <u>by 2017.</u>



#### Port updates

#### FIRST AGREEMENT

The Maritime and Port Authority of Singapore (MPA) has signed a memorandum of understanding with ship classification society ClassNK to collaborate on maritime technology research and development with the aim of enhancing ship safety and environmental sustainability. In addition the organisations will work to promote and share maritime thought-leadership.

The memorandum was signed by Andrew Tan, CEO of MPA and Yasushi Nakamura, executive vice-president and representative director of ClassNK, marking the first agreement of its kind between the two bodies.



World's biggest container ship calls at Westports

### Port Klang hosts biggest box ship

In December last year, Port Klang in Malaysia added another feather to its cap after the world's largest container vessel *MV CSCL Globe* 

made its maiden call at Westports. The 400m-long 60-m wide vessel is bigger than four standard football pitches. It belongs to China Shipping Container Lines (CSCL) and is currently deployed on the AEX1 service connecting Asia and Europe.

The arrival of CSCL Globe was witnessed by Port Klang Authority

general manager David Padman, Westports Malaysia's CEO Ruben Emir Gnanalingam, and China Shipping (Malaysia) Agency's managing director Huang Bin. Mementos were presented to the captain of *CSCL Globe*, marking the port call and reinforcing the long-term partnership between CSCL and Westports.

"The partnership between China Shipping and Westports commenced about 17 years ago and we have grown our business together over the years," China Shipping Regional Holdings president Gu Jingsong said. "The maiden call of *CSCL Globe* at Westports is a milestone for us. It will further strengthen our co-operation with Westports as our shipping hub in this region."

Bin said, "I'm very excited to witness the maiden call of *CSCL Globe* and would like to thank



Westports for the job well done in handling this gigantic vessel. Operating the world's largest container vessel does not only help in promoting CSCL, but more importantly, improving our service levels and connectivity to our customers."

Gnanalingam said, "The maiden call of *MV CSCL Globe* came at a perfect time as we have recently completed our Container Terminal 7 (CT7), which increased our terminal capacity to 11M teu. We have the world's tallest ship-to-shore cranes in our CT7 to handle this 19,000teu mega-sized vessel."

The port is embarking on its Container Terminal 8 expansion and is expected to spend USD275 million over the next three years. Upon completion, the terminal capacity will increase to 13.8M teu.

#### Delays worsen at Oakland

Port congestion pushing southern California ports close to gridlock has stretched up the coast to the Port of Oakland. In February, America's fifth-busiest container port revealed that 10–12 vessels per day were waiting for berth space at its marine terminals.

In addition, vessels are arriving at the port late and off-schedule, due to delays at previous stops in Los Angeles and Long Beach. Cargo movement inside terminals has also slowed down, the port said, as truck drivers sometimes wait hours to haul away container imports.

"The impact is felt worldwide," the port said. "Global supply chains – especially between Asia and the United States – have been disrupted. Multinational companies are reporting lost revenue and increased costs because they can't get products from overseas sources to markets or manufacturing centres. Manufacturers are at risk of closing down assembly lines because they don't receive parts shipments."

The operators and dockworkers reached a tentative agreement over the dispute on 20 February. However it could take some time before operations have been fully restored..

A representative of Cargill, one of the world's largest meat exporters, warned a US Senate Commerce committee hearing earlier in February that, "if the crisis were resolved today it would take the company three to four months to work through its cargo backlog.

#### Port **updates**

#### WÄRTSILÄ'S LNG WAVE

Finnish power supplier Wärtsilä has announced a contract for 30 further 50DF dual-fuel engines for five Arc 7 design ice-class LNG carriers being built at the Daewoo Shipbuilding and Marine Engineering yard in South Korea. The vessels will serve the Yamal LNG project in northern Russia.

#### Dolphin code

Aberdeen Harbour – Europe's principal marine support centre for the energy sector in the North Sea and Atlantic Margin – has launched a vessel code of practice to protect bottlenose and other dolphins that live and feed by the harbour mouth.



#### OPEN FORUM



# Dialogue key to good civic relations

As project manager for Amsterdam's spatial planning and environment cluster, **Carla Jong** is at the cutting edge of sustainable port-community relations

B ecause of its strategic location on the busy North Sea and Rhine trade routes, close to Europe's largest consumer markets and production centres, the port of Amsterdam plays a key role in both the regional and Dutch national economies. The traditionally strong connection among the port, trade, and manufacturing industries, and involving logistics and business and financial services, is notable and distinctive.

Port of Amsterdam is looking to strengthen and enrich the adjacent region and maximise its potential. To achieve this, it is necessary to grow in a sustainable way and ensure financial and social value for customers, business partners, and for the port environment in its broadest sense. This way, we can continue to build a port which, in the 21st century, will continue to make a contribution to the international competitive positions of both the Amsterdam metropolitan area and the Netherlands as a whole.

Amsterdam is still growing. In such a successful and vibrant city with a dynamic port, we have a battle for space in a very high-density area.

This pressure is most intense on the port cluster along the North Sea Canal, which has given Amsterdam its main cargo outlet to the open sea since the canal was built in the 19th century. The opposing demands for space from residents and businesses have prompted city and port authorities to thrash out a vision for the canal's medium-term future, with the ambitious twin targets of doubling the cargo throughput to 125M tonnes in the existing port area while creating a desirable environment for 300,000 new houses by 2040.

The result, Vision 2030, has been reached in association with stakeholders including the port business community, special interest groups, non-governmental organisations, and government agencies. We felt such a mediumterm vision was needed in view of the rapid pace at which the world is changing.

For Port of Amsterdam's shareholders, Vision 2030 is an instrument that can be used to identify and keep track of the direction in which the port's developments are moving. For the port itself, it means creating a structure that can promptly address and adapt to new developments and innovations, accommodating both companies already operating in the port and new ventures

#### OPEN FORUM



attracted by the port's trade opportunities and pro-business stance.

For example, after municipal elections in early 2014, the new city coalition held talks with representatives of companies operating in the port area. A resulting agreement included a pledge that companies in the portcity area were free to operate until at least 2040. During that period, the City of Amsterdam undertook not to announce any new urban developments in the area.

The port has launched a process of enabling dialogues involving citizens, companies and government in the IJmond region to discuss environmental impacts, aimed at agreeing common solutions to the problems raised.

As regards plans already approved by the city administration, there is a strong demand for new housing in areas of the port that are no longer in use, for example, near the industrial port northwest of the historic city centre.

At these interfaces where industrial port and city meet, the port aims to foster dialogue between businesses and prospective residents. The latter are alert to the need to create good living environments so close to industrial processes; the companies have concerns that complaints from new residential areas will make it impossible for them to expand or even continue their current business processes.

An example of such a dialogue concerns a successful recent negotiation between civic and business stakeholders in the Houthaven area west of the city, next to the industrial port. The City of Amsterdam wanted to build more than 2,000 houses in a former port area that was within sight, sound, and – crucially – olfactory reach of a soyabean processing plant.

The company that owned the plant was concerned that the building of 2,000 new houses – with 2,000 potential complainants – would affect its licence and restrict its operations and expansion plans.

The owner fought a 12-year legal battle against being moved elsewhere, finally reaching an accommodation with city planners via a mediation process. That involved the installation of environmentfriendly odour-reducing equipment.

The compromise was praised by the mayor of Amsterdam as a shining example of the city and business working together.

The cost of the equipment was split 50-50

between the company and the housing association. The idea was sold to residents that when you buy a house you pay a small amount extra to improve your living conditions. It was a good solution that created interaction between the residents and the companies, not only to look for solutions for businesses, but also emphasising that citizens share a responsibility to pay for a better environment.

The dialogue over the Houthaven development has been so successful that the port hopes to apply it in the Zaanstad region to the northeast of the port. The area is located downwind of the industrial port area, so we in the spatial planning and environment cluster aim to find out how that affects residents and whether we need to make improvements.

For companies operating in the port, we must continue to offer conditions that ensure their long-term stability and profitability. Both companies and communities have an obligation to contribute their rightful share to a sustainable port that remains vital to the future prosperity of our city and the Netherlands as a whole. **PH** 

#### COVER STORY

# Stimulating growth

Port developments boom across Malaysia as its seeks long-term growth and competitiveness, reports *Titus Zheng* 

Malaysia needs to compete with successful neigbours P ort development is essential for Malaysia to stay ahead of the competition from other regional ports, such as Thailand's Laem Chabang or those from Singapore or Indonesia.

For instance, Port Klang is scheduled to expand its Northport Malaysia and Westports Malaysia terminals, with commensurate increased handling of teu to 20M by 2016. That could increase, according to the Port Klang Authority, to 30M teu over the next decade.

Similar port development plans are being drawn up across the country to stimulate growth and achieve long-term goals of increasing Malaysia's export volumes.

Jason Chiang, director of Drewry Maritime Advisors, particularly favours the growth of Port Klang due to its strategic location: near the busy Strait of Malacca, yet close to the centre of West Malaysia.

"The port [Klang] serves as the gateway to Malaysia," he told *P&H*, highlighting the port's importance to the country. He further noted that Klang's success is in line with the country's fundamental guiding principle of building ports close to urban centres or hinterland.

Chiang noted that the port complex was bordered by a commercial and industrial hub that is close to the country's capital and most populous city, Kuala Lumpur, and to the greater Klang Valley, which is home to approximately 6M people.

His view is complemented by terminal operator Westports' decision in November 2014 to embark on the next phase of growth – the Container Terminal 8 Expansion plan or CT8 – in view of increasing container volumes and high terminal utilisation rates.

The CT8 plan consists of constructing a 600m wharf,

with 14 ship-to-shore cranes, plus back-of-terminal facilities, including a second container gate, marshalling centre, and container freight station. An extensive yard, equipped with rubber-tyred gantry cranes, terminal tractors and trailers, will also be built.

Work for CT8 is expected to begin in early 2015. In Phase 1, a 300m wharf and its associated equipment is scheduled for completion by 2016; work for phase 2 is set for completion in mid-2017. The project will cost an estimated MYR1Bn (\$279.6M) in total, over the next three years from 2015 to 2017. The first year development alone reportedly cost about MYR400M. (\$110.7M).

The CT8 expansion plan should complement the recently finished expansion of capacity at Container Terminal 7 or CT7, bringing Wesports' overall capacity upon completion to a total of 13.8M teu.

Despite high captive volumes and healthy earnings margins, Chiang is excited about the new development plan initiated by Port Klang but feels there are limited opportunities for investments.

He suggests that port development on the eastern side of Malaysia – the Pengerang Integrated Petroleum Complex (PIPC) development located at the southeastern tip of the Malaysian peninsular – offers more investment promise due to lower market entry points.

The PIPC development involves another round of the grand strategic project endorsed by the Malaysian Federal government. The complex boasts two mega-projects:

• The MYR5Bn (\$1.38Bn) Pengerang Independent Deepwater Petroleum Terminal (PIDPT), a joint venture between DIALOG Group of Malaysia, Royal Vopak of Netherlands and Johor State Secretary Incorporated

(SSI). Upon completion by 2020, the terminal will have a total storage capacity of around 5M m<sup>3</sup>.

• The construction of PETRONAS's MYR60Bn (\$16.6Bn) Refinery and Petrochemical Integrated Development (RAPID) project. It includes a 300,000bpd refinery with related petrochemical plants, plus a LNG regasification terminal. At the time of writing, the \$486M LNG terminal construction contract had been awarded to South Korea's Samsung Construction and Trading.

Given its proximity to neighboring Singapore's major oil trading hub, Chiang felt the PIPC development upon fruition would stand to benefit in terms of oil storage capacity. The scarcity of land in Singapore has limited its oil storage space, while PIPC has no such problem.

On the other hand, Drewry's ports and logistics consultant Fang Fang has concerns about other port developments in the region. "Do not overlook the port development in Batam," she told *P&H*, suggesting that the Jokowi-led Indonesian government had development plans for Batam port that might tip the regional trading balance in its favour in the long run. For instance, she noted, transhipment volumes in Malaysia may drop as the Indonesian ports develop and handle their own transhipment cargoes. In the past, cargoes were first sent to Port Klang, Tanjung Pelepas or Singapore for transhipment before going to Jakarta, Indonesia.

