



PORTS HARBORS

Official Journal of the International Association of Ports and Harbors

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The tree of knowledge... ports can pass on important skills through apprenticeship programmes

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November/December 2013
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Rising seas

Secretary General Naruse believes that the next challenge on the IAPH climate agenda should be ports' adaptation to global warming

Susumu Naruse

Secretary General – The International Association of Ports and Harbors



“Warming in the climate system is unequivocal and since 1950 many changes have been observed throughout the climate system that are unprecedented over decades to millennia,” says the IPCC’s (International Panel on Climate Change) assessment report, which was released at the end of September. In it, IPCC has reviewed and analysed scientific data that has become available since its previous report in 2007. It includes various scenarios or assumptions, and analyses these, as to future probable phenomena often closely related to port activity. Phenomena include:

- Continued emissions of greenhouse gases will cause further warming and changes in all areas of the climate system.
- That it is very likely that Arctic Sea ice cover will continue to shrink and thin.
- The worst case scenario for global mean sea level rise for 2081 to 2100 relative to 1986 to 2005 will likely range from 0.52 to 0.98m.
- Most aspects of climate change will continue for centuries even if CO₂ emissions are stopped.

Now is the time for the industry to start preparing for the possible consequences of climate change such as sea level rise and intensification of storm events. PIANC will also be focusing on

adaptation measures against global warming. I attended its MarCom (Maritime Navigation Commission) meeting in Japan in September, and we exchanged ideas about future co-operation programmes between PIANC and IAPH, in particular, on global climate issues. Many IAPH members have made good progress in implementing mitigation measures, and the WPCI has

successfully produced a number of guidelines and manuals.

But adaptation measures are more difficult to approach as ports lack good practices, and any countermeasures cannot be generalised since every port has its own unique geographical conditions. UNCTAD, however, is ready to initiate a project on adapting against global warming, and I believe that IAPH would benefit from working under the umbrella of UNCTAD along with various other organisations and institutes, on this topic. **PH**

“Adaptation measures are difficult as ports lack good practices”

Port updates

LNG AFLOAT

Belgian gas carrier operator Exmar has signed a letter of intent with LNG Partners, based in Houston, to provide and operate a gas liquefaction and storage unit for the BC LNG project in British Columbia, Canada. Exmar said that the unit, scheduled for delivery in 1Q16, would be the second floating LNG production facility in the world. It will follow into service another facility it is due to bring into operation off the coast of Colombia for Pacific Rubiales Energy in 1Q15.

CATALAN CRUISING

Carnival Corporation agreed with Port of Barcelona in September to invest over €20 million (\$27 million) in a new cruise terminal. Terminal E, will be built at the port's Adossat Wharf, will cover approximately 10,000m², have capacity for 4,500 passengers in turnaround operations and will be able to receive post-Panamax cruise ships. Port of Barcelona will also invest €3.5 million, €2 million of which will be used to develop the urban environment.

ALUMINIUM IN EMIRATES

Abu Dhabi Ports Company (ADPC) signed an agreement on 30 September with Emirates Aluminium (EMAL) to handle the export logistics of finished aluminium products from EMAL's production site. The volume of exported metal will grow gradually from 600,000 tonnes in 2014 to 750,000 tonnes in 2015 onwards, said the port in a statement.

CONTAINERS AT BTP

Port of Santos's newest terminal, Brasil Terminal Portuário (BTP), received its first container vessel, the *MSC Challenger*, on 14 August. "The vessel is 233m in length, with a draft of 9.9m. Under the current draft limitations, BTP can only handle vessels with a draft of up to 11.2m because of the navigation channel's water depth. Once the dredging is completed the terminal will be able to accommodate three vessels of up to 9,200teu capacity simultaneously, with a 15m draft.



Photo: IHS Maritime

The port at Havana (pictured) will be developed for cruise, with cargo handling activity moved to Mariel

A legislative decree to create a special development zone (SDZ) at Mariel, Cuba, was approved on 19 September by the Cuban Council of Ministers, IHS Global Insight reports.

The planned SDZ will cover 465km² and will be located at the Port of Mariel, 50km west of the capital, Havana.

The project will be the first of its kind in Cuba and aims to increase exports and reduce the island country's dependence on imports. The development is part of a broader \$900 million scheme, partly funded by Brazil, which includes a new port in Mariel, including container terminals.

"The SDZ will not only be aimed at attracting foreign investment but also at creating conditions for exports to other markets, generating local development, foreign currency revenues, hi-tech projects, and jobs," said Diego

Moya-Ocampos, a country analyst at IHS Global Insight.

The new legislation is expected to be approved on 1 November once the enabling regulation and its seven complementary resolutions are approved.

"The creation of the SDZs is one of more than 300 new economic policies approved during the Sixth Congress of the Communist Party in April 2011. These are aimed at updating Cuba's 'socialist economic system', promoting foreign investment and giving more room to the private sector in the economy," said Moya-Ocampos.

"The SDZs are not expected to be a relaunch of the duty-free zones that were promoted in the 1990s and later closed, but are part of a more comprehensive strategy to promote local development."

The Port of Mariel is the closest deepwater harbor to the United

States and its extension is the largest and most complex infrastructure project undertaken by Cuba.

"The project is partially aimed at updating Cuban port infrastructure to take advantage of the extension of the Panama Canal in 2015 and is ideally located to handle US cargo if the US trade embargo is eventually lifted," noted Moya-Ocampos.

A container terminal will form the first phase of the SDZ and is expected to become the main gateway for Cuban trade.

"Eventually, all industrial port facilities at Havana port will be moved to Mariel so that Havana harbor is able to accommodate cruise ships and recreational boating activity, while the industrial land area near the port of Havana will be redeveloped for tourist and eco-friendly uses," said Moya-Ocampos.

Kapellskär expands to meet demands

The Port of Kapellskär, which is located 90km north of the Swedish capital Stockholm, will be expanded over the next two and a half years at a cost of SK745M (\$110M), Stockholms Hamnar, the municipally owned port company, said.

"On 2 September 2013 Stockholm Municipal Council approved the implementation decision that gives a green light for the planned expansion of the Port of Kapellskär," the port said in a statement.

The ro-ro ferry port, which serves links to Estonia and Finland, will have the harbor basin deepened and a new stone pier built for the Swedish Maritime Administration.

"The preparations have been ongoing for some time and now all of the decisions are in place for the project to start. The procurement process can be completed with the first of the subcontractors and construction work is planned to begin at the end of September," Stockholms Hamnar said.

The purpose of the rebuilding and expansion is to modernise the 50-year-old facility with the aim of making it more efficient, improving environmental factors and safety aspects, meeting market demand for existing and future throughput volumes and vessel sizes, and to relieve the pressure on Stockholm as a freight port.

China opens first water LNG filling station

China's first LNG filling station on water was launched into operation in Baguazhou, Nanjing, Jiangsu province, recently, the Ministry of Transport said on 9 October.

The LNG feeder *Harbor Star 1* is a 100m-long and 18m-wide pontoon, equipped with two 250m³ LNG storage tanks as well as two low-temperature loading arms. The low-temperature loading arms bunker

vessels alongside with LNG, which must be kept at a temperature of -162°C.

The pontoon was designed by Yangtze River Ship Design Institute and Nanjing Fuel Gas Engineering Design Institute and was constructed by Jiangsu JOC Port Company, a joint venture between JOC International Technical Engineering and Nanjing Towngas, who also invested in the project.

Northport eyes market share



Photo: Northport Malaysia Berhad

Northport Malaysia Berhad has seen a dip but is looking into transhipment

Northport Malaysia Berhad is counting on a rosier outlook in the next few years, amid a slight slowdown in movements at the port this year.

Northport CEO Abi Sofian Abdul Hamid told *P&H* that he was building his team – be it the technical people or sales and marketing or operations experts – to become better equipped as the port gets hungrier for growth. “Northport is very hungry for growth and we are not looking at neighbouring Westports alone. We are looking at more opportunities beyond Malaysia. Opportunities are widespread in the region,” he said.

On the question of whether Northport is also keen to take a bite out of Singapore's transhipment volumes, Abi Sofian answered: “Why not? We are looking at all

options [to increase volumes]. We have in fact been approached by some clients about the possibility of transhipment via Northport.”

Some Indonesian firms are mulling over the option of transhipping from Northport to India or the Middle East, he said. “That is why we are continuously working with customers to identify how to assist them in their requirements.” Abi Sofian said that apart from local demand, the other key driver for growth in Northport was transhipment volumes. “Transhipment will be the future of this.”

Amid delays, which were blamed on difficulties in extracting old piles and limited working hours due to tidal restrictions, Northport's new MYR500 million (\$157 million) container terminal

was due to be commissioned at the end of October. Further ahead, the port is also allocating around MYR1 billion to finance redevelopment projects at the port for the next five years.

The upbeat outlook is despite Northport's slower throughput this year due to a number of challenges, including STX Pan Ocean's exit. From 3.1 million teu handled last year, Northport's outlook for this year is “not so good”, barely hitting 3 million teu, admitted Abi Sofian.

“We have been affected by STX Pan Ocean's troubles. They are our third-biggest client, contributing an average of 100,000teu a year, so with them cancelling their calls in Northport since May this year, we are negatively impacted.”

Further, Abi Sofian said the slowing down of Malaysia's manufacturing sector also translated into lower movement of local cargoes this year for Northport. “We are surrounded by [an] industrial area, so our focus is basically on the domestic trade, but when it is not moving or when it is slow, we will be impacted by that,” he said.

Northport, which is located in Port Klang, Malaysia, handles 70% containers and to lesser extent other cargoes such as cars and breakbulk cargoes as well as liquid and dry bulk cargoes of various types and sizes. With facilities in two locations, the port operator handles conventional cargo in Southpoint and handles containers in Northport. So far this year, Northport has handled 1.9 million teu and 6.8 million dwt in conventional cargoes.

Port updates

LB CUTS EMISSIONS

Port of Long Beach has managed to cut diesel particulate matter by 81% since 2005, according to an analysis released by the port in August. “The results for 2012 mark six straight years of improving air quality in the harbor area thanks to the port's focused efforts to reduce air pollution,” it said in a statement. “The reasons for air quality improvements include bigger ships carrying cargo more efficiently, newer ships with cleaner engines, [and the Clean Trucks programme].”

APPLES UP AT NELSON

Port Nelson Limited reported an overall net profit after tax of \$7.1 million for the 2012/13 period with a gross income of \$12.1 million. Revenue was up at \$39.6 million, compared with \$38.8 million the previous year. Log and fuel movements were very close to 2011/12 levels and apple exports were up on the previous year, continuing the positive trend from the 2012 season, the port said.

INCREASES FOR GPA

Georgia Ports Authority (GPA) saw around 24.5 million tonnes of cargo pass through its ports in the 2013 fiscal year, an increase of around 590,000 tonnes. GPA handled 637,000 auto and machinery units, an increase of 11.7% on the previous year; 2 million tonnes of bulk cargo, an increase of 62%; and more than 315,000 intermodal containers. In September GPA's executive director, Curtis Foltz, detailed an improvement plan with a \$186 million investment for 2013 and 2014.

LA AIR CLEANER

Port of Los Angeles's 2012 Inventory of Air Emissions shows that clean air strategies – launched in 2006 – have resulted in a 79% drop in diesel particulate matter (DPM) since 2005, it said in a statement. “Removing cargo volume fluctuations from the equation, the 2012 inventory shows that the amount of DPM emissions related to moving 10,000teu through the port in 2012 was 81% lower than the emissions output related to moving the same number of containers through the port in 2005.”

Cash & Cargo

UP/DOWN IN RUSSIA

The Russian port of Ust-Luga's cargo volume grew by 37% to 40 million tonnes for the eight months to 31 August, according to Russian Association of Trade Sea Ports figures. Some of the Gulf of Finland port's gains were at the expense of Primorsk, just 251km to the northeast, where volume dropped by 16% to 43 million tonnes during the same period. At the Port of Novorossiysk, which belongs to the same company that owns Primorsk, cargo volumes fell nearly 5% during the period to 75 million tonnes.

LA STAYS STEADY

Port of Los Angeles' overall volumes for August totalled 709,675teu, the second consecutive month when volumes exceeded 700,000teu, it noted in a statement. Compared with August 2012, volumes moved up by less than 1%. Imports moved down by 1.41%, from 360,762teu in August 2012 to 355,682teu in August this year. Exports decreased by 3.84% from 164,819teu in August 2012 to 158,484teu in August 2013.

HEDLAND HEADS UP

Iron ore imports to China from Australia's Port Hedland climbed to 22.3 million tonnes in August – a 33% year-on-year and a 9% month-on-month increase, according to Port Hedland Port Authority. Exports totalled 27.4 million tonnes in August, up by 3% from 26.6 million tonnes in July and 20% from 22.8 million tonnes in 2012. China, the port's largest importer, resumed growth in August after a slowdown in 1H13. Its growth rate is on track to make its target of 7.5% this year, premier Li Keqiang said at China-ASEAN Expo in September.

SIPG SEES PROFIT

Shanghai International Port Group recorded profit of CNY2.55 billion (\$417 million) in the first half of 2013, up by 13.19% from 1H12, according to its interim report. Its revenue amounted to CNY13.73 billion during the period, up by 0.64% year-on-year from CNY13.65 billion, and earnings per share climbed by 13.23% from CNY0.099 to CNY0.112.



Photo: Arianne Perez

Inai Kenanga sets sail

Inai Kenanga at the launch in August

Malaysia's first mega trailing suction hopper dredger (TSHD), *Inai Kenanga*, was launched at the end of August having cost MYR1 billion (\$305 million). It took dredging company Inai Kiara 30 months to build and has a hopper capacity of 33,335m³, ranking it fifth in the world's eight largest mega TSHDs.

"It's almost unimaginable that you can build a hopper dredger of this kind of capacity and dimension with our primitive facilities," said Kamrul Choudhury,

managing director of Inai Kiara.

At 197.7m in length, 36.4m in breadth, and a loaded draught of 12.3m, *Inai Kenanga* has a speed of 17.5kt. It will not only be used for dredging projects, but also reclamation, oil spill response, and containment works, said Badrul Hisham Kassim, project director for *Inai Kenanga*.

After the launch, it was deployed for a dredging job in Tanjung Pelepas, southern Malaysia, to help in deepening

and expansion work. It will remain at the port for the next 36 months.

In respect of its long-term future, Kassim said the group was eyeing projects in Indonesia or Singapore and in other countries in south Asia and as far as the Middle East, but initially for more local use.

Port Klang's general manager, IAPH executive committee member and chairman of the Eastern Dredging Association (EDA) Captain David Padman, attended the launch and noted the importance of the event in the dredging landscape. "As far as EDA is concerned, it's a monumental achievement because it's the first time in the Far East [to have launched such a large dredger]."

Padman is also optimistic on the prospects of Malaysia becoming stronger on the international dredging scene through Inai Kiara, but cautions that "many factors" will have to be taken into consideration. "Support from the government is very important because of the finances involved, but with the prime minister coming today, it shows the commitment of the government [to this sector]."

Business as usual in Iraq

Shipping companies operating in Iraq remain upbeat despite a recent quayside attack. No further incidents have been reported at Iraqi ports since security was tightened following a single bomb attack on Iraq's deepwater port of Umm Qasr in August. A local shipping executive said logistics companies and customers in the region remained upbeat about the future as long as the security situation continued to be stable.

"There has been a tightening of security in and around Umm Qasr in the past few weeks, but in general, business in Iraq is carrying on as usual," Jim Robb, general manager, Kuwait and Iraq, for Inchcape Shipping Services, told P&H. "We have seen no less appetite from our cargo customers and there is a positive feel about the future, as long as the security situation remains stable."

Robb said he expected to see a

lot more growth in Iraq in the next few years and ISS was discussing how to configure its cargo services to meet that growth. As a sign of its confidence in Iraq's future, ISS opened an office in Iraq's main oil port, Basra, a few months ago.

Government and port officials met to discuss what local sources believe was a truck bomb that

exploded at the quayside of Umm Qasr port on 17 August, injuring four people and causing damage to a nearby ship. An official statement said a security plan was drawn up at the meeting to prevent further breaches of port security. Measures included the purchase of scanning equipment, closed-circuit cameras, and sniffer dogs trained to detect explosives.



“Positive feel about the future as long as the security situation is stable”

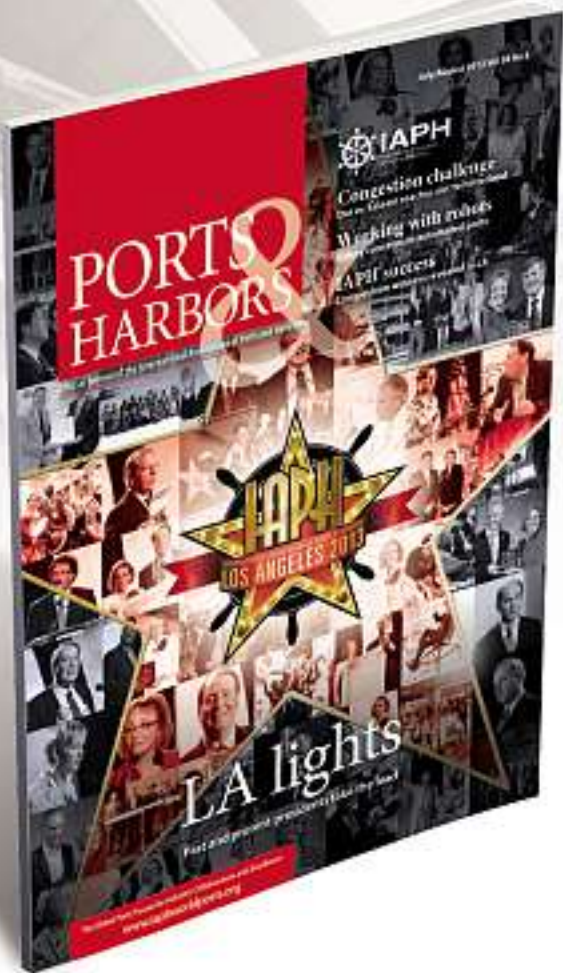
Jim Robb

General manager Kuwait and Iraq, ISS

Photo: ISS Shipping

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Bought & Sold

COMPETITOR CONTROL

Leading Russian box terminal operator Global Ports Investments, in which APM Terminals (APMT) is a major shareholder, has entered a binding agreement to take full control of its nearest competitor, NCC Group, for an estimated \$1.5 billion. APMT, which announced the news in September, said that the deal, which remains subject to regulatory approval, would create a new national infrastructure champion in Russia to the benefit of all stakeholders in the transport value chain.

NEW CRANE IN NEWPORT

Liebherr has announced that Associated British Ports' Port of Newport has taken delivery of one of its LHM 180 mobile harbor cranes. The investment will play a particularly important role in supporting the port's bulk and breakbulk customers by handling steel, agribulk, forest products, and minerals. The crane has a lifting capacity of 64 tonnes, is 50m high, and will handle cargo on a variety of vessels up to Handysize bulk carriers.

KALMAR IN ARGENTIA

Cargo handling solutions and services company Kalmar has been awarded a contract for the supply of multiple Kalmar SmartPort solutions to TecPlata, a greenfield terminal located in Port La Plata, Argentina. The terminal is fully owned by ICTSI. In its first investment phase it will bring in Kalmar SmartLift and SmartStack on its 18 Kalmar terminal tractors, nine ZPMC rubber-tyred gantry cranes, two Kalmar reachstackers, and three Kalmar front-end loaders. The delivery also includes the SmartMap visualisation tool.

FENDERS FOR NORFOLK

Fendercare Marine of Norfolk in the United Kingdom has won what the company describes as "a major fendering contract" to supply Yokohama fenders to Eastport UK at Great Yarmouth, in the same country. The contract is for 17 Yokohama pneumatic fenders each measuring 2.0m x 3.5m.



ICTSI and PSA partnership... left to right Rafael J Consing, VP and treasurer, ICTSI; Enrique Razon Jr, chairman and president, ICTSI; Tan Chong Meng, group CEO, PSA International; Lim Pek Suat, CFO, PSA International

Operators partner for Aguadulce port

ICTSI and PSA International are partnering to develop, construct, and operate the container port terminal and ancillary facilities in Aguadulce in Buenaventura, which is Colombia's main port, it was announced in September.

Singapore-based PSA International, through its subsidiary PSA Colombia Pacific, purchased 46% of Sociedad Puerto Industrial Aguadulce (SPIA), an indirect subsidiary of ICTSI, for the deal.

Upon completion of the agreement, ICTSI and PSA will jointly own 91% of issued and outstanding share capital of SPIA.

Aguadulce will be key to Colombia's trade growth, said ICTSI chairman Enrique Razon. "PSA and ICTSI share aspirations for Aguadulce Port, and the opportunity to bring this shared goal to fruition presented itself. We are confident and look forward to the success of this important collaboration."

"ICTSI acquired the concession a few years ago," Rafael Consing, ICTSI vice-president, said. "We have been discussing the possibility of collaborating with PSA for the right opportunity. Eventually, we concluded that SPIA was a good

project to jointly develop."

PSA Group CEO Tan Chong Meng said: "ICTSI and PSA will bring our complementary strengths to ensure this greenfield terminal supports the growing demand for trade and logistics in Colombia, amid the improving business environment in the region." The first phase of the project will include 600m of container quayside and a capacity of 500,000teu/year. In its final phase, the pier will have a total of 900m of quay and 1.2 million teu annual capacity. Also, upon completion of the first phase, the port will have four gantry cranes, eventually increasing to nine.

In addition, 250m of quayside will be made available for the handling of about 2 million tonnes of bulk cargo and 2 million tonnes of coal per year.

Africa infrastructure cash targets ports

"Financing of port projects is key right now," according to Tas Anvaripour, Africa Development Bank (AfDB) head of infrastructure. She said the bank intended to raise \$10 billion for infrastructure projects under the new Africa50 scheme for developing maritime transport gateways, which she says is "already attracting a lot of attention from investors".

The Africa50 fund is comprised of two main funding arms that will draw on capital from public private partnerships for focused development projects. "It has been designed to deliver more bankable projects to the market," said Anvaripour. "The number of bankable infrastructure projects brought to market is still insufficient," she said, "even though they offer an excellent way to diversify investment portfolios and steady, long-term, and above average returns".

The AfDB has closed more than 40 large infrastructure private sector projects in the past five years and it believes that Africa50 will go a long way in improving maritime transport gateways.

Meanwhile, Kenya has agreed to receive a cash injection of \$5 billion from China. The money will go

into key transport projects and pay for a rail line linking Mombasa's port to Rwanda and Uganda. The deal was agreed in Beijing in August following talks between Kenya's new president, Uhuru Kenyatta, and China's president, Xi Jinping.

"We are investing a further \$320 million to expand our new container terminal," Nancy Karigithu, director general of Kenya Ports Authority, said. The facilities are expected to double capacity to 2.3 million teu/year, making it the biggest expansion at Mombasa in 30 years. The port expansion is a part of a wider transport project costing \$13 billion linking Kenya, Uganda, and Rwanda though the funding is yet to be confirmed.

The three countries have signed an agreement for the construction of a standard-gauge railway line linking the Port of Mombasa to Uganda's capital Kampala before it is extended to Kigali in neighbouring Rwanda.

"The Kenya government is also building a new facility at Lamu, which would link landlocked South Sudan and Ethiopia to the Indian Ocean by means of a rail line, an oil pipeline, and a major highway," said Karigithu.

Chinese ports automate

Chinese container ports are seen as the first movers in Asia towards full automation, partly due to difficulty in finding blue-collar labour.

Key Chinese ports that move boxes, such as Port of Shanghai, Port of Qingdao, and Port of Tianjin, which are looking at the next expansion phases with aggressive timelines, are considering automation as one of the options, Yvo Saanen, managing director of Netherlands-based ports consultant firm TBA, told P&H.

This "is kind of surprising because labour costs [are] very low, still they are looking at automation", Saanen pointed out. "It really indicates that they have difficulty in finding blue-collar labour, they have a high turnover in people who after six months leave [the company], so they have to train [new] people again," Saanen explained.

Further, being fully or partially state-owned, Chinese ports are "less worried about the capital" needed for expansion and

automation. "They look really long-term, that's also the reason why I think they would go for automation, because they expect a lot of increase in labour costs. If you really look 30 years ahead, it makes sense to go to for automation."

Saanen also said that in roughly 50 years, all ports will be fully automated. "That's the future and I'm pretty convinced about that because the type and

nature of the work in ports is repetitive, simple, dangerous, and relatively easy to automate."

He anticipates that some ports in Asia will take a bit longer to automate, but in the end they will follow Europe and Australia. "Now how fast is this going to be? I think [Chinese] terminals will play an example role that will be followed by many. So maybe they're going to speed up the process," he concluded.



Photo: Arlene Perez

US oil acquisition

Terminal operator Buckeye Partners has bought energy company Hess Corporation's US east coast operations for \$850 million. The acquisition was announced in October.

It includes 19 terminals in New York and in the US mid-Atlantic and southeast, with approximately 29 million barrels of refined petroleum products storage capacity. Of that capacity, approximately 15 million barrels is located in New York.

The purchase also includes a terminal on St Lucia in the Caribbean with about 10 million barrels of crude oil and refined petroleum products storage capacity. All but two of the facilities are marine terminals, and 12 have deepwater access.

Terminal capacity for Buckeye Partners will be

increased by 20%, and will be added to its existing capacity of over 100 terminals in the US and the Caribbean. The acquisition includes a multi-year storage and throughput commitment by Hess, according to Buckeye.

Buckeye president Clark Smith pointed out that the proximity of Hess's Port Reading (New Jersey) terminal to Buckeye's Perth Amboy terminal and Linden hub "provides the opportunity to create a large, integrated network in New York Harbor that would leverage the pipeline connections between these facilities".

Hess revealed in January its plans to sell its refining, terminal, and storage holdings and focus instead on exploration and production. The agreement is expected to close in 4Q13.

Two-way navigation for Yangshan

The main channel of Port of Yangshan in Shanghai has opened for two-way traffic navigation and will reduce ship waiting times to berth, according to Xu Guoyi, the director of China Maritime Safety Administration, Shanghai branch.

The development will also improve the port's efficiency and reduce operation costs.

The channel opened officially on 15 October.

Throughput at the port reached 14.15 million teu in 2012, 52% more than the port's

designed capacity, bottlenecking its operation. It is said that with two-way navigation, waiting time at Port of Yangshan will be reduced by 50%, from the 3.5 hours per ship it was previously, and the utilisation of berths can be enhanced from 72% to 84%.

Bought & Sold

MIAMI PREPS FOR CANAL

In preparation for the opening of the expanded Panama Canal in 2015, PortMiami took delivery in October of four new super post-Panamax cranes. Once the canal opens in 2015, container vessels of approximately 12,000 teu to 12,500 teu will be able to transit it. The new cranes, bring PortMiami's crane total to 13, six of which are post-Panamax. At the moment the average container vessel calling at PortMiami can carry approximately 3,000 to 4,000 teu.

ECT STACKS UP

Liebherr Container Cranes has secured an order with ECT Delta Terminal in Rotterdam for seven SC340S straddle carriers, Liebherr said in a statement. The equipment is capable of stacking one over two high, and is supplied with a 40 tonne Stinis single lift spreader. They will mainly shuttle between the automatic stacking cranes and trucks. Liebherr has also secured separate orders from DPWorld Manila for both a ship-to-shore container crane and for two rubber-tyred gantry cranes.

POST-PANAMA FOR APMT

APM Terminals Gothenburg at Port of Gothenburg is in the process of purchasing two new super-post-Panamax cranes, the world's largest cranes for loading and unloading containers. There will also be an investment in two new rail-mounted cranes and an additional rail track that will run directly into the terminal. The new infrastructure will be in place during 2014.

PLANNING FOR RTGs

TCV Stevedoring Company at Port of Valencia took delivery in September of four new Konecranes rubber-tyred gantry cranes. The new machinery will be erected on the Muelle de Levante dock in the coming months. The whole process of assembly and 'plug and play' will be carried out in an area that has been specially equipped for TCV at the northern end of the Muelle de Levante terminal at the Port of Valencia. The work has been planned so as not to interfere with daily operations.

Dredging

BOSKALIS WINS BRONKA

Boskalis has won the contract to dredge and construct the new Bronka port shipping channel. The company is already reclaiming land for the facility under a contract awarded in June this year. Work includes construction of a 6km-long shipping channel, turning basin, and berth pockets for Bronka that will see 16 million m³ of clay, silt and sand dredged.

CORK MONITORS

Port of Cork can now precisely monitor and record its winter programme of seabed ploughing in real time as a result of a project delivered by data transfer technology firm Succorfish in partnership with Irish marine communication specialist SEA-Tech. Over the next six months, Port of Cork and SEA-Tech personnel will have the ability to "accurately record vessel movement more frequently and in real time and analyse activity as it happens from specific areas" in the world's second-largest natural harbor.

FLORIDA FUNDING

Florida ports have won \$150M in state funding for port development work that Governor Rick Scott believes is essential to growing the state's economy and its vitality as a major player in global trade. "Florida's 15 seaports support international trade and domestic manufacturing, and create jobs for Florida families. With this investment, we will continue to position Florida as a leader in global trade and commerce, particularly as it relates to the expansion of the Panama Canal," Scott said.