However, Indonesia has plans to transform Tanjung Sauh port at Batam into an operational transhipment centre by 2015, reducing the need for cargo transhipment into Malaysian and Singaporean ports.

Mark Yong, director of BMT Asia Pacific, a risk management consultancy, shared Fang's concerns but believed port development in Indonesia was mainly driven by the need to tackle the country's domestic logistics costs. "Ports development aims mainly to reduce logistics costs in Indonesia," Yong told the recent Port Financial International conference in Singapore. He believes increased movement of goods with reduced logistics costs will benefit the whole region.

Yong also highlighted an interesting port development in east Malaysia in which BMT has a role: it is to design, construct and commission the conveyor systems facilities package for an advanced bulk-material handling system in Samalaju port. It will also provide technical assistance, an audit of the plant's final design, and systems' installation and commissioning support.

Phase 1 at Samalaju includes: a pipe conveyor approximately 2,000m long dedicated to handling alumina; 13 conventional conveyors making up three import systems for a range of materials; three stockyards; three stackers; and a control centre for the plant.

The development at Samalaju is part of the larger \$550M Sarawak Corridor of Renewable Energy (SCORE). Investors and companies involved in silicon, manganese, aluminium, ferroalloy, phosphate and coke processing are, or have been, drawn to the area to benefit from cheap available energy, such as oil and gas. The SCORE development plan encompasses a 320km area along Sarawak's coast, from Tanjung Manis to Samalaju, and extends to two rural growth nodes, Baram and Tunoh in the remote hinterlands.

Yong recalled that, prior to the port development – dredging work and port construction began in 2009 – areas around Samalaju were very inaccessible and remote whereas now the port areas are being transformed into a hive of business activities.

"We are seeing stakeholders such as Malaysian Phosphate Additive Sarawak, Elkem, Asia Advanced Materials, Asia Minerals, OM Holdings, Sakura Project (a Sumitomo joint venture with Assmang & China Steel), Tokuyama Malaysia and Press Metal Bintulu locating in Samalaju Industrial park," noted Yong, who suggested such companies were attracted by lower raw material costs and huge labour pools.

Despite the abundance of labour, getting skilled workers for port construction remains a challenge. Companies involved in the project have got around the problem by outsourcing and hiring skilled workers from their own countries. However, such moves are not well received by the local authority, which wanted employment for local workers.

Nevertheless, work on phase 1 is on track for completion by 2Q16, according to the Samalaju Port Authority (SPA). It says the current Samalaju port has a berth capacity of 18M tonnes – about half its completed total capacity. So far, six companies – Press Metal Bintulu, Tokuyama Malaysia, Pertama Ferroalloys (Asia Mineral Limited), OM Materials, Sakura Project and Malaysian Phosphate Additive Sarawak – have signed agreements with SPA to use the port facility.

"Work on Phase 2 onward will be developed when the demand and need is more certain," said Amar Awang Tengah Ali Hasan, the country's second minister of resource planning and environment. Meanwhile, the interim facilities' construction will carry on as usual.

Industry investors and observers continue to watch as Malaysia's various port developments follow market forces and trends to establish long-term growth. PH





# East Asian countries redevelop ports for public benefit

Ports in South Korea and Japan are incorporating residents' needs into their redevelopment projects and inviting public participation through the project planning stages, writes **Moyoun Jin** 

R equests from local residents for more waterfront provided a main catalyst for South Korea's first port redevelopment project, Central Bay, according to a panellist at a recent Busan International Port Conference.

Joongwoo Lee, professor at Korea Maritime and Ocean University, said the 12-year project from 2008 to 2019 to redevelop Busan's North Port can be considered a direct outcome of these submissions. Considering both public needs and ways to boost the port's competitiveness, the South Korean government decided to redevelop the area into an international hub of maritime tourism, business, and logistics. Upon its completion, the KRW8.5Trn (\$7.6Bn) project is expected to generate about KRW31.5Trn (\$28.5Bn), of economic benefit and 120,000 jobs.

"The project sits in approximately 1.53M m  $^2$  of land, which is comprised of the existing  $810{,}000{\rm m}^2$  coastal

EAST ASIA

area, with 720,000m<sup>2</sup> of reclaimed area," said Lee.

"In the centre of the project site will be large-scale waterfront parks for the public. In addition, harbour facilities – such as a marina and an international cruise terminal – will be built on the coastal area lying between those parks. Inland from the coast, a complex city will be developed.

"To date, most of the reclamation work has been done. Even during the process, the shape of the reclaimed land was changed [in response] to public opinion. The public wanted more eco-friendly areas on the site, rather than commercialised areas. In the end, waterways have been extended by more than 2km compared to the original plan."

According to the professor, public facilities will occupy 77% of the project land (1.17M m<sup>2</sup>), while the remaining 23% (357,619m<sup>2</sup>) will be commercial/ private areas.

In Japan, meanwhile, port redevelopment has responded to society's rising paradigm shift from 'growth in scale' to 'growth in guality'.

Another panellist at the conference, Satoshi Inoue, professor at the National Graduate Institute for Policy Studies, Japan, said the 'Port Renaissance 21' national port strategy launched in 1985 has brought large-scale port redevelopments throughout the country.

The strategy's most successful project is the 'Minato Mirai 21' redevelopment project – 'minato mirai'

translates to 'future port' – at the Port of Yokohama. Yokohama had two urban centres, about 2km apart, separated by an old shipyard that also distanced the sea from the city. To allow the two centres to combine, the city and the shipbuilding company agreed to relocate the yard to a new site within the port in 1980. The relocation was completed in 1983 and the project finished in 2010.

Designed to help decentralise Tokyo's overcrowded business and commercial activities, the project created a more attractive urban hub for working and living in Yokohama. In addition, the city aimed to transform the port's industrial areas into a public waterfront with high-quality amenities.

The 1.86M m<sup>2</sup> project – including 750,000m<sup>2</sup> of reclaimed land – allocated 870,000m<sup>2</sup> (47%) for urban amenities such as offices, shops, and housing, while the rest was used for roads, rail, parks, and wharfage.

With JPY1.92Trn (\$16.1Bn) of investment injected, the scheme now boasts a population of 10,000 as well as 1,720 companies with a total of 93,000 staff. In 2013, 72M people visited Minato Mirai 21.

As the project was initiated to build a better tomorrow for the public, Inoue suggested efforts should continue to build programmes to provide ways to enjoy newly created areas and to revive neighbouring areas.

"The redevelopment," he added, "is just a start." PH

**MORE INFO:** www.minatomirai21.com

#### COVER STORY

# China ports still expanding

In the face of a slowdown in throughput growth, *Dexter Yan* finds some Chinese ports less cautious than others about new developments

> fter a dozen years marked by new projects and expansion, some of China's ports are keeping their growth momentum by looking to areas that were previously under-developed. However, industry observers are worried that it will create or add to overcapacity.

> According to Xie Xie, a researcher with China's Water Transport Institute under the Ministry of Transport, the ratio of cargo handling capacity to throughput currently stands at 1.22. He told *P&H*: "The ratio means that there is a 22% capacity surplus in the port sector." This comes as most Chinese ports are already experiencing single-digit growth in throughput over the recent years.

> Therefore, some Chinese ports are holding back on expansion plans for the time being, as they forecast slower throughput growth continuing in the near future. Qingdao port, for example, has temporarily slowed down the building of the last six berths planned for the fourth-phase project at Qingdao Qianwan Container Terminal.

> Of those berths, four are, at present, under construction, with the other two waiting for the completion of survey work.

"As required by the company board, the six berths at Qianwan will be gradually completed on the basis of the company's business growth," said a company statement. "We will avoid shortages in business volume after the completion of the berths, which would impact our earnings."

NORTH

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250.2

Expansion plans are proceeding at Yangshan, Gaolan Port, the Luoyu terminal at Dongwu Port, and Shulanghu.

In December 2014, the fourth-phase building at Yangshan Deepwater Port, Shanghai, broke ground. This phase involves an overall investment of about CNY12.85Bn (\$2.09Bn) – adding five 50,000-tonne container berths and two 70,000-tonne container berths, as well as a work vessel berth to the 16 berths currently extending over 5.6km of shoreline.

It will have an automated terminal, because the fourth-phase site, located about 1nm away from the second-phase site, has narrow land depth and limited yard and transit capacity. Observers estimate that after completion the fourth phase is likely to accommodate just over 20 cranes and the total length of the berths will be 2.8km. The operator is expected to be Shanghai International Port Group (SIPG), with throughput capacity likely to be 6.3M teu. SIPG's annual throughput is likely be about 40M teu. The project is estimated to be completed between the end of 2016 and early 2017, said SIPG.

# R JAPAN

#### 🕆 Zhoushan

Max draught (port): 20m Max loa (port): 490m Max dwt (port): 270,000 Port facilities: Breakbulk, liquid bulk, container, ro-ro, passenger, dry bulk, LPG, drydock Current terminals & berths: 23 terminals, 72 berths Traffic figures: Approx 291,000,000t of cargo, 503,000teu and 6,746 vessels are handled annually

#### 🛡 Qingdao

Max draught (port): 20.5m Max loa (port): 265m Max dwt (port): 450,000 Port facilities: Breakbulk, liquid bulk, multipurpose, container, passenger, dry bulk, drydock

Current terminals & berths: 9 terminals, 60 berths Traffic figures: More than 450,000,000t of cargo and 15,000,000teu handled annually

#### 🗗 Yangshan

Max draught (port): 17.6m Max loa (port): no data Max dwt (port): 180,000 Port facilities: liquid bulk, container, LNG Current terminals & berths: 4 terminals, 24 berths Traffic figures: Approx 143,000,000t of cargo, 14,200,000teu and 10,000 vessels handled annually

#### 🕆 Xiuyu

Max draught (port): 15.8m Max loa (port): 193m Max dwt (port): 150,000 Port facilities: Breakbulk, liquid bulk, multipurpose, container, dry bulk, LNG Current terminals & berths:8 terminals, 26 berths Traffic figures: No data

#### 🕆 Thuhai

Max draught (port): 16.2m Max loa (port): 410m Max dwt (port): 200,000 Port facilities: Breakbulk, liquid bulk, container, passenger, dry bulk, LPG, LNG Current terminals & berths: 27 terminals, 80 berths Traffic figures: Approx 100,230,000t of cargo, 881,000teu and 6,400,000 passengers handled annually

Zhuhai city has begun a dredging project at its Gaolan Port area to deepen the main channel of the port to accommodate oceangoing vessels as large as 150,000dwt. CCCC Guangzhou Dredging, a Guangzhou-based subsidiary of China Communications Construction Company (CCCC), won the contract, worth nearly CNY1Bn (\$162.5M) with a building period of 18 months, in December 2013.

The major channel at the port will be 16.25km long overall and be dredged to between 19.46m and 20.26m deep, from just under 16m at present, and 230–290m wide, the company said. This will accommodate 100,000dwt vessels.

The dredging will remove 32.2M m<sup>3</sup> of material-using four 4,500m<sup>3</sup> trailing suction hopper dredgers. The dredged material is expected to be reused in a CNY1.1Bn (\$178.8M) reclamation project to create about 17,650m<sup>2</sup> of new land near the Gaolan Port area. The local government hopes this can be developed as a shipbuilding base in the future.

According to the port, the widened major channel is urgently needed, as large berths will be launched in upcoming years. The Gaolan Port area will comprise a dry bulk berth with capacity for 150,000dwt bulk carriers, a coal berth with capacity for 100,000dwt bulkers, a container berth with capacity for 100,000dwt box ships, and several other berths requiring a deepwater channel for operations.

In Fuzhou province, CCCC Fourth Harbour Engineering,

a subsidiary of CCCC, is contracted to build two ore berths at the Luoyu terminal in the Dongwu area of Putian Port, near the main channel in the Meizhou Gulf.