VIRGINIA CLEAN UP

Virginia's Portsmouth Naval Shipyard offshore areas will be dredged to remediate the effects of hazardous material spilled decades ago. The project has been signed off by state, federal, and navy officials. The shipyard, the US Navy's oldest and largest industrial facility, was designated a Superfund site by the federal government in 1995. About 3,800m³ of sediment will be dredged and disposed of in a landfill at a cost of \$3.2 million.



Photo: Port of Los Angeles

Dr Geraldine Knatz will retire as executive director of Port of LA at the end of this year. She was IAPH president for the 2011-2013 term

Knatz retires from Port of Los Angeles

Past IAPH president Geraldine Knatz will retire as executive director of the Port of Los Angeles at the end of this year.

Her position became insecure when a new mayor of Los Angeles, Eric Garcetti, was elected in July, local newspapers suggest.

"I thank Dr Knatz for her service to Los Angeles," Garcetti said in a statement. "My agenda for the port is focused on maximising its economic impact and minimising its environmental impact." Knatz's legacy at the port includes the Clean Truck Program.

Certain conditions in the plan that involved interstate

commerce were controversial and were successfully challenged at the US Supreme Court level by the trucking industry. However, environmental aspects of the scheme were lauded, including the removal of old dirty drayage trucks from the waterfront, reducing air pollution in the area by an estimated 90%.

Knatz was president of IAPH for the 2011-13 term.

She is a keen and active member of IAPH who drove forward the creation of WPCI, among other projects, and this year Port of LA hosted the IAPH World Ports Conference.

Tanzania set to increase efficiency

Tanzania's minister for transport, Harrison Mwakyambi, told Tanzania Revenue Authority (TRA) in October to increase its port efficiency by working 24-hour, 7-day working weeks.

"The TRA should get prepared for the new working schedule in order to speed up documentation processes, that otherwise remain dormant during the weekends and public holidays," said Mwakyambi.

Instructions were also given to prepare weekly reports on the performance of all inland container depots and announced that ports will no longer be allowed to charge customers during periods when cargo is not moving. "The TRA should see to it that operations and documents are processed and released every day to make sure there is no delay in clearance of cargo as is the case today," said Mwakyambi.

Commercial banks have also been alerted and urged to follow suit by operating a 7-day week to facilitate speedier financial transactions.

Despite the sudden drive, according to its port manager Awadh Massawe, Dar es Salaam has already seen a marked improvement in cargo clearance this year compared with last year when it handled 10.9 million tonnes of cargo.

Batista sells majority stake in Superporto

Brazilian business magnate Eike Batista has agreed to sell a majority stake in the Superporto Sudeste iron ore terminal in Itaguaí, Brazil, a financial filing has revealed.

MMX, the Batista company that owns the project, said on 14 October that a definitive agreement had been reached. Trafigura and Mubadala

Development, a sovereign wealth fund of Abu Dhabi, will own 65% of the project, and MMX will retain 35%, with the option to repurchase 7.5%.

Trafigura and Mubadala will pay \$400 million, and the new ownership team will take over \$595 million in debt. In addition, Trafigura and Mubadala have

agreed to provide a \$100 million bridge loan for the project.

Construction on Superporto Sudeste began in July 2010, with operations scheduled to start in mid-2014.

The port would be capable of handling Capesizes and would have an initial capacity of 50 million tonnes/year of iron ore.

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The International Association of Ports and Harbors (IAPH) is a global alliance representing over 190 ports in 85 countries. Together, IAPH member ports handle over 60% of the world's sea-borne trade and nearly 80% of the world's container traffic. It is a non-profit-making and non-governmental organisation headquartered in Tokyo, Japan.

IAPH provides a platform to develop and foster good relations and co-operation among the world's ports and harbors through forums where opinions and experiences can be exchanged. It promotes the role ports play in waterborne transportation and in today's global economy.

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To apply for membership please email info@iaphworldports.org or visit www.iaphworldports.org




'The Global Ports' Forum for Industry Collaboration and Excellence'

Cracking through the glass ceiling

Through a series of articles in *P&H*, the chair of the IAPH Women's Forum, **Diane Edwards**, will consider the place of women in the shipping and logistics industries. In this, the first article, she looks at some examples of unconscious discrimination and starts to explore the many barriers that prevent women from achieving executive status via the same career path as men

We work in a male-dominated industry. This is not new and historically there are a number of reasons for this. Much of the work involved hard physical labour, whether it was crewing a ship or loading cargo, physical strength played a part. That, combined with the perceived roles of men and women in society, where women were largely seen as the nurturing homemaker and were expected to consider home and family first, it is hardly surprising that most jobs at ports were taken by men.

However, both the world of work and views of gender roles has moved a long way in the last 50 years. In many areas the traditional barriers to entry no longer exist. Technological advances mean that many roles on and around the wharf require more brain or co-ordination skills, than brawn. Increasingly, women are seeking work outside the home both for financial reasons and for the challenge of a career. Yet the emergence



Port side jobs at POAL are not exclusive to men as Nevenka Erceg has realised

of women in port environments lags well behind many other industries.

There are of course a few high-profile women in our industry. Yet when considered as a percentage of all positions held, it is still, to use a relevant metaphor, a drop in the ocean. And where women have been successful, unlike successful men, it is rare for them to have become so via a traditional operational port or maritime route. Rather, most senior women have come via positions more 'acceptable' to females, such as finance, law, human resources, marketing, and communication. Former female stevedores, seamen, planners, and logisticians are still in short supply in the senior ranks of ports.

Before I begin to look at some of the reasons for this and suggest starting points for addressing them, it is important to point out that I am opposed to positive discrimination. In my opinion tokenism, such as using quotas or lowering standards for women, does nothing to further the cause of women. It only serves to discriminate against men, or leads to suspicion about the true abilities of women and resentment from men who may feel they have been disadvantaged.

Instead, I think we need to start working on the systemic barriers to female progression that hinder the participation of women in ports, particularly at the strategic level. These take on a number of forms including (but not limited to):

- Conscious discrimination
- Unconscious discrimination
- Flawed recruitment and selection models
- Self-limiting perceptions and behaviour by women
- The myth that 'women can have it all'
- Insufficient female role models within the industry
- Outdated models for mentoring and developing women.

In this issue I am going to focus on discrimination and in particular on unconscious discrimination, as I feel making advances in this area is fundamental to addressing female inequality in our industry. It is still an issue in most countries, both in those where women are still struggling for visibility and workplace equality and those where women already have higher industry participation and society is accepting of women's rights.

A brief mention of conscious discrimination, which is still a reality in many parts of the world. I am fortunate to live in New Zealand, the first country to give women the vote, and where few would openly argue male superiority, at least in relation to the ability to do a job. Whilst acknowledging that this is not the case in many countries, I feel that conscious discrimination is just the outward manifestation of a number of more insidious factors, many of which are

“It did not take long to realise that there were women interested in working in stevedoring jobs”

Diane Edwards

General manager people and processes, POAL



Photo: POAL

unconscious, which I'll address in this and subsequent articles.

I believe that unconscious discrimination is alive and well in the ports industry. Examples can be surprisingly simple. Let me give two examples from my own port.

I was somewhat surprised when I joined the executive team, to find that the boardroom, where we hold our meetings, has toilet facilities for men, but not for women. I was given the usual reasons for this: "it just happened when the layout of the building was reconfigured"; "not room for both and so went with the majority"; "ladies facilities are just outside so not far to go"; "we've not had women on the executive team before so there was not previously a need"; and even, "it's the men who are disadvantaged as the ladies facilities are better situated". Possibly all good practical reasons, yet few had thought about the more subtle message it conveys, that of a low expectation of female participation at the senior level.

Perhaps even more interesting was our previous work design for stevedoring, a classic case of systemic discrimination. Traditionally, the career path for 'wharfies' involved a structured progression through the key stevedoring job 'families' or groups. When first recruited, people were trained in the expectation that their first job would be lashing. In time, they would

progress to driving straddle carriers. They might then progress to cranes, or enter the management ladder as a shift manager.

The reality of this progression meant that physical strength became a key factor for recruitment, effectively making it difficult for women to enter stevedoring. The fact that they could have potentially been great straddle or crane drivers was irrelevant because they could not get that initial start in the industry. Of course a few did come through, but they were exceptions rather than a common occurrence. I call this unconscious discrimination because I do not think that this work design was established to specifically exclude women, yet it effectively did.

At Ports of Auckland we have been addressing this through work redesign and better recruitment and training practices. Job families have been reclassified so that the specific skills needed for each job family are more precisely defined. This highlighted that the skills needed for different types of stevedoring roles varied considerably and that there was no real reason why someone with an aptitude for, for example, driving, could not enter the workforce in a position driving straddle carriers without the need to spend the first few months or even years of their career in the ports industry in lashing roles.

This change in mindset meant we were able to change our recruitment practices by looking for specific skills. It did not take long to realise that there were women interested in working in stevedoring jobs and who suddenly saw opportunities where none had been seen before. Since changing we have attracted applications from a number of women and following a recent recruitment drive we have trained several women who have now joined our workforce, one of whom is among our highest performers. By removing the barriers to entry we have effectively increased the talent pool we can draw upon.

Interestingly, this is only the beginning. Bringing significant numbers of women into jobs previously held by men is not without its challenges. We are putting support systems in place as the women discover the challenges they face, and men who now face working with a different colleague demographic.

But that story and looking at the other barriers women face must wait for another issue. Watch this space. **PH**

Diane Edwards is Ports of Auckland's general manager people and processes. She became chair of the Women's Forum at IAPH 2013 in Los Angeles in May

More info: See page 40 of this issue; plus future issues of P&H; www.poal.co.nz

Apprenticeships: a two way investment

Few national regions are geared up to offer courses specifically targeted at the ports in their area. *P&H* looks at on-the-job training offered by four UK ports

The stage is set for a titanic battle for the title of United Kingdom's leading container port. Hutchison's 'alpha male' Felixstowe terminal is preparing to face the new kid on the block: DP World's London Gateway, which was due for launch as *P&H* went to press.

Training is an area that will determine whether these two UK ports can keep their competitive edge by attracting and retaining skilled employees. Offers of on-the-job apprenticeships from a port fulfil at least two purposes. Firstly, it trains local workers with skills that the port needs and values but may otherwise not be available from local vocational training providers. It may also be that these providers do not offer courses that are configured as a stepping stone to employment in a container

terminal or other port activity.

Secondly, by offering apprenticeships to those out of work, ports can help to create hardworking employees who will remain loyal to their company. "Apprenticeships are a very worthwhile investment as regards employee retention and we have a history of success going back over 10 years with in excess of 90% retention of successful technician apprentices," Robert Page, head of human resources, Hutchison Ports (UK), told *P&H*.

"Apprenticeships are designed to address the challenges of an inadequate supply of trained technicians in the local labour market with the skill sets required in electronics, electrical drive systems and mechanical engineering associated with electro-mechanical drive systems. Training is carried

Apprenticeships are a very worthwhile investment

Robert Page

Head of human resources,
Hutchison Ports (UK)



Photo: Hutchison Ports (UK)

out largely internally in Hutchison's own training academy by its own instructors and assessors.

"The challenging areas in skills for entry to apprenticeships are adequate standards in mathematics, English and science subjects," he noted.

However Hutchison does link these apprenticeships with a local college of further education to confer Ordinary National Certificate and Higher National Certificate (HNC) status on successful apprentices. In addition, the terminal operator's engineering apprenticeship is endorsed by the UK's Institute of Mechanical Engineers.

Page also pointed out that Hutchison's training courses put a strong emphasis on safety: "We carry out our own training in all technical skills required for the safe and efficient operation of port-related equipment including cranes, fork trucks and heavy-duty articulated internal movement vehicles. We also offer comprehensive training in professional disciplines such as finance, procurement, human resource management and general management and leadership skills."

Equally, London Gateway container terminal, which has risen on the site of a former oil terminal, has been engaged in a frenzy of activity for more than a year as it prepares for its November launch.

Needless to say, part of that preparation has been the training of crane and equipment operators. Since September, the terminal has moored a training box ship under its five giant first-phase quay cranes, providing realistic working conditions that will bring its crane operators up to speed.

But looking to the future, DP World is also investing in its next generation of specialists, recently selecting six candidates for on-the-job training leading to an HNC in engineering. The four-year programme combines study, training and hands-on work experience. London Gateway will pay the apprentices an annual salary to study at college and work onsite and, at the end of the four years, the HNC qualification will set them up for a career in mechanical and electrical engineering.

"I'm passionate in helping to drive forward skills... so I'm very pleased to see DP World investing long term into the youth of the area with this four-year programme," said local member of parliament Stephen Metcalfe.

The provider for DP World's apprentice scheme is South Essex College of Higher Education. Its principal and chief executive, Angela O'Donoghue, said: "There's no better way to back young people's aspirations than an apprenticeship; it is an investment in the skills that will make a huge difference to their careers."

The apprentice scheme will expand as the port and logistics park grow, explained Gateway's human resources manager Victoria Tobin. "We launched with engineering because that is the one area where we have had the most challenge in recruiting, but we do want to extend the scheme to other areas, including administration and finance."

One of the side-effects of the recent global economic crisis in the UK context has been the high rate of youth unemployment, with school and university leavers unable to find jobs. This finding was endorsed by a meeting of engineering leaders in early September during London International Shipping Week, which held a roundtable discussion on the extent of the skills shortage in the ports and shipping industries. A key topic of debate at the roundtable was the results of a recent survey polling 500 hiring authorities, which confirmed that 93% of them believe they are working in a skill gap market.

Key points were that 91% of the authorities polled are concerned that their business could be negatively impacted by recruitment troubles in the next 12 months, because of a lack of suitably trained candidates. Almost two-thirds (62%) disagreed or were not sure that engineering candidates from universities are suitably educated and ready for work in the maritime sector.

Partly as a response to tackling youth unemployment, Port of Tyne has set up a scheme for young apprentices looking for a career in administration, accountancy or civil engineering. This summer, this northeast English port advertised for five apprenticeships that include a period of work experience.

"Our apprentices see the chance to learn on the job and get qualifications at the same time as a real alternative to full-time studies," said Geoff Gillon, the port's director of human resources. "We have extended the apprenticeship programme to many other areas. Our first business administration apprentice recently left to take another step on her career in human resources, so following that success we're now delighted to offer more business administration apprenticeships in facilities, human resources and engineering, as well as two new apprenticeships in civil engineering and accountancy."

A similar scheme has been undertaken by the Port of Dover, which is working with the national charity UK Sailing Academy (UKSA) to change the lives of unemployed young people through maritime training and experience. As part of the UKSA's East Kent Change Direction programme, in which participants study a wide range of maritime activities, the Port of Dover offered 12 work placements from August to October 2013 that provided each participant with eight days of hands-on experience of maritime activity at Europe's busiest international ferry port. **PH**

UK ports are using apprenticeships to ensure they have enough trained technicians

Low tech, the

first step

Illustration: H Kidd/Shutterstock

Dr Andrew Birchenough is the lead author of a set of low-technology guidelines for assessing dredged material, commissioned by the IMO. He tells *P&H* that the first step in assessment is to take a good look at it

Making environment-friendly choices can be expensive. When the London Convention was introduced in 1972 it represented one of the first official international commitments to the environment. It called for states to protect the world's oceans, and put in place measures to control the amount of pollution that is disposed of at sea. Its successor, the London Protocol, which came into force in 2006, banned disposal at sea except for a limited number of possibly acceptable wastes, such as dredged material.

It includes an annex that assists with the assessment of those wastes to ensure that they meet a certain criteria before being permitted for disposal at sea. The 42 states that have signed the protocol can follow the waste-assessment guidelines (WAGs) – a set of instructions aimed at national authorities.

However, some of the tests detailed under the WAGs are expensive, involve specialist expertise, or

require equipment and laboratories, which many states simply cannot afford, do not have access to, or both. During regional workshops held by the IMO it became apparent to the Central Dredging Association (CEDA) that a low-technology version of the WAGs was required for dredged materials. Therefore, the IMO asked CEDA to create these requirements. In turn, CEDA commissioned Cefas – the UK-based Centre for Environment, Fisheries & Aquaculture Science – to create the 'Waste assessment guidelines training set extension for the application of low-technology techniques for assessing dredged material'. IAPH played a part too putting forward financial resource and technical input.

These low-tech guidelines have been in the public domain for a year and a half, with the official document due to be published as *P&H* went to press. Feedback on the document has been limited, but

positive with some states reporting on how useful it is. A number of small changes have been made in response to this feedback.

The London Protocol asks for any material that is to be considered for disposal at sea to be characterised according to the WAGs. It refers to any dredged material that is to be disposed at sea, even that which has been dredged close to the location selected for its disposal. This means that material dredged to create an access channel for seagoing vessels, and then reused to build a breakwater 3km from its original location, will still be required to be characterised under the protocol.

The low-tech guidelines show that you can start at quite a basic position and develop your capabilities as you get access to technology or seek support. How much work a state would need to do to bring their operations in line with the protocol depends on how they are already managing disposal at sea. Many have been monitoring waste disposal at sea in their own countries anyway. However, once a state signs up to the protocol these activities must be in line with it.

One of the first stages is to consider characterising the material and set up an action plan to make that possible. When characterising and evaluating the dredged material, start with the basics. As the report explains, some very useful tests can be carried out by just looking at the material. Contaminants bind to the finer fractions in sediment, for example the silts and clays with particles of less than 63µm in diameter. Sand containing little or no clay is unlikely to contain trace element and organic contaminants, and, therefore, may not need further investigation.

Visual inspection features heavily in the low-tech WAGs and requires the following to be recorded: colour; homogeneity; presence or absence of animals; smell; visual signs of contamination; and, texture.

Once the quality of the material is ascertained disposal areas also need to be identified and designated. The potential environmental effects of putting that material there need to

be considered, especially if the material is to disperse away from the site.

To effectively manage disposal at sea and prevent pollution a permit process needs to be set up. This can be governed by a port authority or other authority. The low-tech WAGs are aimed at states that perhaps do not have a permit process in place and these guidelines can still be implemented even if this element of the process comes later.

It is hoped that the low-tech WAGs will bring about a holistic shift in how states, not currently signatories to the London Convention and London Protocol, approach waste assessment. It suggests that an ideology that can be implemented while still maintaining any operations that need to take place.

States are also invited to consider if dredging is actually needed or whether there are any other options available to them. Reducing the amount of dredged material in turn reduces the amount of material that needs to be disposed of, and does away with or reduces the issue in the first place.

The techniques in this document are not going to be as good as those in the main WAGs required under the protocol, but they are the first rung on the ladder. They require little more than people's time, and this, in turn, will help foster knowledge and expertise. However, it does offer a good economical solution for those states that are keen to make environmentally conscientious choices, but which do not yet have the resources to fully commit to the London Protocol. **PH**

Dr Andrew Birchenough is principal marine adviser at Cefas (Centre for Environment, Fisheries & Aquaculture Science)

The report can be found at: www.imo.org

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Cola bottle supports science

One area of the report that has called for a cheaper solution is plume monitoring. Suspended sediment plumes – clouds of nutrient-rich sediment – caused by excessive amounts of suspended solids being released in to the water often through dredging and sediment disposal activities, need to be understood and monitored. More advanced techniques make use of real-time data and this data can be used to slow down or stop dredging activity until suspended-sediment levels reach an acceptable level. These techniques monitor total suspended solids (TSS), but this is a costly exercise and so in the low-tech WAGs, turbidity measurements are recorded as a substitute.

The cola water sampler is a bottle set in concrete with a cork stopper fastened with a rope. This is used to collect a sample of water from within the sediment plume. Once collected, the guidelines put forward a number of lower cost means of testing and details the advantages and disadvantages of each. The tests are: naked eye; Jackson Candle Turbidimeter; siltation percentage; and, turbidity tube.

The concrete on the cola water sampler weighs the bottle down making it easier to get samples from the sediment plume





Brazil

taps Belgium training talent

Photo: APEC

Site visits are part of the curriculum on an APEC course

Brazil is drafting in port training expertise from Antwerp as part of a drive to boost skills and expertise in the region, reports **Stephen Cousins**

The Brazilian minister of ports and APEC – Antwerp/Flanders Port Training Center have signed a Memorandum of Understanding to provide port training programmes, including seminars covering strategic and operational topics, to senior and middle management.

Although the precise content of the courses is still being finalised, the MoU agrees on an initial pilot programme with the Port Authority of Rio de Janeiro, planned for November. Subsequently, six seminars for a total of around 300 attendees will be held in the cities of Santos, Fortaleza, Paranaguá, Salvador, Rio and Vitoria during 2014 and the beginning of 2015.

The courses form an important part of planning behind the implementation of new Brazilian port legislation, and will also cater to an increased demand for specialised training in the port sector.

Walter van Mulder, who heads up activities for APEC in Brazil, told *P&H*: “Brazil is trying to make its ports more competitive and is revamping its concession management to make ports more efficient and competitive and to maximise the use of land dedicated to port activities ... After signing the MoU we had a working session with people from the ministry and agreed to hold seminars every three months in Brazil over the next two years, which will be open to people from the port as well as staff and private companies from elsewhere in the country.”

Apart from management courses, a second phase of the programme will focus on training for dock workers. Course attendees who successfully complete

the courses will receive an internationally recognised training certificate from APEC.

APEC’s training HQ is located in Antwerp, Belgium, where standard two-week seminars on topics such as port management, container terminal management, safety and security take place. The training also includes practical site visits to the ports of Antwerp, Zeebrugge and Ostend. It also delivers tailor-made seminars, based on a client’s particular needs, either in Antwerp or abroad. According to Van Mulder, Brazil’s programme could involve a combination of both.

“From talks so far, I get the impression they want guidance and to share our best practice advice on concession management, daily operations, financial management and other services,” he said.

“They are also keen to look at nautical access, including dredging and pilotage. Outside of management issues, we can also train dockers in day-to-day handling operations, improving the productivity of cranes, straddle carriers etc. which is key to any successful operation and therefore likely to be on the table with Brazil.”

APEC has previously been working with Brazil’s ministry of ports for many years, training personnel including those in top management positions. The MoU was signed at a ceremony at the Belgian embassy in Brasilia on 11 September by Antwerp port alderman Marc Van Peel, who is also chairman of the board of APEC, Paul Verkoyen, CEO of APEC, and Minister of Ports José Leônidas Menezes Cristino. **PH**

R E G I S T E R N O W



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Looking abroad for training

Small island states are dependent on their ports, so well-trained, professional staff are vital to ensure efficiency. **Stephen Spark** looked at the training challenges facing two Indian Ocean ports

The Mauritius Ports Authority (MPA) has a staff of 520, the majority of them based in Port Louis. Staff are mostly recruited locally, although the net is also cast overseas for pilots and marine engineers.

Mauritians' lack of interest in maritime careers worries both the government's Shipping Department and the Mauritius Maritime Training Academy (MMTA), which opened in October 2007. It focuses on the fisheries and cruise sectors, but also runs tailored courses for the port authority and will shortly provide

fire training for 110 of MPA's marine staff.

MMTA's principal, Marday Moorghen, faces some practical difficulties, however: "We don't have appropriate equipment and we need more instructors. It's very difficult to get qualified people to work here." MPA's HR manager, Prameshwary Gungaram, said: "The biggest concern about training remains the high cost, particularly due to lack of trainers and expertise in the local market. The authority has to rely on other major ports and institutions to acquire knowhow."

It will also be looking outside, for design and

ILO training guidelines

In November this year, the final version of the International Labour Organization (ILO) Guidelines on Training in the Port Sector was sent out to those who participated in the tripartite meeting for the guidelines. Frank Leys, port specialist at the International Labour Office, the permanent secretariat of the ILO, said that the document is just starting to be promoted. The guidelines were officially finalised in March 2012.

The competency-based guidelines were conceived in 2007 when employers and workers came to the conclusion that although work in ports had changed in the last decennia, it was still considered dangerous, Leys told *P&H*. But "accidents can be prevented," he added. "Not only are trained workers safer, they also have the skills to improve cargo handling efficiency and enhance the service that can be delivered to the clients."

IAPH was involved in the report from beginning to end, as was the International Transport Workers Federation and nominated governments, with input sought from industry, including port operators and training institutes. The training guidelines available in three languages: English, French and Spanish.

To download the guidelines go to: www.ilo.org



Photo: Stephen Spark/Trafon Publishing

Mauritius Maritime Training Academy... not enough Mauritiens are opting for a career in maritime

implementation of a training programme to address operational risks, including port safety, security and environment – the invitation to tender will be issued soon. Meanwhile, MPA is analysing its staff's training needs so it can create suitable programmes for them.

Gungaram told *P&H*: "Employees have the opportunity to undergo training both locally and overseas. The authority is often invited by the IMO and other institutions to nominate participants for training courses in port management, port shipping and logistics management and other operational courses relating to the maritime sector."

About 1,000nm farther north, at Port Victoria, the Seychelles Ports Authority (SPA) shares similar concerns. Corporate services manager Lina Hoareau told *P&H* that SPA recruits all its staff locally – "The Seychelles Ports Authority prides itself on its 100% Seychellois workforce" – who are given on-the-job training by senior staff.

Near the port is the well-equipped Maritime Training Centre (MTC), which opened in 2012. Hoareau noted: "We have an MoU with the MTC, whereby we absorb about 40 students for internship each year, and we can later select those who perform well and who are interested to continue to work with the port on permanent basis." SPA also accepts interns from Seychelles Institute of Technology and Seychelles Polytechnic.

Seychelles' population of just 90,000 can support only limited training facilities, so staff are sent – at great expense – for further training to Belgium (APEC, Port of Antwerp), China (Ningbo Polytechnic), France (Le Havre and IFEP), Malta (Port of Valletta) and Singapore (PSA).

Placements overseas are another training approach SPA uses, and Hoareau recounted her own recent experience. "I went for a one-month placement at the Port of Marseille from 2 November 2012. I feel privileged to have had the chance to understand how [the port] functions. I was impressed, and am still in awe with what I was exposed to. From this I have been able to capture best practices, models and frameworks, some of which we have adapted here."

She added: "One thing I learnt during my visit is, despite differences in size and location, all ports are the same in terms of the basic services. So there is always something that will interest you from another port."

Hoareau concluded: "Such an exercise is vital for a small port like Port Victoria." **PH**



Photo: Stephen Spark/Trafon Publishing

Maritime Training Centre in Seychelles... the Seychelles Port Authority takes 40 students from the centre each year



Photo: Francis Kaloki

Francis Kaloki from KPA studied IT and electronic data exchange in Antwerp. His training was sponsored by IAPH

IAPH training success

Every year IAPH allocates \$10,000 to support training for up to four IAPH members. Francis Kaloki from Kenya Ports Authority (KPA) is one recent member selected for sponsorship under the programme and spent two weeks at APEC, Port of Antwerp's training institute, studying information technology and electronic data exchange in port business.

Kaloki found out about the scholarship programme when researching IAPH. His managing director, Gichiri Nduu, was then president, which piqued his interest in the organisation. Since attending the course Kaloki revealed that the knowledge he gained was very useful when making KPA's rail system paperless. "We have done away with shipping orders which used to be dispatched together with the containers. Now we have the information prior to [the] trains' arrival," he said. He added that the port authority is now aiming to introduce another paperless process, for export containers as they move through the container freight station. He would definitely recommend that other eligible IAPH members apply for scholarship under the training scheme.