The two berths – No 9 and No 10, for 250,000dwt and 100,000dwt bulk carriers respectively – will cost CNY600M (\$97.5M). Building started in July 2012. At 661m in length, they are expected to be completed and launched for operations by the end of 2015. Another 250,000dwt berth and five 100,000dwt berths are planned as part of the future development of Luoyu. These are estimated to be completed and launched by the end of 2016.

Finally, in September 2013, the construction of an ore transhipment project broke ground at Shulanghu of the Qushan port area in Zhoushan city, in east China's Zhejiang province. CCCC Third Harbour Engineering, a subsidiary of CCCC, was contracted to build the project.

The plan is for two iron ore berths for discharging 300,000dwt bulk carriers, one berth for loading 100,000dwt bulk carriers and two berths for loading 50,000dwt bulkers. Other facilities will include a pier for work vessels and ore yards. Annual throughput capacity for the whole project, which will cover an overall area of 119.9ha along 1,705m of waterfront, is designed to reach 52M tonnes.

The project is expected to be complete by the time you read this, with pilot operations begun by the end of 2015. **PH** 

# Seabed keepers

Hydrographers work round the clock using cutting edge technology to ensure safe shipping in ports and harbours, *Zoe Reynolds* reports

> arbour masters, pilots, and port state control and customs officials who manage the increasingly big ships coming in and out of harbours are visible to all mariners, but not so the hydrographers.

> Behind their sophisticated computer systems onshore and on vessels, hydrographers constantly map and keep watch over shifting sands and mud banks, flood debris, and depths that pose dangers to shipping.

> As vessels get bigger, it is the hydrographers' job to map the best channels for dredging.

Hydrographic survey in Australia is divided into two areas: the Australian Hydrographic Service is responsible for offshore areas and shipping channels, while ports are responsible for the respective harbours. Hydrographers' role is even more crucial where ports border the Great Barrier Reef.

Measuring the pings is a phenomenal amount of calculations. Our computers do 8Bn a second — they heat up

Queensland's major coal ports – Abbot Point, Gladstone, and Hay Point – are located between 15km and 150km from the Great Barrier Reef, while the Port of Brisbane lies some 300km south of the Reef.

Maritime Safety Queensland sets the Hydrographic Survey Standards for Queensland's commercial ports.

The standards also set out a risk management approach to determine the time interval surveys required to be carried out at ports. This is executed through regional harbour masters.

"Our Hydrographic Services section conducts surveys, when requested, on a commercial basis for ports that don't have their own survey capability," a Maritime Safety Queensland spokesperson told *P&H*. "We also maintain a Hydrographic Survey emergency response capability."

This emergency response was demonstrated in the 2013 Bundaberg floods, which reduced the underkeel clearance depths at the Port of Bundaberg by up to 4m.

Maritime Safety Queensland also requires regular surveys at ports to ensure shipping channels, swing basins, and berths remain safe for shipping.

Giles Stimson, manager of Hydrographic Solutions at the Port of Brisbane, told *P&H* that his team does around 1,000 hydrographic surveys a year – with about 200 commercial jobs for external clients all the way up the coast and around 800 within the port. About 80% of surveys are dedicated to navigation safety.

"There are nine of us in the team with 170 years of experience between us," he said.

Equipped with the latest state-of-the-art gear, Hydrographic Solutions carries out rigorous scheduled work with the harbour master for repeat surveys. Its high-resolution multibeam system's 512 beams are capable of pinging 50 times a second.

"Measuring the pings is a phenomenal amount of calculations," says Stimson. "Our computers do 8Bn calculations a second – they heat up," he said, adding that all that data goes to the harbour master and the dredging team.

The service focuses on maintaining the main deepwater channel's draught to 15m, ensuring there is enough water for vessels to navigate upriver 15km from the Fishermen's Island Terminal to the cruise terminal. Surveying also goes 90km out to Mooloolaba on the Sunshine Coast.

As well as monitoring underkeel clearance, the group of nine hydrographers and three vessels also engage in a "huge amount" of surveys.

"We sent a team of surveyors to Karamba in the Gulf of Carpentaria for three months to support dredge work," says Stimson. "A lot of the work we do is for the state government, councils, consultants, dredging companies, and even property developers."

During the big floods of 2011, which devastated Brisbane, Stimson's team did 400 surveys to detect silting and objects posing a threat to shipping.

"We uncovered 245 objects in the first week, including sunken yachts, pontoons, water tanks, containers, and concrete moorings with vessels still attached," he said. "There were trees in the hundreds, cars, fridges; you name it, we saw it."

Work is not just confined to bathymetric surveys, but also includes environmental surveys, habitat mapping, and 3D imaging. Acoustic signals and back scatter measure the roughness of seabed; magnetometer surveys pick up magnetic objects such as lost anchors.

Hydrographic Solutions also acquired a sidescan sonar system (similar to that employed in the search for the missing Malaysian Airlines Flight 370), but has yet to deploy any autonomous underwater vehicles (AUV).

Surveying includes water column data to measure fish and seaweed mass, as well as sub bottom profiling, penetrating below the seabed to detect submerged pipes and buried wrecks.

"We're trying to push the bounds," says Stimson. "We are now doing combined multibeam with vesselmounted laser surveys. It gives you a 3D model of the port all the way to the surface, from sea bed to the top of the shore cranes." **PH** 

# Qingdao quits joint venture

Hong Kong-listed Qingdao Port International pulls out of an eight-year-old terminal operating joint venture, **Dexter Yan** reports

> n 2007, Hong Kong-listed Qingdao Port International (QPI) and Rizhao Port set up a 50/50 joint venture with a registered capital of CNY950M (\$154.3M) to develop container terminal business at Rizhao Port. The co-operation was intended to help Rizhao's box terminal business by tapping Qingdao's expertise in this area.

> Chinese ports are reconsidering their expansion plans due to the economic slowdown. Now, QPI has put its 50% stake in Rizhao Riqing Container Terminal for sale at a knock-down price of CNY639.1M (\$103.5M), according to the Qingdao Property Exchange. Rizhao Port Group has confirmed that it will maintain its preferential right to take over the 50% stake.

> Rizhao Riqing currently operates two container berths with an aggregate designed annual throughput capacity of 400,000teu. The berths are located on the southeast coast of Shandong province, approximately 200km south of Qingdao Port. Despite the proximity, the ports have developed to serve different markets since the beginning of their co-operation.

> Rizhao Riqing's operating performance has held steady during the past two years, with the majority of business originating from cabotage trades, according to China Ports and Harbours Association statistics.

> For the first nine months of 2014, Rizhao Riqing's profits rose 22% year on year (y/y) to CNY17.4M (\$2.8M), with revenues up 19% y/y to CNY104.6M (\$16.9M). During the same period, Rizhao Riqing's container throughput increased 0.3% y/y to 1.2M teu, with the





box throughput in domestic trade accounting for 96.4% of total box throughput of the terminal.

In contrast, Qianwan Port's box-handling business is much more developed. In the first nine months of 2014, throughput at Rizhao totalled 1.8M teu, while Qingdao handled 12.5M teu. In addition, Qingdao has temporarily slowed down the building of the last six berths in the fourth-phase project at Qianwan Container Terminal. This has become the main terminal serving box trades in Qingdao Port. Of the six berths, four are under construction, while the other two are awaiting the completion of survey work.

"The six berths ... will be gradually completed on the basis of the company's business growth," said a Qingdao Qianwan Container Terminal statement. "We will avoid shortage in business volume after the completion of the berths, which will impact our earnings."

The exit from the co-operation arises from the divergence of focus between the two ports. Rizhao has developed to mainly serve China's domestic container trades, while Qingdao has held on to its long-established status as a regional hub for international trades in East China's Shandong province and dwarfed Rizhao's box-handling business in terms of volume. **PH** 

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### Largo crosses the Scheldt

Space constraints on the right bank have forced the Port of Antwerp to expand across the river, reports *Jem Newton* 

Deurganck Dock container quays in March 2014 Space limitations on the urbanised right bank of Antwerp's Scheldt River have not thwarted the port authority's plans for continued growth and success. Future cargo developments will be located on the less congested opposite bank, which backs mostly onto agricultural land.

These projects include a giant new lock that will give access to the left bank's inner Waasland Port. At the same time MSC, Antwerp's anchor customer in the deepsea container sector, has embarked on a move that will see it leave its overcrowded right-bank terminal for a site across the river in the Deurganck Dock that, it is claimed, will become the largest container terminal in Europe.

After the move, volumes at the new terminal are expected to increase dramatically as a consequence of MSC's historic 2M vessel sharing agreement with Maersk Line, which began in January 2015.

In December 2014, the port also announced the opening of a new rail tunnel linking the left and right banks which, ahead of MSC's move, will speed up the movement of containers and other rail cargo to the main shunting terminal on the right bank.

Last year, Antwerp Port's container volumes rose 4.7% to 8.97M teu. The expected boost from improved efficiencies and the 2M alliance agreement means that Antwerp expects to comfortably pass the 9M teu mark this year.

Antwerp Port CEO Eddy Bruyninckx said he was pleased with the steady increase in container volumes, but pointed out that last year's other star performer was liquid bulk. "We made a substantial jump in 2013 with double-digit growth and we are very happy that last year there was significant growth of 5.6%. We ascribe this to independent tank storage on the one hand, but also to the new tank farms built for Glencore and Total," Bruyninckx told *P&H*.

Following the negotiations that secured MSC's future at Antwerp, the port's next major left-bank project will be the completion of the giant lock connecting the Deurganck Dock to the Waasland Port, which focuses on ro-ro and general cargo activities.

The 30-year-old Kallo Lock, the only river access to the quays of Waasland Port, is hitting its capacity constraints because of growth in ro-ro activities, as well as traffic for a new tank terminal.

Waiting times of up to several hours at the lock signify that it is even busier than the giant Berendrecht Lock that controls access to right-bank terminals. The old lock – 360m long, 50m wide, and 12.5m deep – was never intended to serve seagoing vessels, so a second, larger lock is needed.



#### Port of Antwerp's new and existing docks areas

Building the new lock at the far end of the Deurganck Dock will enable vessels accessing the automotive and general cargo terminals to continue the use of Kallo Lock until completion of the new lock in March 2016.

During 2015, the MSC PSA European Terminal (MPET) at Delwaide Dock, behind the locks on the right bank, will move its operations to the opposite bank, enabling Antwerp to become a core European gateway and transhipment hub for the alliance. The new Deurganck Dock site gives the world's leading liners a deepwater terminal giving directly onto the river with space for further expansion.

An MPET spokeswoman told *P&H* the new location offers a lasting solution for both the capacity and size limitations the terminal faced on the right bank.

"Works have started recently to complete the undeveloped part of the Deurganck Dock at top speed. When fully developed MPET will take up the entire west side of the Deurganck Dock, as well as 800m of the east side and will have a capacity of 9M teu. With a quay length of 3,550m and an area of 240ha, MPET will be the largest container terminal in Europe," she said.

MSC has been running its joint operation with Maersk in Antwerp since early January, but when *P&H* contacted MSC Belgium's CEO Marc Beerlandt later that month, he said it was premature to assess how the partnership was developing.

"We're adapting ourselves to Maersk and I'm sure Maersk is also adapting itself to us. It's early days to give a good view, but we are very confident that the 2M alliance is going to be a winner," Beerlandt predicted. Yet he was happy to list the benefits accruing to the world's top two container carriers from the partnership. "In view of current freight pricing, it makes sense to work on our cost structure and you can only do that by teaming up," he said.

The alliance will bring about large savings on costs for both carriers in many areas of operation, including bunkers and container efficiency, enabling the two carriers to offer more savings to their clients and compete better with the other conglomerates, such as the G6 and O3 alliances.

"The 2M alliance has also increased the ports available to MSC; we're benefiting from the spread of Asian ports that Maersk uses, whereas Maersk is profiting from the options we have in the United States and Europe. In this region, for example, Maersk is profiting from what we have built in Antwerp, while the same goes for our use of what Maersk has developed in Rotterdam," Beerlandt explained.

The partnership will have a beneficial influence on MSC's reliability. "Schedule integrity will improve as a result of the increased number of weekly sailings," said MSC group CEO Diego Aponte.