Scholarships of up to \$2,500 are given to each selected individual to go towards course fees. The applicant must choose from five institutes recognised by IAPH to deliver training as part of the scholarship. These are:

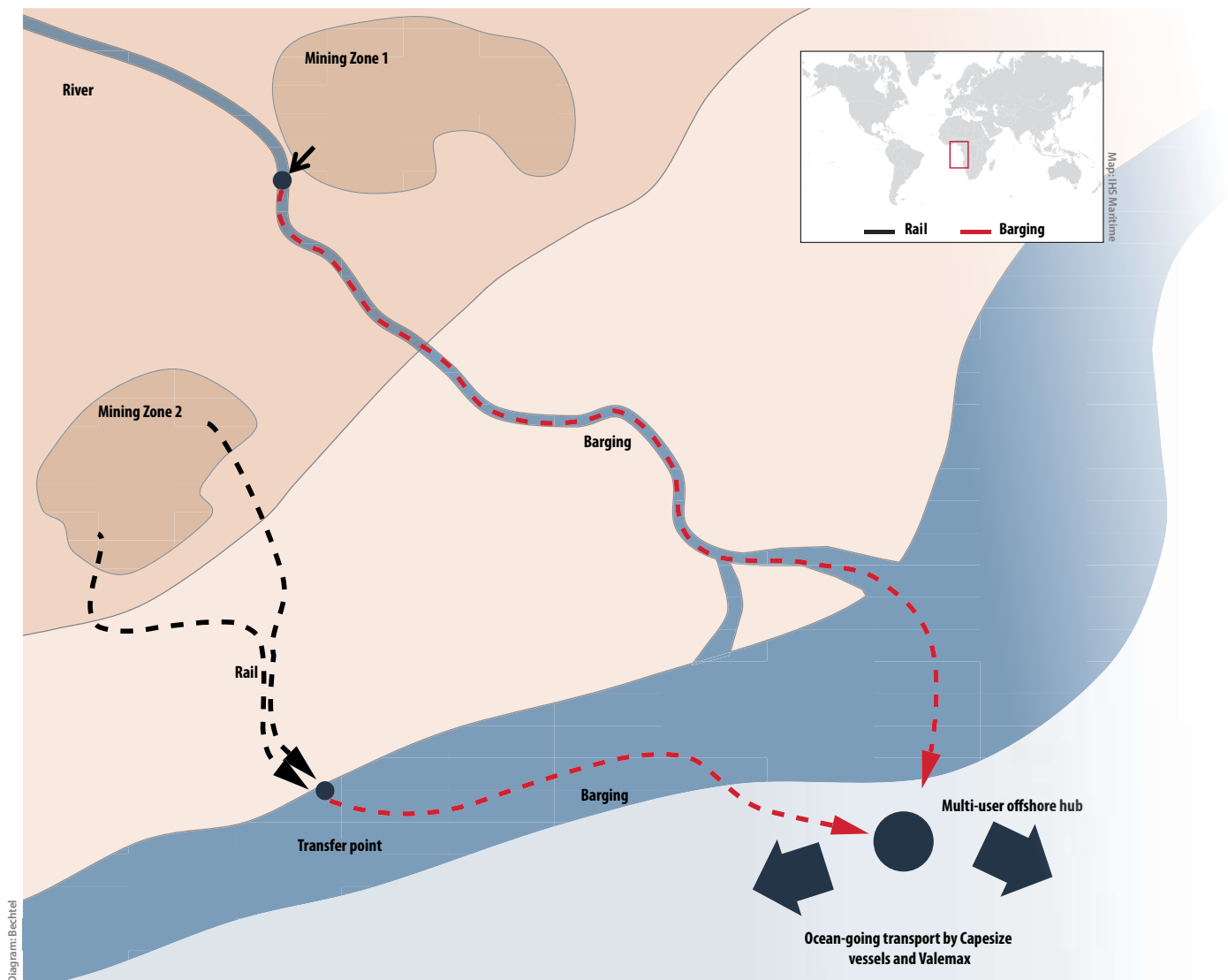
- PSA Institute (Singapore)
- IPER (Le Havre, France)
- APEC (Antwerp, Belgium)
- IBC Global Academy (distance learning)
- UNESCO-IHE (Delft, Netherlands)

A successful applicant should be a young, full-time member of staff at an IAPH member port in a developing country. Further restrictions also apply. Applications are considered by the IAPH Secretariat.

Kaloki found it a wonderful opportunity: "My gratitude is beyond words. I really appreciate what IAPH has done for me as a person and in general for Kenya Ports Authority. Many many thanks indeed."

More info: www.iaphworldports.org





Bechtel's offshore hub concept is reliant on good inland transport connections

Going to the deep

Conventional landside ports are expensive to create and time-consuming to get started. *P&H* talks to Bechtel about its offshore concept

Africa's ports are becoming increasingly congested through a combination of rising demand for imported containerised consumer goods, and the export of bulk cargoes such as iron ore and coal needed for economic growth in other regions. The continent's economy is looking up, and supporting its growth are its ports.

However, an increase in capacity is now an urgent requirement and governments are exploring opportunities to find funding to invest in this, including public-private partnerships and concessions with private operators.

Concession arrangements can take a long time to finalise, and in any case new infrastructure is

expensive to build. The west and south coasts of the continent are also known for their high swells and this brings its own challenges, although advances in mooring techniques and research is being carried out in this area [see page 24].

Navigable water depth along most of the west African coast is restricted to approximately 10-15 m making Panamax vessels the largest that can navigate most of these waters. However while this vessel size serves the bulk cargo industry well, it cannot carry the vast quantities of iron ore or coal from countries such as Guinea, Sierra Leone, Cameroon, and Gabon destined for China. Transporting large quantities of bulk cargo in these relatively small vessels over long

distances does not make sense environmentally or financially. With increasingly large ships coming online as seen with the triple e-type vessel *Maersk McKinney Moller*, Africa's ports could further distance themselves from the economies of scale that these Goliath's of the industry have to offer. APM Terminals' sister company Maersk Line, who commissioned the triple e's, already operates two ports in Nigeria alone – in Lagos and Onne – and is also pursuing a deep water project and free trade zone in Badagry.

Engineering and project management company Bechtel hopes it can address many of these challenges with a concept it calls the Multi User Offshore Hub (MUOH). It is essentially a fixed offshore structure, like a rig, facilitating mooring and material handling facilities, not protected by a breakwater, that handles export of bulk situated at sufficient water depth to handle Capesize vessels, about 8-10 miles out at sea. It has a smart terminal arrangement and docking concept, alongside which ocean-going vessels and barges can be moored.

This does away with the depth problem, reducing dredging costs and size limitations of vessels as cargo handling is taken to the water depth, Marco Pluijm senior ports specialist at Bechtel told *P&H*. "The MUOH facility can also be made suitable for handling containers," he said.

Shipping companies' desire to use increasingly large container ships to serve Africa is in turn generating a need for this type of special offshore container hub, he explained. "At the moment this activity is focussed on minerals but it could serve as a transshipment hub, especially in terms of coastal shipping," he said adding that it "could be a good option" in the near future. It is said to provide a minimal uptime of 90% and is cost effective, both in terms of investment and operations.

This solution is reliant on efficient inland waterways and rail links, with the "most profitable solutions near inland waterways", fed by barges from 10,000dwt to 50,000dwt, Pluijm continued and noted that the offshore hub concept is already being tested in Sierra Leone and is linked only with barges.

Another country that could also benefit from the solution is Mozambique, with its coal mining concessions in the Tete region. When considering

this case study Bechtel worked within the existing infrastructure and corridors available, to create a multi-user transport network, rather than various networks for various users.

"Based on the idea that the whole transport chain is taken into account, initial calculations show that combining rail and barging can lead to an overall cost reduction of about 40% in investment costs and 50% or more in operational costs/tonne for shipping coal from Mozambique to China," said Pluijm.

Key to this approach is that barging is used not only for bringing the minerals to the coast, but also slightly further offshore to the offshore hub, eventually serving Capesize vessels and possibly Valemax-sized vessels when it becomes necessary. The system could be developed in phases, with additional elements being added on demand.

In Mozambique, for example, the solution would be that transport is initially done from the mine to the Zambezi River via a short rail track and then into barges sailing to a port facility on the coast. To begin with, Panamax vessels would be loaded to encourage exports and attract trade, but with increased mine output capacity, the barging and MUOH concept can be further developed. Barges would become more sophisticated, perhaps self-offloading, and sail direct to bulk carriers at offshore hubs.

The MUOH will not do away with dredging entirely, but it would significantly reduce the need for it. Trenches for cables connecting the hub to the mainland supplying electricity and other services could be required. And in the case of Mozambique, some initial and maintenance dredging on the Zambezi River would also need to be carried out.

Bechtel has already received enquiries about the MUOH proposal from several mining companies interested in the environmental and cost benefits of sharing port infrastructure.

"At the moment," said Pluijm, "it is much cheaper to build an offshore port with adequate water depth for large vessels than a number of different coastal ports, only suitable for Panamax size vessels. I think we can build a port island with the right infrastructure and terminal arrangements for the same amount of money as one coastal port, but ours would be for two users and serve bigger ships." **PH**

“It is much cheaper to build an offshore port with adequate water depth for large vessels than a number of different coastal ports, only suitable for Panamax size vessels”

Marco Pluijm Senior ports specialist, Bechtel

Challenging waters

Photo: ShoreTension

Wave conditions are not always as smooth as seen here... ShoreTension is one solution that can help in rough seas

A joint venture will seek to find out more about waves and how they affect moored vessels

From April to September the west African coast experiences long swells, bound waves, and squall conditions making mooring of bulk carriers, LNG vessels, and tankers a challenge for ship operators and port authorities. This hampers operations and increases downtime in ports in the region and offshore transshipment, Marco Pluijm senior ports specialist at Bechtel told *P&H*. These conditions limit a "vessel's workability because the vessel starts to move and delays operations," he said. Conditions are sometimes so difficult that operations have to be stopped to avoid mooring line failure.

A spokesperson from mooring solutions provider, Cavotec, supports this statement: "While berthed, rough conditions can cause excessive ship movement, disrupting loading/unloading and greatly increasing the danger of injuries or death from snapping lines".

Bechtel has therefore teamed up with Marin – the Netherlands-based maritime research centre – to better understand the dynamic response of moored vessels in these challenging swell and bound wave conditions. "We are trying to get a better understanding of why

this happening and when," said Pluijm. The Swell Master joint industry project had its first meeting in September and it hopes to garner interest from other interested parties such as port authorities, oil and mining companies, contractors, engineering, and research and development companies. Pluijm told *P&H* that they are currently talking to a large mining company that is experiencing challenging offshore conditions.

The results and costs would be shared with participants and the outcomes of the research will remain confidential to these participants for three years.

There are solutions to help mitigate against the challenges of handling cargo in difficult sea conditions. Cavotec's MoorMaster is one option, as is ShoreTension, a hydraulic mooring solution championed by All-round Port Services and ECT container terminal in Rotterdam. Since the introduction of the first ShoreTension system another version has been introduced specifically created for vessels operating in heavy swells, Martijn Breuer, project manager at ShoreTension told *P&H*.

The ShoreTension system has been used on special projects including at the Port of Cotonou in Benin, when unloading some container cranes. Four cylinders were used for this project, noted Breuer, each with a pulling force of 60 tonnes. Breuer said the system is used, because it is effective and easy to install – it needs to be loaded on to a truck but once on the quayside it takes about half an hour, he noted.

Such systems can help increase productivity too, said Cavotec: "In one particular client-commissioned study, it was demonstrated that berth uptime for a swell affected berth would be increased from 82% to 94% with MoorMaster."

■ The Research on Passing Effects on Ships (ROPES) Joint Industry Project – another Bechtel-led project – reached its final testing phase in August. Final results were due to be made available to participants this November. The new guidelines will be presented next November at PIANC's conference in San Francisco. **PH**

More info: www.cavotec.co.uk; www.shoretension.nl; www.bechtel.com; www.marin.nl

Know your waves

Bechtel's Marco Pluijm gives a brief overview of three different types of wave:

- A short wave is classed as a wave period less than 10 seconds – the effect makes barges go up and down, but not a vessel.
- A long wave (swell) is classed as a wave period of 10 to 16 seconds – the effect makes a vessel go up and down, but not barges.
- A bound long wave is classed as a wave period of 30 seconds to several minutes long – the effect makes both vessels and barges go up and down.

Powering ahead with ore capacity

Vale is positioning itself for a stronger presence in Asia as it increases its port capacity and commits to its offshore activity, reports **Arianne Perez**

Brazilian mining giant Vale is set to widen its iron ore distribution loop in Asia with the commissioning of Teluk Rubiah maritime terminal and distribution centre in Malaysia, by the end of this year.

Currently at the final stages of development and costing a total of \$13.7 billion, Teluk Rubiah terminal in Manjung district, Perak in northwestern Malaysia, has the capacity to handle up to 30 million tonnes of iron ore a year, a Vale representative told *P&H*. Vale broke ground at the site in October 2011.

Teluk Rubiah will be part of the company's iron ore distribution system in Asia, complementing two floating transfer stations (FTS) operating in Subic Bay, in the northern Philippines. The two FTS in Subic, along with a deepwater jetty at the Port of Sohar, Oman, will "remain in place", to handle the entire capacity of Vale's fleet of 35 Valemaxes or very large ore carriers.

An FTS, which is a 280,000dwt iron ore vessel modified with ore discharging and loading equipment, can receive Valemax ships alongside and unload or transfer part of the cargo to other ships, Vale explained. "It can handle at least 15 million tonnes per year."

"They [FTS] transfer iron ore from very large ore

carriers or Valemaxes, [and] the vessels [are] capable of transporting up to 400,000 tonnes of iron ore, to smaller vessels that deliver cargo to its destinations," said the representative.

"This service helps in enhancing our ability to offer our iron ore products in the Asian markets at competitive prices," the spokesperson added.

The FTS serves two purposes, she highlighted. "Firstly, it transfers iron ore from Valemax ships to smaller ships, which call on ports that do not receive Valemax vessels. Secondly, it can reduce the load of a fully loaded Valemax to meet the draft or maximum cargo requirements of ports, so Valemax can deliver partial loads to those ports."

The 280,000dwt FTS *Ore Fabrica*, which has been in operation since March 2012, and *Ore Sossego*, which is just 25,000dwt smaller than its older sister and commissioned in June this year, are both stationed at the Subic Bay Freeport Zone as transshipment platforms for Vale's iron ore shipments to China, the biggest iron ore consumer.

"Another advantage of the FTS is that they can be relocated to wherever they can increase efficiency the most in the iron-ore logistics chain, meaning anywhere else near the main markets in Asia. An FTS in the Philippines is three to five days from Chinese ports," said the representative.

Beijing has banned the entry of Valemaxes into its ports since January 2012, as China Shipowners Association expressed concerns that Vale may end up with the monopoly on both shipping and iron ore markets in China.

Vale, amid this ban, has resorted to the establishment of the FTS, which are also used to tranship to other key Asian markets such as Japan and South Korea. Vale is counting on its 35 Valemaxes and its distribution centres in Asia to cut costs in delivering iron ore to China and other key markets to help it compete with Australia-based rivals BHP Billiton and Rio Tinto. **PH**

The floating transfer station, *Ore Fabrica*, in Subic Bay is part of Vale's overall strategy for providing iron ore to Asia. It can handle up to 15 million tonnes of iron ore a year



Photo: Arquivo Vale

Photo: H. Kici / Shutterstock

Combat against cyber crime

An innovative online container security system is helping the Port of Antwerp prevent cyber criminals from stealing sensitive container release information. **Stephen Cousins** reports



Ports are familiar with tackling drug-related crime, but what happens when drug lords team up with computer hackers in an effort to infiltrate a port's computer systems?

That was the distressing situation faced by shipping agent MSC Belgium when police discovered that the firm's offices at the Port of Antwerp had been broken into and spyware was installed on its computers. Computer hackers had perpetrated the crime in an effort to gather security-sensitive container-release codes from employees' emails.

"Some of the containers entering MSC Home Terminal were thought to have had drugs inside, so the dealers were eager to get hold of the PIN codes emailed by MSC to freight receivers that would enable them to enter the gate and pick up the boxes unchallenged," said Marc Beerlandt, chief executive of MSC Belgium. "Drug lords teaming up with cyber hackers was an entirely new thing to us and the news we had their spyware on our system brought us down

to earth with a bump. We realised a new approach was needed to make their lives as difficult as possible."