Beerlandt pointed out that the carrier's largest vessels, most recently the 16,650teu *MSC New York*, had been able to use the Delwaide Dock terminal, but the move to the left bank is for long-term expansion, as the Delwaide terminal has now exceeded its planned capacity.

"Of course it's also much easier to handle the bigger ships on the left bank. Intermodality is still a challenge there, but the Port of Antwerp has promised to address this," he said.

The opening of the new rail tunnel will speed up rail cargo from the left bank. However, when the city's ring road is congested, trucks are obliged to use a tolled tunnel to reach the right bank, where they can pay over the odds for the privilege.

The tolled tunnel is an anachronism in Belgium, where the main highways are toll-free, and Flemish politicians are reported to be discussing proposals to remove the tunnel toll charge permanently.

The MPET spokeswoman said PSA Antwerp will invest in additional infrastructure, cranes, and equipment at its North Sea and Europa Terminals to cater for the expanding needs of its customers calling at these right-bank terminals.

Once these projects are completed, Antwerp will be looking to expand further on the left bank.

"[MSC/Maersk] will be bringing 4.5M teu to Deurganck Dock, and with average annual growth estimated at 3–4% we will be obliged to offer further container capacity to the market early in the next decade," Bruyninckx predicted.

The port is planning to develop a further 1,200m of quay downstream of the Waasland Port, towards the Dutch border. The market offer is mooted for 2021, but that target depends on securing planning consents from the Flemish regional government. **PH** 



### **Modernising Damietta**

Egypt is banking on a bright economic future by investing in its key Mediterranean cargo port, reports **Shem Oirere** 

espite the upheavals in Egypt's political arena, there seem to have been no lengthy delays in streamlining and expanding the country's cargo-handling capacity, with the Egyptian ministry of transport moving ahead with its \$345M port modernisation programme at the port city of Damietta.

The ministry, through the Damietta Port Authority (DPA), has ordered depth dredging of 1M m<sup>3</sup> of material from the 11.4km-long entrance channel to allow the port to accommodate bigger box ships and handle the increasing containerised business at the port, in particular at the Damietta Container and Cargo Handling (DCHC) terminal.

Dredging of the 300m-wide channel is being carried out under contract by Timsah Shipbuilding Company, a subsidiary of Suez Canal Authority, which is working jointly with DPA on the project.

For the assignment, the contractor deployed trailing suction hopper dredger *Werner Mobius*, which has a capacity of 7,350m<sup>3</sup> and a dredging depth of 30m.

Damietta's entrance channel has a design depth of 15m but its official 300m width "decreasingly reaches 250m at the breakwater fringe," according to the port authority.

The port has two breakwaters: a 1,640m western arm with a 1,500m sea-based segment and a 738m eastern breakwater with a 538m sea-based area.

Once the capital dredging is completed, the port authority says it intends to cut down on maintenance dredging costs by acquiring its own dredger at a cost of \$55.9M to replace those periodically leased from the Suez Canal Authority, which are said to be in a poor condition.

The port authority expects to acquire the dredger after a proposal to the ministry of transport for the creation of a port dredging company is approved. The port is also reported to seek a mandate from the ministry for the dredging company to construct a side canal connecting Damietta to Port Said on the Suez Canal.

As the port strives to enhance its capacity to carry



Once its draught is increased, Damietta will be able to handle bigger vessels out maintenance dredging at a minimum cost, the DPA is also planning to repurpose the 4.5km channel connecting the port to an eastern arm of the Nile River, to create additional capacity to transport cargo by river barge. According to a previous statement by the ministry, the 5m-deep, 90m-wide channel is currently limited in its cargo-carrying capacity.

The ministry said the current 800,000-tonne capacity of barges using the channel is fully utilised by existing demand. "This subsector offers significant investment opportunities as demand is projected to increase steadily by an annual rate of 4.8% to reach 2.1M tonnes in 2026," the ministry said in a statement.

The DPA also says in addition to a 340m cargo handling pier, which was completed in mid-2014 at a cost of \$16.7M, it is planning a new 670m pier to secure, protect and provide access to the many ships anticipated after the current modernisation phase is completed.

The port modernisation programme includes construction of extra storage facilities at a cost of

#### The port in brief

- Total area 11.8M m<sup>2</sup>.
- Land area is about 7.9M m<sup>2</sup> will be increased to 8.6M m<sup>2</sup>.
- Water area is about 3.9M m<sup>2</sup>
- Ratio of water to land area is 1:3
- The port is connected with the main transport network of Egypt.
- The River Nile is connected to the port via navigational barge channel: 4.5km long, 90m wide and 5m deep

\$209M, which includes the cost of the 670m pier.

The plan also includes the setting aside of 6,000m<sup>2</sup> to expand port logistics, with investment expected from both the government and the private sector. The investment includes \$3.9M from the DPA for warehousing facilities.

The port authority is also planning a \$1.8Bn logistics hub which, according to ministry of transport spokesman Mahmoud Diab, will boost Egypt's grain and seed manufacturing and storage capacity. The hub will have a capacity to handle up to 65M tonnes of grains annually. "The project involves building of high-tech storage silos [and] two new platforms capable of receiving large cargos in the Damietta port," he said.

In addition to the logistics hub, DPA is also constructing a general cargo berth 340m long and 12m deep. "The new berth, located between berths 8 and 9, aims to meet the increase in the movement of general cargo vessels at the port," said Diab.

The berth project, implemented under a contract by infrastructure developer Archirodon, includes piling works to connect the main new quay wall and existing quays 8 and 9, concrete works for quay wall and diaphragm walls, dredging works in front of new quay wall and transfer of dredged material to offshore areas.

Archirodon, a subsidiary of the Netherlands-based Archirodon Group NV, has operations in other North African countries, including Libya and Morocco.

Expanding and improving the performance of Damietta port will boost current efforts by Egypt to address what the African Development Bank has previously described as the country's "fragile growth, unsustainably high deficit and public debt in excess of 100% of gross domestic product."

At 13.7% of GDP, Egypt's budget deficit is said to be not only unsustainably high but also one of the highest among emerging economies. The country's economy is expected to grow by 3.5% in 2015, according to the International Monetary Fund.

The deepening of the entrance channel and construction of grain silos infrastructure at the Damietta port is in anticipation of bigger ships and the increase in grain imports/exports by Egypt.

The government forecasts wheat production for 2013/14 at 9.5M metric tonnes. According to the International Grains Council, Egypt's grain production was 16.5M tonnes in 2013/14, up from 15.4M the previous year.

The country imported an estimated 14M metric tonnes of grains in 2013/14 through its ports, including Damietta. This grain imports includes 9.6M metric tonnes of wheat, up from the 8.3M metric tonnes the previous year, making Egypt the biggest buyer of wheat globally.

The port authority said the DCHC container terminal is one of the largest in the Mediterranean with some of the most up-to-date grain and container handling equipment in the Middle East. **PH** 

# **Channel vision**

**Stephen Cousins** reports on how one of the most heavily trafficked waterways in the world – the Port of Dover – relies on an advanced Vessel Traffic Service and a highly trained team of operators to ensure safe and efficient navigation.

> he Port of Dover is home to Europe's busiest ferry port, handling over 120 ferry movements a day. It is one of the best known locations for cross-Channel sailing, visited by 3,750 yachts and small craft each year, and a regular destination for cruise and cargo ships handling an impressive £89Bn of trade per annum.

> Given that all this activity takes place in an area just one square mile across, the port's Vessel Traffic Service (VTS) team, also known as Dover Port Control, has a very tough job monitoring and co-ordinating vessel movements to guarantee safe and efficient navigation that is arguably even more complicated than air traffic control.

> Steven Manser, VTS manager for the port, told *P&H*: "Last year our system recorded over 38,000 movements within the port's jurisdiction, which is very high for such a small area, somewhere like the Port of London might have a similar number of movements but across the entire River Thames."

> He added: "The level of vigilance required to oversee the harbour is virtually the same as air traffic control at a major airport, and perhaps even more complicated. Two of our VTS officers are previous air traffic controllers, and they say that while mistakes made by planes can be rectified very quickly due to their high manoeuvrability, altering the course of a large ship is a lot slower, making it imperative to spot mistakes early." Added to that, "there

is no option to change a ship's altitude", he quipped.

Dover Port Control employs a team of 10 VTS staff, comprising two VTS supervisors and eight VTS officers, who work in shifts managing vessel movements from a dedicated VTS centre located at the port's Eastern Entrance, 24 hours a day, 365 days a year.

Their delivery of VTS is governed by regulations in SOLAS Chapter V and based on recommendations set out by the International Association of Lighthouse Authorities (IALA). All the port's VTS officers and managers are qualified by IALA standards.

Apart from navigation issues posed by the large number of vessels transiting the port, mostly through the Eastern Entrance, the VTS team faces a number of other challenges: Dover is very exposed with little shelter and extra precautions must be taken by ships when there are strong southwesterly winds. The ferry berths in the Eastern Docks are currently being upgraded as part of a £32M berth refurbishment programme, so Dover Port Control must organise movement of related construction vessels, dredgers and diving operations as part of its schedule.

In addition, a large number of yachts and leisure craft visit Dover from France, located just 20 miles away, which introduces language issues. "Many sailors arrive with very little experience of navigating and their grasp of English is poor, so there is only so much a VTS officer can do on the radio to coach them in," said Manser. "This is when it is useful to deploy our harbour patrol launch craft to assist the vessel and bring it in safely. In such a scenario, it is also vital to warn large vessels in the area that a small craft has a problem, or lacks relevant communications."

The VTS team has a range of sophisticated equipment at its disposal, including VHF radio monitoring and communication on channels VHF 74, 12 and 16, communication via telephones or email and, in more extreme scenarios, signal lights or the Harbour Patrol Launch.

Perhaps most crucial is a Port Information Management System (PIMS) [also known as a

The ferry terminal is situated on Dover's eastern arm Vessel Traffic Management System], a software workstation installed with electronic charts, overlaid with an Automatic Identification System (AIS) and radar information.

PIMS is designed to provide comprehensive coverage inside and outside of the port, to plan all ship movements, including arrivals and departures, and ensure the automatic transfer of billing information the moment a ship docks. It is also able to record radar and VHF/phone data that can be replayed from any work station. The system was supplied by Norway's Navtek, which subsequently merged with Kongsberg Norcontrol IT, and now handles its maintenance.

"PIMS is able to lead the VTS operator through the procedure for safe ship operations and, depending on the vessel, the operator will assign tugs, a pilot and a suitable berth," said Manser. "If shipping operators let us know early enough we can engage in long-term planning and define up to a year in advance which ships will be using which berths."

Although effective, Dover's PIMS is now several years old and lagging behind technology used by other ports. As a result, Dover Harbour Board is planning to tender for a £1.5M package of VTMS upgrades to equipment and software, due for installation at the end of 2017.

"Our existing system was installed when Dover had less traffic; we now also take a more active role in managing all the vessels in the area, so we need new functionality that enables us to track every vessel," said Manser.

The new system is unlikely to include cutting edge 3D functionality, similar to that recently installed at the Port of Poole, but it will feature real-time AIS data

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Stress and fatigue can be an issue for VTS staff due to the high levels of awareness and concentration required exchange and other advancements.

Manser added: "The current AIS is very useful for sending wind and tide direction at 15 minute intervals to vessels in the vicinity, but we would like the new system to send AIS data in real-time so ships' bridges always have the most up-to-date data. PIMS can check arriving vessels against a set of operational parameters and issue a warning if a ship is not meant to be at a certain berth. However this is a complicated procedure to set up, and in future we would look to have a more fluid system that is self-updating."

Dover's VTS tower has 360° views around the port and is always manned by two officers at any given time, one of whom is "on the book", and responsible for monitoring vessel movements, handling all communications and ensuring safe navigation. The second officer is "off the book", providing support to the first, and carrying out administrative functions. The Duty Harbour Master, who runs day-to-day operations in the docks, is also available to offer advice or assist in the tower.

Stress and fatigue can be an issue for VTS staff due to the high levels of awareness and concentration required. To address this, Dover Port Control restricts time working "on the book" to a maximum of two hours at a time, followed by a 20–30 minute break, as is standard in United Kingdom air traffic control. The complement of eight VTS officers also works a 12 hour shift pattern, either two days on, two off, or three nights on, two days off, to reduce fatigue.