In response, MSC Belgium commissioned IT and data security specialist Avantida to develop a container-release system designed to make it near impossible for hackers to get the information they needed to enter the port and steal a container.

Previously, details of the location of containers and the PIN code needed to enter the port and collect them up were emailed to the cargo receiver (either the buyer of the goods, his forwarder or agent) for forwarding to the truck driver. This email-only communication, however, was the weak link in the system and susceptible to being intercepted by hackers.

The new system splits up this information so that it no longer resides in a single location, vulnerable to attack. Now, when the carrier, or the shipping agent, has processed the original bill of lading and payment, he sends the receiver an arrival notice

to the receiver with the details of the arrival of the box, its location, free time, costs, and the redelivery depot. However, the all-important PIN code can now only be accessed by the receiver, who, to obtain it, must first log into the 'container-release module', a secure web portal on the Port of Antwerp Community System (APCS) website: portofantwerp.co/apcs. The APCS is a network of systems and solutions for electronic communication within the Port of Antwerp.

"Receivers log in with a specific user ID and password, select the container they want to release, and then a code is generated by the system and sent to them by text message or via a dedicated smartphone app," said John Kerkhof, president of APCS. "Under the new system neither the carrier nor his agent know the code because it is generated automatically in the APCS system and only accessible by receivers, so hacking into the carrier's email will only provide criminals with information on the whereabouts of the container, not the container-release code."

The cargo receiver can then forward the PIN code details to the trucking company to enable them to enter the terminal and pick up the container.

"Before, there was a danger that hackers could pick up containers unobstructed simply by taking the information from an email, but not anymore," said Kerkhof. "The new system also protects employees at the carrier or shipping agent, who were previously in danger of being interrogated by criminals to get the PIN code and the container number and location. There was also the potential, however unlikely, that an unscrupulous employee at the carrier could accept a pay-off to provide access to this information to criminals, but now the information is split, that's not possible."

The container-release module was rolled out in May for use exclusively by MSC Belgium and its freight partners, but Avantida and APCS have now expanded it to enable access by any carrier wanting to co-ordinate the delivery of containers within the port and several companies have already expressed an interest in taking part. PSA Antwerp, the largest terminal operator in the port, is also providing technical and operational support.

The expanded system, dubbed the 'import services

Receivers log in with a user ID and password, select the container ...then a code is generated

John Kerkhof, *President, APCS*

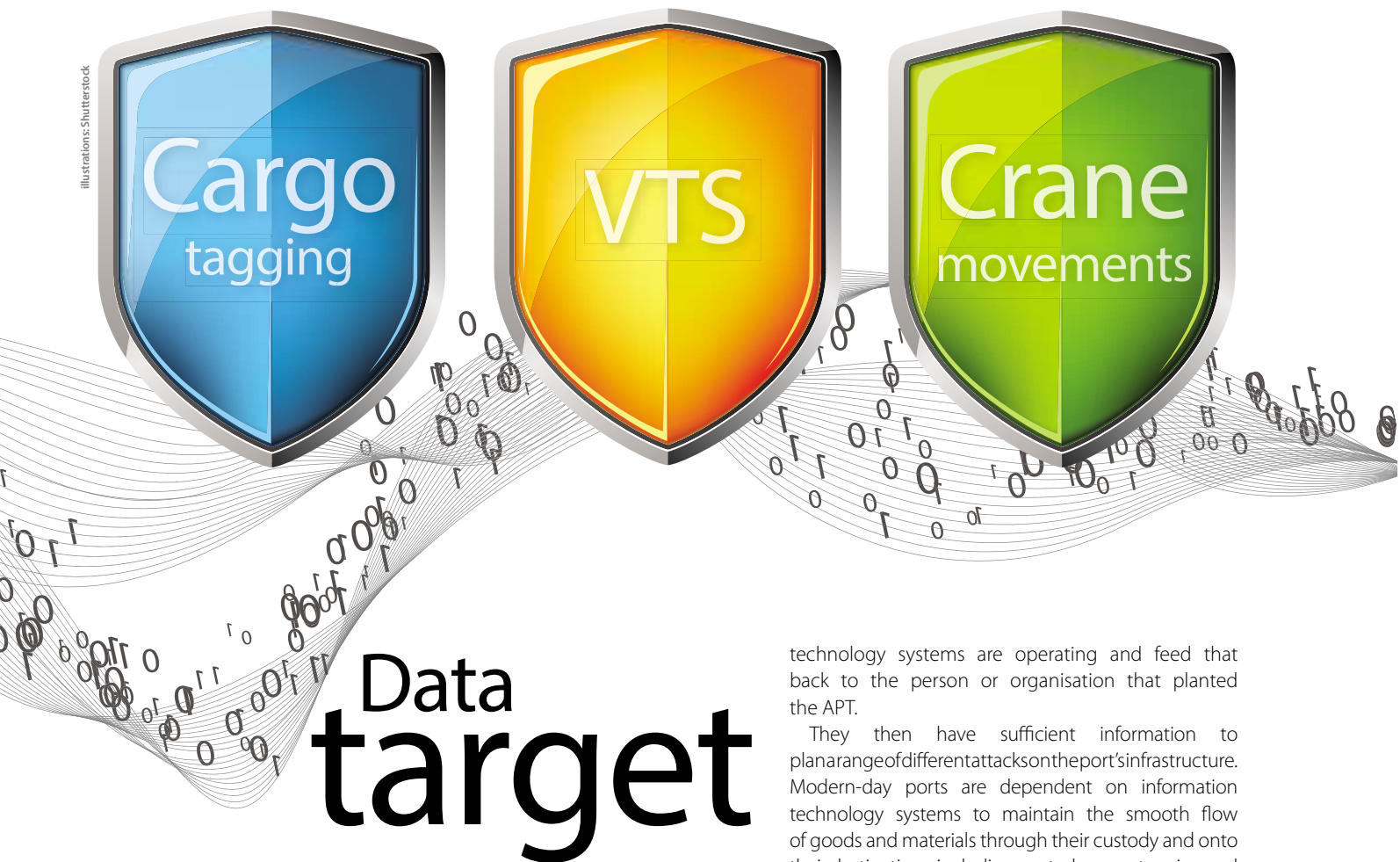
release module', adds a new level of integration to port communications and, in addition to the container-release module, includes one designed to enable the carrier to apply for the reuse of empty containers, and an e-transit module that enables faster and error-free creation of T1s (a customs procedure for goods travelling from one country to another) by reusing data from the import customs manifest.

The new features form part of an initiative to transform supply chain communication within the port, said Beerlandt: "Currently, when an MSC ship enters the port it has to contact the terminal, when the goods are delivered on the quay and terminal contacts the shipping agency, the agency then contacts the client and the client contacts the trucker, or sometimes the client has a forwarder who mentions it to the receiver. This involves five or six levels of communication. We're working to provide a single platform through which everyone can share information," he explained.

Meanwhile, the container-release module is likely to be enhanced in future to add a location tracking element, added Kerkhof: "We are currently looking at expanding the software so that PIN code information is only sent to the trucker when he is in the close vicinity of the terminal. We already have a GPS-based track-and-trace system in use, which is designed to locate vehicles within the port area. If this is integrated with the container release module, truckers will only be able to receive the container location information and release code when inside the port vicinity. This will improve security as it will make it near impossible for malicious people to intercept the PIN code during the truck's journey," he concluded. **RH**

MSC Home Terminal at Port of Antwerp was a victim of cyber crime as criminals tried to get access to data





Data target

Security expert **Dr Dave Sloggett** considers what could happen if a cyber attack took place at a port

Concerns have been raised by many governments about the potential for cyber attacks against critical national infrastructure. The potential to disrupt the operation of utility companies is a concern. The loss of gas, electricity or water could readily precipitate a national crisis.

What about other less-well-known parts of the infrastructure, however, that keep nation states on the move. A report from the Brookings Institute published in July looked at what might happen if cyber attacks were directed against port infrastructure in the US.

Few ports seem to be prepared to deal with a major cyber incident. Hardly any practise the kind of cyber hygiene that is required to ensure that computer systems do not become infected with the most dangerous forms of cyber virus called active persistent threats (APT).

These can be likened to viruses in that once they have infected a computer system they go to sleep awaiting an activation signal. Once triggered they can collect data on how the port's information

technology systems are operating and feed that back to the person or organisation that planted the APT.

They then have sufficient information to plan a range of different attacks on the port's infrastructure. Modern-day ports are dependent on information technology systems to maintain the smooth flow of goods and materials through their custody and onto their destinations, including control access, tagging and movement of goods, and monitoring crane activities.

All of these movements create huge amounts of data that a cyber criminal can use to its advantage. Vessel traffic-monitoring systems also keep an eye on ships at anchor or transiting into or out from the port. A cyber attack on any of these facilities could have dramatic consequences.

With the global trading system so dependent on the concept of zero-inventory and just-in-time delivery, anything that prevents the smooth flow of goods and materials could have dramatic economic and social implications.

Natural events like Hurricane Sandy, which disrupted the operation of the Port of New York, provide a taster of what might occur if a terrorist event or cyber attack were to inhibit port operations for any length of time.

The Brookings Institute recommendations to protect against an attack include enforced cyber-security standards for important maritime infrastructure; incentivised projects to introduce appropriate security; the implementation of a network for all those in contact with ports – government, port owners and operators, and maritime stakeholders – to exchange cyber-threat information; and for port owners and operators to carry out cyber-vulnerability assessments and prepare response plans. **PH**

More info: www.brookings.edu

Container weighing divides industry

Ports and shipping industry groups have given a mixed response to IMO's decision to adopt regulations requiring the verification of packed container weights before loading

The draft amendments to the Safety of Life at Sea Convention (SOLAS) chapter VI were approved by IMO's Sub-Committee on Dangerous Goods, Solid Cargoes and Containers at its 18th session in September. This means shippers will have to weigh all containers prior to loading using one of two methods: weighing individual containers to confirm the declared weight is the actual weight, or using a method of 'calculated' verification to weigh all of a container's contents.

The draft guidelines will be forwarded to the IMO's Maritime Safety Committee for approval in May 2014. If approved, final adoption is expected in November 2014. The new system will not come into force before July 2016.

The compromise decision comes after many months of fierce debate involving 15 governments and 13 industry groups, including shippers, ports and other stakeholders, and is intended to address the safety risks that unweighed and misdeclared containers pose to dockers, seafarers, truck drivers, the public, and the environment.

In response to the decision to adopt the amendments, a spokesperson from the Port of Rotterdam told *P&H*: "From our position we can only be positive if such a verification contributes to the safety on the terminal – especially during hoisting – and of the vessel once loaded." British International Freight Association Director General Peter Quantrill gave his qualified support to the move: "The compromise proposal was most probably the best possible outcome and we will



Illustration: Shutterstock/H KGD

now work with our members to work out how they comply with the requirements when the new rules come into force without adding significant costs or causing supply chain delays."

However, he also warned that the ruling may fall flat as it must still "navigate several stages through the IMO's legislative process". He believes that, if successful, it is unlikely to come into force before May 2017.

Meanwhile, the International Transport Workers' Federation described the compromise as a "missed opportunity", with its president Paddy Crumlin warning that giving shippers the option to certify containers based on their constituent contents would introduce an unacceptable level of unreliability to the process. "This was the ideal opportunity to finally bring in a system which would lessen the risk that unweighed and misdeclared containers pose," he said. "Instead, we have a compromise that in some countries will put in place a process that is likely to be bedevilled by the obvious questions: who will certify, when, and how?"

The proposal for an alternative method that involves weighing the constituent parts of a container has been fiercely opposed by labour representatives, although many feel it is required because weighing each container is not possible in countries with limited infrastructure and resources.

IAPH has always insisted that responsibility for weight verification should lie with the shipper and be carried out at the origin of transport. **PH**

“From our position we can only be positive if such a verification contributes to the safety on the terminal – especially during hoisting – and of the vessel once loaded”

Port of Rotterdam



Sri Lanka's

The Hambantota port development is a key player in the port authority's plan to turn the region into a hub for maritime excellence, reports *Rohan Gunasekera*

7 year plan

The Hambantota port area as it is expected to look when the development is complete

Ongoing development at Magampura Mahinda Rajapaksa Port (MRMR Port) in Hambantota is all part of Sri Lanka Ports Authority's (SLPA's) 'Vision 2020'. The development consists of three phases, the first of which was completed in November 2010. The second phase, which started in November last year with an anticipated construction term of 36 months, includes a second harbor basin and more berths, including container berths, as well as deepening the entrance channel from 16 to 17m. This phase is budgeted to cost \$805 million and, like the rest of the project, is mainly being funded with Chinese loans. Lead construction and dredging contractor for this phase is China Harbour Engineering Corporation (CHEC).

A third phase will include a dockyard within a free-trade zone. Once complete, the port and free-trade zone combined will cover 16km² of land and accommodate 33 vessels at any given time, potentially making it the largest port in the region.

Sri Lanka aims to build a 'port-centered' economy making use of the island's geo-strategic position and changing trade patterns, said SLPA chairman Priyath Wickrama. SLPA's Vision 2020 corporate plan, unveiled at the end of July this year, envisions developing the island's services sector to make it a maritime and logistics hub for the entire Indian

Ocean. "We want to become a 'maritime economy,'" Wickrama said.

With big shipping lines going for mega container carriers, he expects a shift in 'hubbing' operations in the region with Sri Lanka's new deep-water ports in Colombo and Hambantota having the ability to handle such large vessels. "These mega container carriers will not call in each and every port," he said in an interview. "They will try to hub in a few ports in the world. Right now only we can handle these big container ships in south Asia."

Phase one stats

The first phase of Magampura Mahinda Rajapaksa Port, or Hambantota port, involved the following:

- Two breakwaters with a total length of 1,450m
- Approach channel
- 16m-draught harbor basin with 600m turning circle
- Stacking yard
- Roads and administration building
- 610m-long berth for general cargo vessels
- 100m service berth
- Oil terminal and tank farm with two 300m berths.



Connectivity is important for the region's economies and Sri Lanka's proximity to the main east-west shipping route across the Indian Ocean, could facilitate a reliable supply chain and manage intra-regional logistics/distribution.

Under the new corporate plan, by 2020 the SLPA expects the port to become the "centre for maritime excellence", handle 200 million tonnes of cargo, earn revenue of \$1 billion, invest a cumulative \$10 billion in ports, become a 'green' port operator and a leading contributor to the national economy. "The port's location on the southern tip of the island, less than 10nm from the main east-west shipping route and halfway between Aden and Singapore, makes it ideal to serve the Indian sub-continent and the wider Indian Ocean Region," said Wickrama.