Their burden should also be reduced by the port's VTS 'outreach' programme, set up to visit yacht clubs and other pleasure craft related organisations to educate amateur sailors on how to use the port safely. "The biggest danger is their failure to follow the procedures, so we try to do as much as possible to reduce that likelihood.

"As far as I know this is the only service of its type in the UK," explained Manser. It is yet further evidence of the extraordinary efforts required to manage one of Europe's busiest ports. **PH** 



# Another set of eyes

US ports are relying on vessel traffic management to maintain navigation safety as vessel traffic increases, reports **John Gallagher** 

Watchstander Daniel Royal monitors vessel traffic for VTS San Francisco s US ports awaken from a recession with reports of surging tonnage, those that are at high risk for accidents are relying more than ever on vessel traffic management provided by the US Coast Guard.

The division within the Coast Guard responsible for that added layer of safety, the Vessel Traffic Service (VTS), emerged from the fallout of a major oil spill resulting from a collision between two tankers under San Francisco's Golden Gate Bridge in 1971.

The Oregon Standard and the Arizona Standard collided in early morning amid heavy fog, spilling 800,000 gallons of oil into San Francisco Bay. It caused extreme environmental damage and generated national publicity. Port operations were completely shut down.

The US National Transportation Safety Board blamed the collision on, among other things, the vessels' failure to establish and maintain communications, navigating a narrow channel in dense fog, and mariner negligence.

A year later, the accident led to the first VTS, operating out of the first vessel traffic centre (VTC), in San Francisco. Since then 11 more VTS areas have been created (see sidebar), with corresponding VTCs. The purpose: to provide active monitoring and navigational advice for vessels, particularly in confined and busy waterways.

"It actually allows another set of eyes to look at the waterway navigation situation," Bruce Riley, a vessel traffic specialist at US Coast Guard headquarters in Washington, DC, told *P&H*.

"When a mariner is coming up on a tight turn during bad weather, he can ask the VTS, 'what's in front of me that I can't see?"."

Riley pointed out that most commercial vessels are navigating using radar and AIS, but VTS looks at things from a broader picture. "A lot of times, the area VTS will know the intent of other vessels, whereas a pilot or master in a ship may not have heard a particular radio call, or picked up on a situation occurring in a channel that someone else has passed," Riley says. "VTS keeps track of that kind of thing."

There are two main types of VTS – surveilled and nonsurveilled. Surveilled systems consist of one or more land-based sensors, such as radar, AIS, and closed-circuit television sites, which send out signals to a central location where operators monitor and manage vessel traffic movement.

Non-surveilled systems consist of one or more reporting points at which ships are required to report their identity, course, speed, and other data to the monitoring authority. Both use a range of techniques aimed at preventing vessel collisions or rammings and groundings in the harbour, harbour approach, and inland waterway phase of navigation. They are also designed to expedite ship movements, increase transportation system efficiency, and improve all-weather operating capability, according to the Coast Guard.

Louisville, which is located on the Ohio River in Kentucky, is the only VTS area that does not operate 24/7 – it is staffed only when river levels rise to a certain height, which makes navigating the river more hazardous.

Riley says many are surprised to know that VTS areas are not set up at major container ports on the US East Coast such as Baltimore, Norfolk, and Savannah. Factors that affect navigational risk – such as the width of the waterway, congestion, the amount of small boat traffic, and weather – are the biggest factors that are weighed when establishing a VTS.

Fog can be a huge factor, Riley says, adding that "it's not all about the tonnage". **PH** 





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# Earthquake

Port of Tacoma took the lead in a simulation programme that resulted in discussion around a recovery programme interdependent on Puget Sound's private and public businesses. *P&H* looks at the final report

Port of Tacoma played a leadership role in organising the Puget Sound Regional Catastrophic Disaster Transportation Recovery Plan. The Puget Sound Region, in which there are four ports – Tacoma, Everett, Seattle, and Olympia – experience significant impacts from natural hazards, including floods, storms, fires, earthquakes, tsunamis, and volcanoes. Like other ports they are also vulnerable to acts of terrorism.

The region is considered to be of strategic importance, a claim supported by the 2009 Washington State Hazard Identification and Vulnerability Assessment. It has also been identified as the "third largest port load centre" in the United States, and so its disaster recovery programme was put to the test.

"These ports are vital to the local, regional, and interstate economies and are critically dependent on electricity, fuel, rail, road transport assets, and other critical infrastructures that facilitate the movement of passengers and cargo," said the Puget Sound Regional Maritime Transportation Disaster Recovery Exercise Program final report released in May 2014.

So the Puget Sound Regional Catastrophic Disaster Transportation Recovery Plan, adopted in February 2011, was developed. It included eight counties and focused on likely transport disruptions as a result of a major earthquake. "One element of that regional planning effort included using port facilities and the Puget Sound waterway system as a means for moving goods within the region until road and rail transport sectors can return to full operations," noted the disaster recovery report.

To facilitate a simulation which would help develop the recovery plan, solutions provider Dynamis was selected to develop an economic recovery exercise based on an economic model. To achieve this the

# These types of exercises are robust and realistic

Justin Lyon CEO, Simudyne

company put together the Puget Sound Maritime Recovery Team, including Beckett Group for maritime operations, the Pacific Northwest Economic Region for stakeholder engagement and exercise facilitation, BERK Consulting for financial and economic analysis, and Simudyne which co-ordinated the active simulation sessions for the programme.

Simudyne CEO Justin Lyon said, "Although the technical side takes just a few months", it took 12 months to complete the simulation process due to the sheer number of people involved in the project. He told *P&H*: "250 people, with scheduling conflicts and individual preparation" to complete, "all takes time".

The project was set up in three phases. The first phase included Tacoma and at its invitation three other ports in the region attended four tabletop exercises. These exercises explored the ports' individual plans, procedures, critical infrastructure, and key resources. This process provided the ports a chance to work with other port neighbours to strengthen their recovery plans.

Information from the first phase was used to create an interactive simulation of economic interdependencies within the regional maritime transport community. This facilitated the second phase, which sought to create a recovery programme between Puget Sound's private and public sectors, focusing on port-wide risk management, mitigation, continuity of operations, and resumption of trade after an earthquake. This phase

considered an earthquake scenario affecting the region's maritime commerce and private business, as well as local and federal governments. It looked at disaster recovery from 31 days post-disaster to five years later.

In the third phase, a strategy was developed. These findings were used as recommendations for the Puget Sound Regional Catastrophic Disaster Co-ordination Plan and Maritime Transportation Recovery Framework.

Howard Park, Simudyne's US managing director, told *P&H* that they started with a standard model that was replicated for all four ports.

Individual port information was then built into these models, including proprietary and publicly available information. Individual ports' information was protected by firewalls during the process to prevent competitors accessing information, said Park. He noted that while there was a competitive dynamic, there was also a sense of sharing between the ports and organisations.

Phases 1 and 2 brought about surprises for some participants, Park told *P&H.* "Port executives may not come from an operation background," he noted, adding that for some it was their first introduction to labour, security and land use challenges. For example, if your labour force cannot work due to a site shutdown, they will leave, creating labour constraints when the facility is ready to start operating again. "These kinds of 'a-has' are very informative," said Park.

The programme can also simulate outcomes for other natural disasters, such as hurricanes and floods. Park explained that the model was still available for such purposes, but the amount of funding allocated did not enable further simulation in these areas.

Lyons pointed out that recovery was about collaboration. He noted that these types of exercises were robust and realistic, as the system is good at keeping track of data. He explained that the data was dynamic and changes over time and decisions based on that data have consequences.

This simulation can also be used for risk management and to optimise business in a normal environment, not just following a disaster, he concluded. **PH** 

MORE INFO: www.simudyne.com

#### Work in progress

The Puget Sound Regional Maritime Transportation Disaster Recovery Exercise Program final report noted that Phase 2 revealed some strengths and improvements, including:

#### Strengths

- Participants were keen to develop a timeline to identify issues and set expectations
   for when problems would be solved, especially from external partners.
- Interdependencies, port-to-port agreements to provide co-operation, and opportunities for partnerships were identified and explored between participating ports, stakeholders, and government entities.
- Participating ports were willing to prioritise regional recovery over individual shortterm business recovery.

#### Improvements

- Few mutual agreements currently exist to support recovery planning and operations between ports, government, and the private sector.
- Continuity of regional maritime business and operations plans are not regularly updated due to limited resources.
- There is no clear way for ports and stakeholders to collectively communicate their transport infrastructure requirements to the authorities following a disaster.



Channel dredging, terminal upgrades, road projects and management changes are alleviating some of the pressure at Brazil's port of Santos, reports *RT Watson* 

> hen Brazilian president Dilma Rousseff announced sweeping measures to improve the country's supply chain at the end of 2012, the immediate goal was to address growing bottlenecks at many of the ports.

> The best place to take the pulse of how her ambitious plans are coming along is Santos, Brazil's largest cargo gateway. The verdict: after a rocky start in 2013, Santos made significant progress last year with expanded port infrastructure and the modernisation of port management.

> Angelino Caputo, chief administrator of the port of Santos and president of CODESP, the port authority of the state of Sao Paulo, in which Santos is located, credits last year's successes to both the completion of construction projects and the adoption of a new attitude internally.

> "The major reason [for improvements in 2014] was changes in infrastructure that had been under way in recent years," he said. "Also, we made some

management changes to intensify the focus on the long term: on 10-year projects, for example. This change of attitude among Brazilian ports is common, and Santos is the principal example."

Total throughput at Santos in 2014 came in at 110.5M tonnes (75.9M tonnes outbound, 34.6M tonnes inbound). That puts it not far behind the record volumes seen in 2013. Container moves increased by 8% last year, while volumes of soya, maize and sugar declined.

Several factors outside the port's control are likely to affect volumes this year, as they did in 2014. Yet Caputo predicts improved throughput, with a target of more than 112M tonnes for 2015.

His team expects that Santos will handle 52.6M tonnes of bulk solids, 1% higher than last year's tally. He believes liquid bulk will come in at almost 15M tonnes, essentially static at last year's level.

One of the facilities in a prime position to take advantage of improvements in Santos is Brasil Terminal Portuário (BTP) a 50-50 joint venture between APM Terminals and Terminal Investment Ltd. BTP chief executive officer Antonio Passaro outlined to *P&H* how dredging had made his facility more competitive since it opened in November 2013.

When BTP's operations began, the stretch of the port's navigation channel on which it was located had a depth of 11.2m, while the rest had a draught of

12.7m. As a result, BTP "had a lack of competitiveness", said Passaro.

Following dredging work, BTP's stretch of the channel was certified to 12.6m by the Brazilian Navy in July 2014, allowing it to receive larger vessels in its berths and to start new deepsea services.

The depth of the channel in the vicinity of BTP was certified to 13m in December and 13.2m on 16 January. The rest of the channel was also certified to that depth. "Now all of the navigation channel in Santos has exactly the same operational draught," said Passaro, adding that "these draught authorisations positively impact BTP and restore a high level off competitive conditions among terminals".

When speaking to *P&H* in January, Caputo reported that, overall, work had been completed at about 30 of the 50 Santos berths slated for dredging.

Both Caputo and Passaro look forward to Santos' operational draught being dredged to more than 15m, a process that is the responsibility of Brazil's Ministry of Ports (SEP). SEP's once-sluggish bidding process looks to have accelerated, allowing for dredging deals to be contracted with greater speed.

When Santos' channels are dredged to 15.4–15.7m, it will allow the port to handle container ships of more than 9,000teu capacity. Passaro considers such dredging "crucial" as the new era of larger vessels arriving in Brazil begins.

SEP's overall dredging scheme for Santos– as opposed to that for the terminals – got off to an inauspicious start. At the end of 2013, it launched a single tender for rights to dredge Santos's navigational channel, berth access, and harbour, calling for dredging an estimated volume of 8.93M m<sup>3</sup> plus an additional 13.2M m<sup>3</sup> in maintenance dredging over the following three years.

In April 2014 five interested parties bid for the contract, but no winner was chosen because all five exceeded the government's maximum budget.

SEP kept most details of the auction confidential, except that the minimum bid was \$201M and the highest was \$283M.

After this initial setback, the tender process is now resuming. According to Caputo, SEP plans to offer the

We have made some management changes to intensify the focus on the long term Angelino Caputo CODESP president new tenders in 1Q15. These will include tenders for the continued development and maintenance of not only the navigation channel itself but also for berths.

Meanwhile, upgrades of Santos' landside infrastructure are complementing dredging efforts. BTP plans to invest about \$30M in new port equipment this year, adding two more ship-to-shore cranes beyond the existing eight, and purchasing 10 rubber tyre gantry cranes to add to its existing 26.

CODESP is putting BRL55M (\$20.7M) into the renovation of piers serving the Alemoa liquid bulk terminal. "The tide and ship safety forced us into a slower pace, but to date we are 54% complete with this project," Caputo told P&H in early January.

The port of Santos recently built two additional piers for Alemoa to accommodate a predicted shortterm spike in liquid bulk. Simulations have already been conducted at both of the new piers. The port aims to expand the draught between the BTP and Alemoa terminals.

There is also a plan to renovate the Barnabe Island Terminal, which was originally built in 1927. The complex already has one 300m pier and should have another built by the end of this year. CODESP has already dredged some of the surrounding area, bringing it to 10.3m. It plans to ultimately dredge the area to 11.8m.

Looking forward, Passaro believes a key challenge for the port is improve rail and road access. On a positive note, he explained that "government civil works in roadway access have been improving traffic flow in the perimeter, allowing more agility in truck transport cargo with the port". Nevertheless, he believes there is more work to be done.

"Transportation modes – railway, waterway and roadway – should continue to be developed and integrated, allowing a higher level of logistics service," Passaro said.

Santos has several road construction projects under way in and around the port. The largest aims to eliminate traffic jams and delays brought about by the conflict between containers and dry bulk flows. It is scheduled to be completed in about two and a half years.

Santos is also banking on four new rail links becoming operational this year, which should reduce the reliance on trucks, especially during peak crop times. CODESP is heavily promoting the rail alternative.

Aside from land-side logistics, terminal construction and dredging, Caputo realises that the evolution of Santos goes beyond infrastructure. Consequently, he and his team have taken the modernisation of port planning very seriously, evaluating dozens of potential ways to improve internal planning and communications.

Last year, the port worked with consultancy Deloitte and the National Committee of Ports (Conaportos) to find ways to improve processes. "We are in a phase of implementing a new process that we will test and then make the necessary adjustments, so we can begin to reduce time and costs," said Caputo. **PH** 

Dredging has increased BTP's competitiveness

#### FEATURE



Bulker *Grikos* loading Turkeybound scrap from port in January Passengers and cargo are fuelling growth as the port reaps the rewards of a \$568M expansion plan, reports *John Gallagher* 

xpansion and growth are picking up speed at Port Canaveral as the central Florida port strives to become a major player in Florida and beyond in both cruise and cargo markets.

Port Canaveral Scrap Terminal (PCST), a new tenant at the port, loaded its first vessel with 18,000 tonnes of scrap metal destined for Turkey on 8 January.

PCST, which invested \$1.8M into the port's north cargo terminal, expects to export roughly 118,000 tonnes of scrap metal annually.

On the same day, a new \$1.5M bulk conveyor system at the port was used for the first time when the selfdischarging bulker *Bahama Spirit* unloaded limestone for aggregates supplier Martin Marietta. The Canaveral Port Authority and Martin Marietta invested in the 1,800 tonne/hour system to enhance terminal operational efficiencies and increase productivity.

And just two weeks previously, the port's new twostorey 17,650m<sup>2</sup> Cruise Terminal 1, built to accommodate the largest cruise ships in the world, opened for business. Designed and built by Ivey's Construction to also be the most efficient cruise terminal in the world, Cruise Terminal 1 features deep concrete pile foundations, concrete pile caps, concrete slab on grade, concrete tilt wall panels, and structural steel frame.

The new terminal could allow the port to overtake Port Everglades as the world's second-busiest cruise port, behind the Port of Miami.

The recent new projects are part of the port's fiveyear, \$568M capital spending plan, with more than \$1Bn projected to be spent within 10 years.

Supporting the expansion on both the cargo and passenger sides of Port Canaveral's business is a sevenyear, \$100M channel deepening and widening project that is scheduled to wrap up in August.

By expanding the port's draught from 13.1m to 14m and widening the channel to 152m, the port will be able to take advantage of larger classes of cargo and cruise vessels.

"Our growth is going to be astronomical as soon as we

# • Our growth is going to be astronomical

John Walsh Canaveral Port Authority CEO



open [at the deeper draught]", Canaveral Port Authority CEO John Walsh told *P&H*.

Deepening the channel has been an integral part of the port's entry to the container market. Liner operators have been placing ultra-large 12,000teu-plus-size vessels into rotation in major markets, cascading smaller capacity vessels down into transhipment markets for delivery into smaller ports.

The extra metre of draught will allow Canaveral to take advantage of this trend by servicing vessels in the 8,000teu range. A 35-year, \$100M agreement signed in June 2014 with GT USA, a subsidiary of UAE-based terminal operator Gulftainer, will serve as the port's base on which to grow its box business.

Under the agreement, which marked Gulftainer's first investment in a North American port, GT USA will develop and operate container business at Port Canaveral. "By bringing Gulftainer's 37 years of experience, expertise, and global relationships to Port Canaveral, we aim to create a new efficient gateway for goods entering and leaving Florida," commented Gulftainer chairman Badr Jafar when the deal was announced.

"We're anticipating it will get us from the 200teu we're at now to about 100,000teu a year from now, which we see growing at a straight climb to 700,000teu about seven years from now based on our projections."

In addition to access to deeper-draught vessels, Walsh said that Gulftainer saw other advantages to teaming up at Canaveral.

"We're a greenfield site when it comes to containers, so they're able to set their own direction," Walsh said. He added that central Florida is a dynamic market: population growth in the region's 8-10 counties will be highest in the state and likely over the entire Southeast United States over the next 10-20 years.

"I also think they found us an easy place to do business, which we try to do. Our approach is to have a 24/7 terminal that's customer friendly. It's a very fast channel from outer buoy to tie-up at the dock. We have the most competitive pilot rates and wharfage rates in the state."

Walsh noted that channel widening clears the way for larger cruise ships to call at the port. A wider channel increases the safety margin for navigating 366m ships, which have to use more harbour space to dock.

Widening also allows the port to reduce the surge effect caused by large ships traversing a relatively narrow channel that can damage moored vessels.

As far as deepening goes, Walsh is not satisfied stopping at 14m. To take advantage of significant population growth expected in the Southeast United States over the next 20 years, the port has a twenty-first-century harbour project in place that stipulates digging the port's inner harbour to 16.7m and its outer harbour to 18.3m.

Walsh asserted, "Our project study will be paid for by the port, so we won't need federal funding." Assuming the project gets a go-ahead in three to four years, for each year afterwards, the plan would be to deepen by another 0.6m.

"Port Canaveral is unique in that it's the only port in the southeast US, if not the entire US east coast, that very economically could be a 16.7m-deep harbor," Walsh added. **PH** 

#### Auto exports in the works

In addition to bolstering its cruise and container business, Port Canaveral is also hoping to establish an automobile export business on its docks.

As a start, the port is spending \$75M this year to build a six-storey garage with 7,500-car capacity.

Canaveral currently handles just "a couple of hundred" used cars for the export market, noted CEO John Walsh.

As of January, however, the port was on the shortlist in the bidding for an original equipment manufacturer (OEM). "If we're successful, this would be our first major account," Walsh said, adding that the port would work in conjunction with automobile carrier Wallenius Wilhelmsen Logistics.

Port Canaveral plans to lease the terminal to the OEM, and use existing piers and wharfs. The goal is to handle up to 350,000 automobiles a year.

#### Canaveral's rail extension

Cargo expansion at Port Canaveral would get yet another boost if it received an all-clear sign to build an 18km rail extension to a railroad mainline.

As of January, the US Surface Transportation Board, which regulates American railroads, was in the process of evaluating comments on the \$85M proposal, which would give the port direct rail service to the Florida East Coast Railway (FECR). FECR in turn connects to national rail carriers Norfolk Southern Railway and CSX.

"We'll never be a port like New York or Los Angeles, but with our rail connections we could be a good alternative for shipping goods into the eastern US," Walsh said.

Port officials anticipate that the review process will be completed in 2016, and construction can be completed as early as 2018.



Chittagong: setback in moves to reduce attacks in its anchorages

# Chittagong earns unwanted title of top for piracy growth

As levels of piracy and robbery continue their gradual decline, one port is bucking the trend, Dave Sloggett reports.

Of all the titles any port would wish to avoid, the label of being 'the port that saw the largest increase in piracy attacks in 2014' is one that many would regard as a poisoned chalice.

For the port of Chittagong in Bangladesh, the ignominy of that title is one they will have to carry for the next year.

When other locations round the world that have suffered from the privations of piracy are showing a steady decline, it is particularly difficult for the port authorities when one location stands out so markedly against the prevailing trends. This situation must be even harder to bear when the local authorities have invested heavily in new aircraft and fast patrol boats to help curb the activities of criminals in the local area.

Of course, simple recourse to statistics can be a harsh measure of the relative safety of a port and its anchorages. In 2013 Chittagong was the subject of 11 events that were recorded by the International Maritime Bureau (IMB). These all related to robbery and attempts to board vessels at anchor.

This was a figure that was not unusual in comparison with 2011

and 2012. Back in 2010, however, Chittagong experienced 23 attacks. This was the point at which new fast patrol boats were introduced to service by the Bangladeshi authorities. Their use clearly had an impact on the levels of violence and robbery that were occurring at the anchorages. This year, however, has seen that positive influence come to an end.

In 2014, a total of 21 attacks were reported to the IMB – almost back to the levels of 2010.

One characteristic of the 2014 patterns is that they are more geographically distributed than in previous years. In 2014 the attacks were divided almost equally between the inner and outer anchorage. Only two of the attacks involved vessels that were under way.

From a timing perspective, the attacks still focus on the nighttime hours, a trend consistent with previous years. Sixteen of the 2014 attacks occurred in a five-hour window between 21.00 and 02.00.

However, analysis of the intervals between attacks is less conclusive: while four days between attacks is the lowest recorded interval, on one occasion there was a period of 55 days where no reported incidents occurred between the start of March and the end of April. This did not coincide with any specific pattern of weather, such as the monsoon season, which occurs between June and October, along with the increased threat of typhoons in the area.

While an increase in the average number of days between attacks can be detected between the first (12.5 days) and second half of the year (18 days), this is insufficient to be explained purely by weather effects alone. Nonetheless, when making attacks at night the prevailing weather conditions are bound to have an effect and may dictate on which specific evenings they are launched.

In such a situation it is difficult not to conclude that the attacks are entirely random in their nature. This would seem to suggest they are conducted opportunistically and not under the guise of some central co-ordinating (criminal) authority.

The majority of these attacks involved robbers armed with

#### Notable numbers

Wharfage at Corozal, Panama 68

Craft being used in Pulau Tekong's reclamation project knives boarding vessels to steal goods. Fortunately few of these incidents saw the robbers resort to violence. Only on three occasions were the crew subjected to physical harm, none of which involved lifethreatening injuries.

Of all the vessels targeted, bulk carriers were the most popular, with eight being boarded. The rest of the attacks were directed at a mix of vessels including chemical and product tankers, container ships and tankers.

A total of 164 pirates were reported to have been engaged in these attacks, giving an average of eight per incident. This figure provides a slight bias in the overall assessment as three incidents involved more than 20 pirates in a single attack. If these three outliers are removed from the analysis, the average number of pirates involved in attacks reduces to five.

Of all the attacks, 16 could be labelled as successful, as ship stores were later reported to have been stolen. None, however, reaped a valuable return. Most of the stolen items were easily replaceable.