Sri Lanka's government has declared Colombo, Hambantota and Trincomalee as 'free ports' where investors don't have to pay taxes to attract investors. Hambantota will be an integrated service, industrial and container-handling port with facilities for bunkering and LPG/LNG storage and distribution. Hambantota port, along with the new Mattala International airport 16km away, will create an air-sea logistics hub to serve expanding regional and global trade. A multilane highway with flyovers will connect port and airport for rapid movement of cargo. The whole complex will be linked to the national road and rail network also being modernised and expanded.

Wickrama said the port and adjacent economic zone has drawn \$2 billion in investments from foreign and local private investors in projects ranging from warehousing to sugar refining, fertiliser manufacturing and a petrochemical complex.

Under phase two, about 2km of quay wall will be built with seven berths – four for containers, two multipurpose berths and a small craft berth. The container berths, able to handle vessels up to 100,000dwt, are initially intended for cargo generated by the factories and other industries being set up in and around the port.

"There are several industries coming up in the

Future vision

'Vision 2020' is SLPA's corporate plan to become a centre for maritime excellence. It plans to achieve this by:

- Developing infrastructure and superstructure facilities in Colombo
- Consolidating Colombo's position as a centre of maritime excellence
- Introducing sector-specific marketing and business development programmes
- Developing MRMR Port as an international service, industrial and container handling port
- Enhancing safety and security for cargo and port users
- Marking SLPA's global presence in strategic locations
- Reorganising, restructuring and redesigning administrative procedures
- Implementing advanced financial management systems
- Reducing carbon footprint
- Developing other regional ports depending on individual strengths and competitive advantages
- Diversifying business activities
- Providing oil and gas facilities
- Putting into effect corporate social responsibility.

industrial zones between the port and the Mattala International airport," said Agil Hewageegana, chief engineer for the port project. "Initial cargo will be imports, followed by re-export of value-added products." Seven investors have already been allocated phase one land, with another five for phase two, including a petrochemical complex. If 'Vision 2020' goes as planned, once phase three is completed, Hambantota will have a 13km quay wall, alongside depth of 18m, and 20M teu total capacity.

For now, Hambantota will not perform container transshipment as Colombo port is being expanded to handle the anticipated rise in such cargo (expected to reach at least 10M teu by 2020). Hambantota will only support container transshipment once Colombo's new capacity is saturated. That may not take too long. www.slpa.lk

More info: www.slpa.lk



The mutual benefits of mangroves

Aruba Ports Authority brought in experts to help turn around the fortunes of the Caribbean island's mangrove forests. The port's managing director, **Alfonso Boekhoudt**, explains the project to *P&H*

Aruba Ports Authority has carried out a mangrove reforestation project on three damaged reef islands where only one mangrove was standing. This surviving tree serves as a home to a handful of terns – silver-grey birds – and is a scarce ecological system for underwater creatures. Aruba Ports Authority (APA) was concerned that the entire mangrove reef would be lost if it did not take action and this is what ultimately motivated port executives to proceed with restoration efforts to revitalise mangrove growth. APA asked for assistance from Mangrove.org – a south Florida based organisation founded for the purpose of developing a methodology that can provide optimum conditions for successful mangrove afforestation/reforestation, habitat creation and restoration, shoreline stabilisation and erosion control (see box). The project was funded by the port.

The islands the project focused on are ecologically important to birds, and over 50 years ago it was protected by black and red mangroves. What exactly happened has not been scientifically documented but according to local tales part of the reef was damaged by Hurricane Janet, the most powerful tropical cyclone in the 1955 Atlantic hurricane season and one of the strongest Atlantic hurricanes on record. Other accounts

include an innocent beach barbecue that went wrong and led to a fire that destroyed the majority of the remaining trees.

As a first step, Bob Riley, eco-entrepreneur from Mangrove.org explained how he plants mangrove propagules (see photo, top left) – a bud that develops fully on the parent tree before dropping off and growing on its own, as opposed to germinating as a seed – to a small group of experts, including an Aruban marine biologist, the president of the Aruba Birdlife Conservation Foundation, the president of the Board of the Arikok National Park, and port executives. Riley explained his plans for the site and talked through his 'encased methodology', which he claims has a 100% success rate in all the projects he has undertaken globally. The port authority then decided to commit to the project.

Riley subsequently conducted an appraisal of the area to be reforested – three islands on the reef across from the cruise terminal – to develop plans with more specific ecological information and opportunities for enhancement. The appraisal included analysis of the damaged ecosystems including shoreline dynamics, anthropogenic factors, ecology, hydrology and, where necessary, geopolitical influences.



Mangrove.org and local Arubans got involved in the mangrove planting project, championed by the port authority, to protect their shores, bring back wildlife and foster the island's ecological diversity

In May this year Mangrove.org experts lodged approximately 200 encasings on the smaller reefs across from our cruise terminals. Media supporters and port authority volunteers assisted in the initial project by dropping red mangrove seedlings, which bloom throughout the year on the island of Aruba in anticipation of the creation of a habitat for many species of amphibians, reptiles, and mammals.

Cruise visitors entering the channel will be able to observe the project's encasements planted on the three southwestern islands along the waterway as they pull into the cruise terminal and sail out of it. The first leaves are expected to peak out of the encasements within three to five years, and within ten to 15 years we will be able to appreciate the legacy of the work.

Now that we have carried out our own mangrove journey it is the port authority's intention to increase the awareness of the importance of mangrove ecosystems in our environment by encouraging students and scouts to create similar sites throughout the island and to monitor these efforts.

The port sees this as a chance to restore the reef to its original state, as well as an opportunity to shield the quayside from swells that cause the deterioration of the wharf on a long-term basis.

A successful project will also result in organising mangroves as feeding and nursery grounds for a variety of fish and bird species. It should prove to be of mutual benefit to both the port and the ecology of the island. **PH**

Photos: Bob Riley

Plant power

Mangrove.org was commissioned by IAPH member Aruba Ports Authority (APA) to establish sustainable mangrove habitats on three islands in the barrier reef to the west of the island of Aruba. The work was carried out in May and planting took approximately one week, Bob Riley, eco-entrepreneur from Mangrove.org, told *P&H*.

The project on Aruba was fairly standard for Riley, but he did comment that wave action on Aruba was one challenge that had to be overcome. Normal tide ranges on Aruba are fairly mild, he noted, but storm surges that create storm tides are periodically extreme and so Mangrove.org paid special attention to the species of mangrove, or variety of species, that it planted. They needed to be able withstand these conditions and not all species are suitable.

The demise of mangroves on Aruba's coastline has been in part attributed to recent hurricanes. Hurricane Lenny in 1999 and Hurricane Ivan in 2004 both left their mark on the island. Mangroves cannot withstand such strong forces but they do dissipate wave

energy and can help to protect a coastline, Riley explained, although they cannot mitigate against the full strength of a tsunami.

Riley and his team do not judge a project's success based on how many mangroves they planted, but the percentage of reproductively mature, self-sustaining mangroves that result from the project. He explained that mangrove reforestation projects are common and have taken place for decades, but he is sceptical about the efficacy of many of these. Riley has developed a patented methodology that changes the structure of the mangrove tree. This methodology also involves protecting the mangrove seedling when planted, shielding it from ultra violet light. This enables it to grow "three times faster", he said.

Like APA, Riley sees mangrove reforestation projects as a win-win situation for both developers and environmentalists. It helps with the aesthetics, he pointed out, as the reef islands of Aruba will eventually be covered with trees, and trees bring birds. "People coming in to port will have better experience," he said. So how are Aruba's mangroves coming along? "I'm going back next week [in October]," to check on their progress, Riley told *P&H* at time of writing.



Green ports:

impacts, policies and economic opportunities

OECD's **Olaf Merk** believes ports can use their obligations to the environment as an economic opportunity

Port development over the past four decades has been phenomenal – driven by population growth, economies, external trade and containerisation. Almost all worldwide ports have experienced a sustained period of growth, and many new ports have developed at breathtaking pace, especially in markets such as China, Southeast Asia and South America. These port developments have not only fuelled economic growth, but also brought environmental challenges.

The environmental impact of ports is related to shipping, hinterland traffic and operations on the port site, including cargo handling and industrial activities. It can be substantial. More than half of SO₂ emissions in Hong Kong are shipping-related, about 85% of truck traffic on certain highway sections in Los Angeles is port-related, and the port area in Antwerpen encompasses one-third of the city's land mass. According to OECD estimates, half of total ship emissions in ports come from the 25 largest ports in the world. These ports are the 'front soldiers of globalisation': essential to global trade, but environmental hotspots at the same time.

There are four drivers, or 'policies', to make ports

greener: regulation, information, incentives, and technology upgrades. Many different instruments are connected to these, with various levels of intervention, ranging from global to local. A broad range has been identified to reduce air emissions in ports. It is not always clear which of these have worked, as there is a relative lack of evaluation of port policies. Nevertheless, there is convincing evidence of the effectiveness of certain policies, in particular transport-related instruments. Examples of this include: the truck retirement programme in Los Angeles, which has led to emission reductions of more than 90% since its introduction in 2006; the port gate strategies in Los Angeles/Long Beach, which reduced daytime truck arrivals from 90% to 66%, easing congestion and thereby reducing air emissions; and the introduction of truck tolls in Switzerland and Germany, which resulted in more efficient truck use, leading to a reduction in related emissions.

Various policy instruments are based on carrier-port collaboration. Examples are the fuel switch programmes, (Gothenburg and Hong Kong), slow steaming programmes (Long Beach), shore power in ports, and various programmes stimulating greener ship design and characteristics, such as the World Ports Climate Initiative's Environmental Ship Index championed by IAPH. Such programmes have their challenges. There might be principal-agent problems: public authorities invent incentive schemes to direct

Policy instruments to mitigate air emissions in ports

Policy types	Instruments	Intervention level	Examples
Regulation	Global emissions cap	Global	IMO Marpol Annex VI
	Emission control areas	Cross-boundary	North America, Europe
	Technical standards	Global	IMO: EEDI, SEEMP
Information	Emissions inventories and monitoring	Local	Los Angeles
	Port state control co-operation	National	Antwerp
	Compliance monitoring		US
Incentives	Bunker tax/emissions trading	Global	
	Fuel switch	Local	Hong Kong
	Slow steaming	Local	Long Beach
	Cleaner ships	Global, local	ESI, Sweden
	Modal shifts	Local	Alameda corridor
	Truck retirement	Local	Los Angeles
Technology upgrade	Clean bunkering	Local	Rotterdam
	Shore power	Local	Gothenburg
	Electrification equipment	Local	Busan
	Renewable energy	Local	Zeebrugge

Source: OECD

the behaviour of private actors, but they dispose of the information that would be essential to design the most effective incentive scheme. So there are asymmetries of information. Then there are externalities and risks of freeriding, which raises the question of the level at which to intervene. Would integration of shipping into the EU Emissions Trading Scheme make sense, considering that shipping is a global industry that has an impact on port choice?

Policy options for economic value creation from ports

Policy option	Related sectors	Instruments	Examples
Maritime clusters	<ul style="list-style-type: none"> Logistics Maritime services Shipbuilding/repair 	<ul style="list-style-type: none"> Developmental support Fiscal incentives/grants Co-ordination/information Human capital matching 	Singapore, Hong Kong
Industries	<ul style="list-style-type: none"> Industrial ecology Renewable energy 	<ul style="list-style-type: none"> Spatial planning Investments 	Rotterdam
Waterfronts	<ul style="list-style-type: none"> Tourism/recreation Food Events industry 	<ul style="list-style-type: none"> Master planning Project implementation Incentives/investments Synergies with port 	Barcelona
Diversification	<ul style="list-style-type: none"> Non-port sectors 	<ul style="list-style-type: none"> Similar instruments 	London, Liverpool, Boston

Source: OECD

Finally, there is the question of the effectiveness of these instruments. In what circumstances does regulation work best and when is it best to rely on market-based instruments? In short, many complexities would need to be resolved to increase the effectiveness of port impact mitigation.

It sounds negative so far, but let's look at the positives to see the opportunities. There is a good business case for making a port greener. Large shippers and shipping lines have become more environment-conscious and expect the same from ports. Greening ports and logistics could therefore be used as a marketing tool to generate new business. There are also cost savings from green policies, such as more energy-efficient processes. There are also complementary aspects of port environmental and transport policies. For example, modal shifts and port gate strategies have positive effects on the environment and on easing urban congestion.

The environment could also be an economic opportunity in a more fundamental way, using the four main drivers we have identified to create economic value from ports. The domain of port industrial development is one area in which the environment presents new economic opportunities. Industrial ecology is the residual by-product of one industrial process that can be used by another industrial process. Port sites provide unique opportunities for such circular processes, as they often share infrastructure – such as pipelines and storage tanks – and can make use of each other's residual products, such as heat and chemicals. Several ports, including Rotterdam, have started to position themselves in this area by mapping industrial processes and identifying gaps in infrastructure.

Ports are also sites for renewable energy production, including solar, tidal and wind energy, both onshore and offshore. Some ports, such as Bremerhaven, have developed these economic activities. In addition, ports should be considered laboratories for green innovation. Being vulnerable to the impact of climate change, ports and their cities could use their advanced knowledge of climate change adaptation technologies, such as the floodwalls, and commercialise their findings or share knowledge with other ports. The CleanTech Programme developed by the Port of Los Angeles aims to develop the port as a site for innovative green technologies.

As ports have grown, citizens have become very familiar with their environmental impacts. But these impacts can be turned around and used to a port's advantage and as an economic opportunity. **PH**

Olaf Merk is administrator of the OECD (Organisation for Economic Co-operation and Development) Port-Cities Programme. It is a friendly organisation of IAPH. This programme produced a series of studies on specific port cities, including Rotterdam, Hamburg and Marseille. The OECD Port-Cities Synthesis Report with main findings was launched on 9 September 2013 in Rotterdam during the OECD Port-Cities Conference

More info: www.oecd.org/regional/portcities

Sri Lanka positions itself for LNG bunkers



“At Hambantota we plan to do LNG transshipment and have an LNG power plant. So since we will have LNG there, LNG bunkering is possible”

Priyath Wickrama
Chairman, SLPA

Photo: Rohan Gunasekera

extended to others parts like south Asia, although there have been no talks among the region's regulators to that effect yet.

The SLPA Vision 2020 plan, unveiled at the end of July, notes that vessels powered by LNG will be operational in the future and few port terminals in the region will be in a position to support the industry with bunker storage.

It says Hambantota is considered ideal for bunkering as it has “almost zero deviation time” from the main east-west shipping lane across the Indian Ocean and plenty of space, being a greenfield development. In fact Hambantota's first phase will focus on bunkering, for which tests have just been completed and commercial operations about to start.

Sri Lanka Ports Authority has announced long-term plans for LNG bunkering, examining opportunities provided by the advent of LNG-powered ships and gas strikes in the Mannar Basin.