Despite this, the title of having the greatest increase in attacks reported to IMB in 2014 is not a title the authorities in Bangladesh will relish. It is clearly time for them to get more out of the sea-based and air-based assets they have, and to take actions that create a more secure environment in their anchorages. That is the way to lose this unwanted title in 2015.

#### Liner companies query ENS filing proposal

Clarification of European Commission rules on cargo data reporting is needed, according to the World Shipping Council (WSC), an association of liner shipping companies whose members operate about 90% of the global liner ship capacity.

It has advised, "The European Commission has been working to rewrite the European Union's advance cargo data reporting requirements for quite a while, and is now in the final stages of completing its proposal as part of the implementation of the new Union Customs Code [UCC]. The Commission regulations for the implementation of the UCC are scheduled to be adopted in May so that they can take effect as of 1 May 2016."

WSC has been joined by the European Shippers Council, the European freight forwarders' association (CLECAT), and the European Community Shipowners Associations (ECSA) in opposing the Commission's proposal to require the identity of the buyer and seller of goods being imported into the EU to be a part of a carrier's entry summary declarations (ENS) filing. Other trade associations representing European businesses and importers have also raised concerns" about the proposal, however such opposition has been unsuccessful to date.

"Of the many changes for containerised maritime commerce being proposed by the Commission, two are of particular significance,"WSC noted:

The proposal to require nonvessel operating common carriers/freight forwarders (NVOCCs) to file ENS just as ocean carriers do today;

The Commission is looking for a short-cut to obtain the identity of the buyer and seller of the imported goods before vessel loading. Instead of getting it from the importer, as the USA does, the Commission's proposed regulation would require this information to be provided to the carrier/NVOCC – or to the consignee – to be filed in an ENS as a condition of vessel loading.

WSC added that, at present, ENS filings must be made to the European customs office of first entry 24 hours before a container is loaded on to a ship for transport to the EU in deepsea traffic. "The Commission's failure to include NVOCCs in its '24-hour rule' in 2006 has always been an obvious shortcoming," it said. "WSC has no objection to the logical proposal to fix that. We do note, however, that there is a need for clarity about the technical details of this change."

"Based on our understanding and experience with shippers, WSC has consistently advised the Commission that buyer and seller data may be businessconfidential, and that it is not appropriate to require its disclosure to ocean carriers/ NVOCCs or to these parties' consignees, who may not be parties to the goods' sales contract." And, on a practical note, it advised that carriers' present documentation systems had no data fields to capture such information.

"If this regulation is implemented ... exporters to the EU should recognise that they will be required to provide the identity of the buyers of their goods to their carrier/NVOCC/consignees prior to vessel loading, so that this information can be provided by the carrier or NVOCC in its required advance ENS filing," it concluded.

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#### Law demands verification of box weights

At the end of 2014, the International Maritime Organization (IMO) adopted amendments to the Safety of Life at Sea Convention (SOLAS) whereby every packed export container must have a verified weight as a condition for loading aboard a vessel.

This requirement will become legally binding on 1 July 2016. All parties involved in the international transport of maritime containers – including shippers, freight forwarders, packers, NVOCCs, carriers, and marine terminal operators – will need to take measures to ensure they are prepared to fulfil the new SOLAS regulatory requirement before the implementation date arrives. A synopsis or requirements, is available at:

www.worldshipping.org/industry-issues/safety/ cargo-weight



Capacity, in teu, of the world's largest container vessel

# ILO considers e-passports for seafarers

Technical upgrades to seafarers' identity documents (SIDs) should improve shore leave opportunities

A meeting of employers, trades unions and government officials held at the International Labour Organization (ILO) in Geneva discussed ways to improve take-up of ILO Convention 185 of 2003 on SIDs.

The measure has been ratified by only 30 states, less than half the number that ratified its 1958 predecessor, C108. The main sticking point has been that C185's technical standards are out of line with those used in other security documents.

Reflecting on this, an International Chamber of Shipping (ICS) statement noted, "The convention has failed to achieve widespread implementation, in large part because the technical standards adopted have been superseded by the technologies and infrastructure now used for the issuance and verification of e-passports."



The problem has been known about for some years. In 2012, International Shipping Federation director of employment affairs Natalie Shaw said, "Few [countries] are able to issue the new ILO ID cards and there are few machines available internationally that can read them."

She added, "The wide

#### Support for scrubber pilot

The EU's TEN-T Programme will support a pilot project with EUR4.5M (\$5M) to install and test the latest scrubber technology that uses seawater instead of fresh water in an open loop. The new cleaning system is expected to bring a number of economic and environmental benefits: ships will no longer need to carry supplies of fresh water, nor will they have to transport and use chemicals for water treatment, in order to reuse it. More space will be available for cargo. The latest scrubber technology will be tried out on three different types of cargo ships, which together represent the most common general cargo vessels in the water trade routes of the North and Baltic seas. The new technology is expected to reduce considerably the environmental impact of ships, as well as to bring down the costs for using less polluting fuels.

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ratification of the convention would have materially assisted the welfare of seafarers as well as addressing the security concerns of port states."

David Heidel, chair of the International Transport Federation's Seafarers' Section, said, "These latest recommendations, which would bring seafarers' identity documents in line with e-passports, should help persuade states that ratification is sensible and in everyone's best interests."

To make them compatible with the security equipment used for e-passports, the SIDs would need to include facial image biometrics and a digital signature, stored on a contactless chip. The meeting recommended that the ILO's governing body consider upgrading SIDs specifications.

Many non-ratifying countries do recognise SIDs issued in line with C185; for example, the UK Home Office noted, "The UK agreed a new convention ILO 185 in 2003 and intends to ratify, if an effective method of implementation can be identified. To date, the UK has not ratified ILO 185."

The text of ILO C185 is available at:

www.ilo.org/dyn/normlex/en/f ?p=NORMLEXPUB:12100:0::NO ::P12100\_ILO\_CODE:C185

.....

#### Modified ICS stance

The global trade association for merchant shipowners, the International Chamber of Shipping (ICS), has modified its stance on ratification by governments of the International Maritime Organization (IMO) Ballast Water Management Convention.

"Notwithstanding the need to resolve outstanding issues and questions concerning the implementation of the IMO Ballast Water Management Convention, ICS acknowledges the agreement in principle by the IMO Marine Environment Protection Committee meeting in October to address concerns raised by the shipping industry," it said. "ICS will therefore no longer actively discourage governments that have not yet done so from ratifying the convention, in order that it might enter force sooner rather than later so amendments ... can be implemented as soon as possible."

Planned depth alongside Tanjung Priok's new container terminal ICTSI Manila terminal use December

#### African Union discusses maritime crime

The Seychelles has hosted a meeting of African Union ministers to review lessons learned from the fight against piracy, reports correspondent Stephen Spark.

Other organisations taking part included the United Nations, COMESA, ECOWAS and the Indian Ocean Commission, along with key states in the European Union (EU) and elsewhere that have been involved in anti-piracy activity.

The meeting looked at ways those lessons can be applied to other forms of maritime crime in the Indian Ocean and around the African continent. Of particular concern are drug smuggling, human trafficking, illegal migration, robbery at sea, terrorism and maritime pollution.

Indian Ocean states such as Seychelles and Mauritius place high reliance on the 'blue economy' – fisheries, cruise tourism, offshore oil and gas, and mining of seabed minerals – but development is threatened by increasingly sophisticated transnational maritime crime.

Maritime corridors off the east coast of Africa are well used by smugglers moving drugs, especially heroin, westbound towards Europe, and ivory and rosewood eastbound towards China and the Far East. Local flows include migrants and suspected terrorists from Somalia to Yemen, and arms to and from Somalia.

A Port Sudan-bound ship, Shaker-1, was recently stopped at Berbera port, Somaliland, when tanks, weapons and a fast patrol boat were found aboard. After intervention by Sudanese government officials, the ship was finally allowed to depart.

The Seychelles-based, EU-supported Regional Fusion and Law Enforcement Centre for Safety and Security at Sea (Reflecs3) was founded as a counter-piracy information and intelligence-sharing centre, but now has a broader maritime crime remit. "A key element in the effort to combat transnational organised crime is the sharing of both land-based and maritime information," a Seychelles Ministry of Foreign Affairs (MFA) spokesperson said. The MFA is worried about the risk of insecurity returning to the western Indian Ocean if the EU Navfor Operation Atalanta mission ends before the root causes of piracy have been eradicated on land in Somalia.

Another international conference on maritime security will be held in Togo before the end of this year.

### Worries as violence of attacks increases

With pirate attacks worldwide continuing their recent downturn to their lowest levels for eight years, it would be easy to conclude that the scourge of piracy was on a downhill spiral to oblivion, writes Dave Sloggett.

That, however, would be too simplistic an analysis. While the overall numbers may be down, one of the worrying developments is that violence against seafarers appears to be slowly on the increase.

Of the 245 incidents reported to the International Maritime Bureau (IMB) in 2014, one-third of them involved an element of violence directed against crews. Nine seafarers were kidnapped while a further 13 were injured in attacks involving knives and guns and, sadly, four seafarers lost their lives.

While the overall number of attacks had fallen to well below the 2011 peak of Somali piracy, 2014 did see the overall number of hijackings increase from 12 in 2013 to 21.

Seafarers are clearly increasingly at risk when pirates choose to hijack vessels to steal

cargo. Rendezvousing with a vessel to offload the cargo takes time, so the crew has to be intimidated into complying with pirates' demands by putting them in fear for their lives.

Several of the worst incidents of violence took place in southeast Asia, where coastal tankers proved particularly vulnerable to being hijacked. This represents a change in the recent pattern, where the most violent attacks took place in the Gulf of Guinea. The figures for 2014 incidents in the area show a clear decline in pirate activity and a widening of the area where attacks are conducted. The Gulf of Guinea saw 37 attacks in 2014; 10 of these incidents, during which one person died, involved the pirates opening fire.

Crews can also be at risk during briefer periods when pirates board vessels with the aim of stealing ships' materials and crew valuables. This occurred on 183 occasions in 2014 with the majority of these occurring around the coastline and anchorages of Indonesia. This is a boarding rate of 74% of the total number of incidents reported to the IMB.

During each one of these events the crew is at risk, even if for a short period of time. In nine of these incidents seafarers were directly threatened with knives and guns. For varying periods of time, a total of 442 crew members were held hostage, sometimes in very difficult circumstances. This is a 45% increase over the 304 held in the previous year.

Clearly those engaged in piracy are still finding it too easy to get on to vessels that are at anchor and under way. This does call into question the effectiveness of the existing best management practice, which aims to prevent boarding in the first place. Perhaps it is time to look again at what technologies might be deployed to help prevent pirates boarding vessels. If new solutions are not found, it is inevitable that more seafarers will be killed and wounded in the course of their duties. For the maritime industry that cannot be an acceptable price to pay.

https://www.icc-ccs.org



Reclaimed land to become new port facilities in Mauritius



Repayment term, in months, for Lianyungang Ports' \$64M loans





#### World's most important Port Conference is in Hamburg from 1–5 June

This year's IAPH World Ports Conference will be held in Hamburg. From 1-5 June, international representatives from business, politics and science will gather to debate changing demands and alternative actions required in our times of globalisation and climate change.

The conference will focus on the smartPORT concept developed by the host of the conference, the Hamburg Port Authority (HPA).

During the five-day conference delegates will be able to to discover about what Hamburg, Europe and the world mean by intelligent port management.

In this context, Jens Meier, CEO of the Hamburg Port Authority, will show how IT-supported infrastructure makes economic and logistical processes more efficient and sustainable in the Port of Hamburg.

Michael Pal, principal logistics analyst for Fremantle Ports, will demonstrate an Australian perspective on intelligent port management as he speaks on the topic "Truck marshalling automation and key performance indicator control".

In addition, representatives from Stockholm, Valencia and the Far East will present answers to the question of what makes a port a smartPORT.

The conference will start with a discussion about ship size development. Among other issues the panel will explore the challenges facing ports, terminals and ship masters when it comes to handling mega carriers and whether there is a limit to a ship's size.

Peter Hinchliffe, secretarygeneral of the International Chamber of Shipping, and Christian Growitsch, director of the Hamburg Institute of International Economics (HWWI), will introduce the topic by delivering a general overview of global economic developments.

The last day of the conference will focus on cruise shipping, port legislation, and air quality in ports, presented in parallel sessions.

In addition, the IAPH Women's Forum will meet for a discussion on how diversity contributes to smart thinking.

In a session on cruise shipping, Douglas Ward, author of the Berlitz



Cruise Guides, will explain the "wow" effect and why delivering it is crucial to cruise business.

In the session on port legislation, legal experts from Rotterdam, London, and Hamburg will, for instance, talk about location factors and the role they play in maritime legal proceedings. They will also examine whether insurance policies adequately cover the risk of marine accidents in ports. Are cargo shipments sufficiently insured? Who is liable for harm to persons or property in ports?

The conference will be enhanced by an enjoyable social programme that will provide attendees with the opportunity to explore beautiful Hamburg and network with international colleagues.

The evening events will be held at historical buildings located right in the heart of this Hanseatic city. Several tours will invite delegates to experience the smartPORT Hamburg from up close.

More detailed information about the conference programme is available at

www.iaph2015.org.

#### What is a smartPORT?

The hand represents an intelligent port management that connects all means of transport within a port. Via transparency and IT-support, this connection becomes very efficient. At Hamburg, its components include: Innovative technologies to generate energy from renewable sources Energy efficiency: interlinking energy-generating plants and consumer plants Innovative mobility concepts: intelligent traffic management and the switch to alternative fuels Funding programmes to support businesses in their efforts to manage resources efficiently Co-operation: using existing resources and know-how Intelligent infrastructure: 270km of fibre-optic cables to collect, analyse and process data Transparency: IT-supported measures and co-operation ensure a high level of information at all stages of the supply chain Early intervention: through sensor technology, Cloud, Big Data and mobile end devices.



# First female quay crane operator in the UAE

**Ayesha Hassan AbdulRahman Al Marzooqi** could have stayed a clerical worker, but the 28-year-old Emirati was looking for a bigger challenge – they don't come much bigger than a 126.5m-high, 1,932-tonne super post-Panamax quay crane

An employee of Abu Dhabi Terminals, which manages and operates Abu Dhabi Ports' flagship Khalifa Port container terminal, Ayesha says she was inspired by a documentary about a female pilot in the UAE Air Force.

"Before I started training, I was given a tour of the port facilities and the ship-to-shore quay cranes really fascinated me. I felt this was my calling and I decided to become a crane operator," she explained.

In her final phase of training, which allows her to work independently at the port, Ayesha's new 'office' is a small, see-through cabin 60m above the ground and underneath the crane's boom, which has an outreach of 65m (22 containers) and a lifting capacity of 90 tonnes.

*P&H* asked her about the training programme's challenges.

"I don't think I will face any other challenges as opposed to being a male operator," she said. "The programme consists of theoretical classroom training and practical training, and as a crane operator the most important thing is to exercise full concentration; it is important to make immediate decisions without hesitation, so a strong heart will definitely contribute! "The most challenging part of the job is the weather, which is the least controllable," she continued. "Being so high up, weather conditions like strong winds or light fog make it more difficult to operate a crane. I strongly believe, however, that by gaining more experience and practical skills it will be easier to manage."

How does she feel being the only woman in the entire region to take on such a job?

"From the moment I heard about it, I was determined that I wanted to go for this special job. I am extremely happy and proud as an Emirati and to be the first female Emirati crane operator in the UAE. It is a way

# ■ I believe that dedication, ambition and determination will be the success factors

to serve my country and contribute to the UAE's economic growth. I really hope it will inspire more Emirati women to take up roles that are unique for ladies."

What advice would she give to women wishing to enter the industry?

"I believe that dedication, ambition and determination will be the success factors for any job that you wish to pursue. I am also happy with the support that I received from Abu Dhabi Terminals – they believed in me when I decided to become a crane operator," she concluded.



#### We value your opinions

Do you have strong views about any of the articles in *Ports & Harbors*? Are there other industry issues you feel strongly about? **Email your views to ph@iaphworldports.org and we'll be happy to include them** 



#### Entries close for 2015 IAPH Awards

Entries for the IAPH Awards 2015 have successfully closed on 31 January.

As it turned out, we have received a total of 42 entries, a breakdown of which is as follows.

Akiyama: 9

• Hamburg Open: 6

- Port Communications: 8
- Port Environment: 6
- IT: 13

The screening process will start shortly. It will be carried out by a panel of judges established by and within the technical committees responsible for administering the awards.

The award presentation will be made at the 29th IAPH World Ports Conference, which this year is being held in Hamburg, Germany.

Please contact the IAPH Secretariat if you require confirmation of the receipt of your entry.

Thank you for your active participation in the awards.



Artist's impression of the completed Kalibaru (New Priok) Port

#### Members' news: New Priok Terminal ready for mega-ships

Our corporation, Indonesia Port Corporation II, or IPC, is an Indonesian state-owned company which provides logistic and port services. We manage 12 ports along Indonesia and handle more than 50% of container flow in the country, with total container throughput at 6.6M teu at the end of 2014.

It is an honour for us to introduce you to our latest port development project, known as New Priok

Terminal in Taniung Priok Port, Jakarta, Indonesia. With the draught designed up to -19 meters low water spring (mLWS), NewPriok Terminal is targeted to be able to handle big vessels with capacity up to 18,000teu. Upon its completion in 2015 especially for Container Terminal 1. NewPriok Terminal is expected to encourage the integration

of the country's national logistics chain, as well as provide strong and competitive services in energising your business.

For more detailed information or our company booklet, please visit our website at www. indonesiaport.co.id. Should you have further questions on our project or company, please feel free to contact us at corp\_sec@ indonesiaport.co.id

#### Membership notes

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

#### **Regular members**

#### Joint Stock Company "NC"

<b>Aktau International Sea Commercial Port</b>				
	Address:	Mangystau region 130000		
Ak	tau City, Umirzak	Settlement, KAZAKHSTAN		
Q	Telephone:	+8-7292-54-45-49		
6	Fax:	+8-7292-44-51-01		
0	E-mail:	aktauport@aktauport.kz		
	Website:	http://portaktau.kz		
٨	Representative:	Yalbachev Mikhail		
	Yurivev	ich. Chief Executive Officer		

#### Associate members

#### Mr. Fokoua Tewa Joseph Eric

- Address: Yokohama International Student House-Room 907, 4-171-23 Honchodori, Tsurumi, Yokohama 230-0048, JAPAN C Telephone: +81-45-507-0121 Fax: +81-45-507-2441 E-mail:
  - herricktewa@gmail.com
- Pature of Business Activities: Student of

Yokohama National University

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	Representativ	re: Richard E	Eastham, CEO
٦	Nature of Bus	iness Activities:	Maritime
			Consultancy



# Dates for your diary A selection of forthcoming maritime courses and conferences

#### March

IVIMIC	
16-19:	Cruise Shipping Miami Miami, USA www.cruiseshippingevents.com/miami
16-27:	Port Congestion & Strategic Container Traffic Management, London, UK http://www.ttpminternational.co.uk
23-27:	Seminar on Dredging and Reclamation (South Africa), Cape Town, South Africa <i>www.iadc-dredging.com</i>
23-03:	Legal Aspects on Port Operations and Trade, Antwerp, Belgium www.portofantwerp.com/apec
25-26:	3rd Med Ports 2015, Casablanca, Morocco <i>www.transportevents.com</i>
25-26:	2nd Port & Logistics Development Forum, Shanghai, China http://www.pdforum.com.cn
29-31:	International Maritime Transport and Logistics Conference – MARLOG 4, Alexandria, Egypt www.marlog-aast.org/2015/index.php
30:	Certificate in Maritime Law and Shipping Contract, Distance learning www.ibc-academy.com
April	
16-25:	Singapore Maritime Week 2015, Singapore <i>www.smw.sg</i>
17:	Introduction to coastal structures, Wallingford, U.K. www.hrwallingford.com
18-29:	Integrated Coastal Zone Management, Delft, Netherlands <i>www.unesco-ihe.org</i>
20:	Swedish Maritime Day 2015, Gothenburg, Sweden http://swedishmaritimeday.se/english/
20-08:	International Port Seminar

Delft, Netherlands www.unesco-ihe.org

20-30:	Port Logistics & Maritime Business Management, London, UK www.ttpminternational.co.uk
20-30:	Seminar on Inland Waterways Transport, Antwerp, Belgium <i>www.portofantwerp.com/apec</i>
20-21:	AAPA Spring Conference, Washington DC, USA www.aapa-ports.org
21-22:	TOC Asia, Singapore <i>www.tocevents-asia.com</i>
21-22:	Ports and Terminal Technology, Miami, USA www.mcimedia.com/Eventhomes/eventlist/1
21-23:	Sea Asia, Singapore <i>www.sea-asia.com</i>
21-24:	TransRussia 2015, Moscow, Russia www.transrussia.ru/en-GB
22-24:	International Chemical and Oil Pollution Conference and Exhibition, Singapore <i>www.icopce.com</i>
28-29:	Inland Waterways & Shipping Conference, Rotterdam, Netherlands www.informamaritimeevents.com
May 6-7:	11th Trans Middle East 2015, Doha, Qatar www.transportevents.com
11-22:	Seminar on Port Engineering, Antwerp, Belgium www.portofantwerp.com/apec
16-19:	PIANC AGA 2015, Porto, Portugal <i>www.pianc.org</i>
June	

1-5: The 29th IAPH World Ports Conference, Hamburg, Germany www.iaph2015.org



■ Both the drivers and the dispatchers can access the real-time congestion information for each container terminal gate

# Mitigating terminal gate congestion through smart solutions

*Masaharu Shinohara* is the vice-chairman of IAPH's Port Operations and Logistics Committee and executive officer of Kobe-Osaka International Port Corporation, established in October 2014 by a merger of the Kobe and Osaka Port corporations

Quite a few of the world's busiest container terminals suffer from chronic gate congestion problems. At the Port of Osaka, the queue of trucks sometimes extends for kilometres, exacerbating traffic congestion around the container terminal areas.

In order to eliminate the traffic congestion, terminals must provide increased gateprocessing capabilities, which require a sizable amount of capital investment in areas such as additional gate facilities and container-handling equipment.

Other 'smart' approaches may be applicable in mitigating congestion problem. For example, Port of Los Angeles and Port of Long Beach have instituted demand control measures called PierPASS. These aim to shift daytime traffic to the night, in order to alleviate the gate congestion problem. Under the programme, all international container terminals in the two ports established five new shifts per week. As an incentive to use the new off-peak shifts and to cover the added cost of those shifts, a traffic mitigation fee is required for most container movement during peak hours.

In another example, Port of Sydney introduced a gate appointment system to cope with chronic congestion. The especially notable characteristic of this system is its "two-way" penalty system for truckers and terminal operators – a penalty fee is imposed not only on the truckers but also on the terminal operators, depending on the situation. Here at Kobe-Osaka, we are proposing another smart approach to mitigating gate congestion problems: using smartphonebased location information. Nowadays, most truck drivers possess a smartphone that can receive GPS signals at any time in open areas. If most truck drivers' realtime location information is shown on the driver's smartphone screen and a trucking company dispatcher's desktop computer, then both the drivers and the dispatchers can access the real-time congestion information for each container terminal gate. In this way they can avoid the most congested terminals and, instead, head to a less-crowded terminal gate when they have multiple destinations in a day. RH

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# City of Hamburg – Calling at the smartPORT



**29th IAPH World Ports Conference** 



The Port of Hamburg is delighted to welcome you to the **29th IAPH World Ports Conference** from **June 1 - 5, 2015.** Join us and experience first-hand our **smartPORT** – a "flagship port" for innovative technologies. Be inspired by an outstanding conference programme.

A lively accompanying persons' programme and a variety of enjoyable evening activities will offer exciting entertainment and give you exclusive insights into the culture and traditions of the Hanseatic City of Hamburg. IAPHHAMBURG2015 29th WORLD PORTS CONFERENCE

Visit us at www.iaph2015.org