Cairn India Ltd found gas in two test wells in an offshore block in the Gulf of Mannar and is working to commercialise the discovery. The government has said it estimates the reservoir holds the equivalent of a billion barrels of oil. It has offered more blocks for exploration in the Mannar Basin and Cauvery Basin, where the geological structure is similar to areas off south India where hydrocarbons are being produced.

The island's Petroleum Resources Development Secretariat director general, Saliya Wickramasuriya, has said US\$2 billion in investments would be required in the next five years to extract and supply the gas for commercial use, firstly by offsetting imports and later in exports.

SLPA chairman Priyath Wickrama told *P&H* magazine on 18

September that the authority's Vision 2020 corporate plan (see pages 30-31) includes provision for an LNG power plant and LNG bunkering terminal at the newly built southern Hambantota port.

“Now the trend is towards converting ships to LNG,” he said. “Our plan is for 2020. So we thought of keeping provision for LNG. At Hambantota we plan to

do LNG transshipment and have an LNG power plant. So since we will have LNG there, LNG bunkering is possible.”

The proposed onshore facilities will depend on the requirements of shipping, Wickrama said.

Wickrama noted that emission control standards coming into force in Europe and the United States could eventually be



Vehicles at a berth at Hambantota ready for transshipment. Other transshipment opportunities also include that of LNG, and so the port is positioning itself to offer LNG bunkers

Notable numbers

47

ships attacked at anchorage this year to date

20%

the amount of CO₂ that can be cut when using LNG-fuelled tugs

Fuel switch delayed in Hong Kong



on mandating the use of low-sulphur fuel with sulphur limit at 0.5%," the department said. "With their support, we plan to submit the legislative proposal in the 2013-14 legislative session for implementation in January 2015."

For local marine trades, the environmental department aims to implement a fuel switch to 0.05% sulphur content from 0.5% content in early 2014 after submitting the legislative proposal by the end of 2013.

In January, the Hong Kong shipping industry extended its voluntary cleaner fuel scheme to the end of 2013, with 18 operators switching to fuels with sulphur content of 0.5% or less while at berth in Hong Kong waters.

A voluntary clean air programme is already in place in Hong Kong

Hong Kong will probably have one more year to wait before sea-going vessels will be required to switch to 0.5% sulphur bunker fuels berth

in the city's waters, Hong Kong's Environmental Protection Department said in September. The mandatory fuel switch

forms part of the city's new measures to curb air pollution. "We completed consulting the relevant stakeholders, including the trade,

Iron files, container weight verification on agenda at DCS

IMO's subcommittee on Dangerous Goods, Solid cargoes, and Containers (DSC) agreed on draft amendments to SOLAS Chapter VI that require mandatory verification of the gross mass of containers at its 18th session in September (see page 29). DSC also agreed related draft guidelines regarding the verified gross mass of a container carrying cargo. These drafts will now be sent to the Maritime Safety Committee for approval.

If approved, the draft amendments would see new text added to SOLAS regulation

version I/2 Cargo information and the shipper of a container would be required to verify the gross mass of the container. This would be stated in the shipping document. "The packed container should not be loaded onto the ship if the verified gross mass has not been provided or obtained," said an IMO statement.

Calibrated or certified equipment would be required to verify the gross mass. Or alternatively, by weighing the cargo in the container and adding the tare mass (mass of an empty container). An exception was

agreed by the sub-committee for containers on a short international voyage if carried on or off a ro-ro ship using a chassis or trailer.

Also on the agenda were the new SOLAS requirements for atmosphere testing instruments. The subcommittee agreed this draft, which requires "ships to carry an appropriate portable atmosphere testing instrument or instruments, capable of measuring concentrations of oxygen, flammable gases or vapours, hydrogen sulphide, and carbon monoxide, prior to entry into enclosed spaces", said

the IMO statement.

Other items agreed included:

- Amendments to the code for mobile offshore drilling units;
- The draft individual schedule for iron ore fines, which address the dangers relating to liquefaction;
- The draft non-mandatory IMO/ILO/UNECE Code of Practice for packing of cargo transport units (CTU Code). This will now be forwarded to the IMO/ILO/UNECE Group of Experts, which meets in November. It is hoped that the draft CTU Code will be finalised by the group of experts and then be submitted to MSC 93 for approval.

73

the number of eco product tankers ordered in the US

2016

the year the new container weight verification regulation will likely come in to force

Pilot project for green power in Valencia

An LNG terminal truck was put to work in October at Noatum Container Terminal Valencia, Spain, and forms part of the Greencranes (Green Technologies and Eco-Efficient Alternatives for Cranes and Operations at Port Container Terminals) project.

This pilot project, championed by the Port of Valencia, was instigated to find ways for container terminals to improve the "energy efficiency of their port equipment and operations while reducing the level of GHGs," said Valenciaport Foundation.

"This is the first time that a tractor [truck] unit is designed specifically to operate with a motor running on LNG," said Valenciaport Foundation.

The truck has a longer chassis and equipment has been relocated to make space for the LNG tank,



Artist's impression: Greencranes

The LNG-powered terminal truck will be demonstrated in Valencia in November

which is much bigger than a regular diesel fuel tank.

"In the first trials carried out in the Terberg factory in the Netherlands the tractor unit propelled with LNG demonstrated its towing capacity with an autonomy that was equal or superior to its diesel counterpart," said Valenciaport Foundation. The pilot scheme will be carried out over a two-month period and

will involve collaboration from Gas Natural Fenosa, a large energy company, that supplies LNG using a mobile station.

"The pilot scheme will make it possible to verify the capacity as well as the autonomy and consumption of the tractor unit under the real demanding work conditions of a port container terminal, with intensive work shifts and maximum cargo loads," said Valenciaport Foundation. The results will be available at the end of 2013 and should provide Noatum Container Terminal Valencia with the information it needs to define its global strategy with regards to energy cost savings, CO₂ reduction and the carbon footprint of its port operations.

This month, on 26 November, a public demonstration of the trucks will be given at Noatum Container



Terminal Valencia and the results of the pilot scheme presented. The results from another pilot scheme involving eco rubber-tyred gantry cranes will also be presented.

"The event will allow participants to check the features and performance of such equipment within a real working environment" said Valenciaport Foundation, and it hopes to welcome IAPH members.

The Greencranes project began in August 2012 with the support of the European Union through its Trans-European Transport Network (TEN-T) programme. It aims to analyse different eco-efficient technological alternatives for ports, so that they can lower greenhouse gas emissions and particulate matter at ports.

Upward trend for eco orders in US

Seabulk Tankers has orders for two fuel-efficient Jones Act product tankers from NASSCO. The eco newbuilds, each with 330,000-barrel capacity, will be delivered in the second quarter of 2016 and the first quarter of 2017. "Our decision to build these two new tankers is a clear demonstration of our continued commitment to the Jones Act," affirmed Seacor chairman Charles Fabrikant. "We are very excited that we will be able to offer this new eco-friendly design to charterers." The Jones Act, also known as the Merchant Marine Act of 1920, is a

US statute that regulates maritime trade in its ports and waters.

In May, NASSCO confirmed orders for four eco product tankers of the same specs for deliveries in fourth quarter of 2015-16 from American Petroleum Tankers.

All six of the newbuilds are designed by Daewoo Shipbuilding subsidiary DSEC and will have the ability to accommodate future installations of LNG fuel systems and Type C LNG tanks.

These orders build upon a growing trend towards Jones Act product tanker newbuilds, which is being driven by surging US shale-

oil production. There have been 73 eco product tanker orders by US-listed companies as of September this year.

Eco orders from US-listed players started to trickle in during 2011, gathered momentum in the second half of 2012, and increased in 2013. In total, P&H believes that US-listed companies have ordered a total of 133 eco-ships through early September. These product-tanker newbuildings account for 55% of the total, followed by 22% for LNG vessels, 10% for container ships, 7% for LPG ships, and 6% for dry bulk ships.

Climate info now online

Observations on the climate system made by the relevant working group of the Intergovernmental Panel on Climate Change (IPCC) were made available online in September (see page 3). Working Group I's contribution to the IPCC's Fifth Assessment Report (AR5) analyses new evidence of climate change "based on many independent scientific analyses from observations of the climate system," said the IPCC in a statement.

The full final report will be published in January 2014 online and in book form.

More info: www.ipcc.ch and at www.climatechange2013.org

Notable numbers

18m

the draught of the planned harbor basin at Hambatota

200

encasings for Mangroves were planted on Aruba in May

Pirate or robber?

Analysis of recent information on pirate attacks up until the end of September 2013 published by the International Maritime Bureau (IMB) shows that 25% of incidents occur outside the main areas associated with piracy, said Dr Dave Sloggett, the security expert who carried out the research. "In anchorages across the world, including Vietnam, Bangladesh, Columbia, Ecuador, and Malaysia, 47 incidents have been reported. The majority of these have occurred at anchorages or during ship-to-shore operations," he told *P&H*.

Ten of the 47 reported incidents occurred in Bangladesh and all involved robbery. When the criminals were confronted by the crew, they quickly fled, often leaving with little in the way of contraband, noted Sloggett. "This pattern ... is repeated elsewhere. It seems that, although the criminals are armed, they do not want to get

involved in a fight with the crew. When vessels are moored in an anchorage the nature of the events that occur in these areas can hardly be described as piracy. The one exception to this rule in these other geographical areas is Malaysia".

On two occasions until the end of September members of the crew were taken hostage while the criminals ransacked the boat, stealing valuables, said Sloggett. These events occurred while the vessel was at sea. The first took place when a tanker was boarded in July around 12 miles north-northeast of Pulau Tioman. The second event occurred 22 miles east-northeast of Pulau Tengkul.

The analysis of this subset of the 185 incidences does provide a pattern that suggests a proportion are attempted robbery, said Sloggett. The reports also show that the number of people involved in each incident varies. There are occasions when a single

robber is involved, although the average group size is between six and eight people. In one example at Chittagong anchorage in Bangladesh in June, a chemical tanker was boarded by 20 men armed with axes and machetes. However, as soon as they were confronted they left.

"The underlying pattern [in this subset] appears to show that when attacks are made in anchorages, if the vessel's crew are mustered ... the criminals rapidly leave. However, when the vessel is seized at sea the outcome can be much more difficult for the crew," said Sloggett.

This is a grey area between robbery and piracy, he continued. It is clearly a case of piracy when, as was the case off Somalia, vessels are seized, with crew held ashore and negotiations commenced for their release, Sloggett said. "However, when a vessel is only briefly seized and the crew temporarily incapacitated ... the aim of those that carry out the attack is to rob them of their valuables and make good their escape."

Green tugs cut fuel bills

Tugs powered by LNG may be up to 40% more expensive to build than conventional designs due to technical challenges, but their ability to meet tightening environmental rules and lower fuel bills offer to balance the books.

Bugser & Bergning, the Oslo-based towage company, is building two LNG-powered terminal tugs in Turkey for use at Statoil's Kaarstoe terminal in Norway. The North Sea will become emission control area (ECA) in 2015. "The new hull and propulsion system will achieve up to 20% higher thrust efficiency compared to standard designs," the company said.

They are expected to cut NO_x emissions by 92%, emissions of CO₂ by 20%, while particle emissions are expected to fall by 98%.

The LNG system is designed by AGA Cryo and comprises an 80m³ tank, two cold boxes and bunkering system. The system is fully redundant so that no diesel back up is required. The tugs will be 35m long, and 15.4m wide. The design was developed by Buksér og Bergning and Marin Design.

Wärtsilä, the Finnish marine system provider, has developed its own design of hybrid tug using hybrid cars for inspiration. Tugs often use low power, but full power

is needed in 10-20 seconds, which medium speed gas engines find hard to deliver. The tug is designed to run on batteries and to ramp up one or both diesel engines only when a battery is about to run empty or high power is required. "Employing batteries means loads can be taken up instantly, powering the propellers until the engine has reached full load, allowing the tug to exert its rated bollard pull of 100 tonnes," said Oskar Levander, director, Ship Power R&D at Wärtsilä.

Two dual fuel engines, space for batteries, and electrical drives have resulted in a larger-sized vessel and will demand a high capital outlay. On the other hand, the concept will cut annual fuel costs by about 50%.

EU ports speak against EC proposal

European Commission proposals published on 23 May to improve the functioning of European Union ports have run into criticism from port users and port authorities.

The transport committee of the European Parliament met to discuss the Commission's proposals on 30 September. Ports and shipowner bodies warned that the proposals were unacceptable as they stood but for different reasons.

Shipowners' association ECSA, in a joint statement with forwarders' and ship agents' bodies CLECAT and ECASBA, said that they regretted the commission's decision not to propose legislation against restrictive practices in cargo-handling and passengers services. This meant that different port services were being treated differently, they said, adding: "By not including cargo-handling and passenger services, there is no legal basis at all to address existing restrictive and anti-competitive practices, as the freedom to provide services does not apply directly and secondary legislation is needed. It moreover entails the risk of a 'cascade' effect; other services may also request being excluded from the proposal".

The European Sea Ports Organisation (ESPO) claimed that the proposed regulation interfered with ports' freedom to vary charges in accordance with their economic strategies and imposed on them additional administrative burdens.

In its present form, it said, the proposed regulation would hamper ports that already performed well. "We hope European policy makers understand our concerns and want to work with us in view of obtaining a framework that means a step forward for every single port in Europe", said Isabelle Ryckbost, secretary general at ESPO.

2020

the year when Sri Lanka hopes to complete its three-phase port plan

465

km² the area covered for the planned special development zone in Cuba



Annual report 2012-2013

IAPH publishes its Annual Report 2012-2013 in digital format. It highlights the major outcomes and activities of the association over the past year, including: an overview of its biennial conference, IAPH 2013 in Los Angeles; accounts; and regional activities.

It also acts as a useful reference point for recently adopted IAPH resolutions, work programmes for the technical committees and World Ports Climate Initiative (WPCI).

The report is available at

www.iaphworldports.org



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



Photo: Ethan Rohloff; Destination NSW

Get ready for a glittering gala night at the Sydney Opera House

Message from Sydney Ports

Why members should attend the mid-term board meeting in April

Sydney Ports Corporation is excited to host the 2014 IAPH Mid-Term Conference and Board Meeting and welcomes the opportunity to deliver an engaging and high quality programme of events that addresses the many issues confronting us all in the challenging business of international trade.

What makes this conference a must-attend is the high emphasis on port, supply chain and shipping efficiencies, the latest developments in automation, and the challenging trend towards ever larger ships.

It is also a unique opportunity to combine the conference with a holiday and see for yourself why Australia is an amazing place to visit. We believe you will love Sydney and its unique Australian culture.

For more than 50 years IAPH has been the loudest voice for global ports and that voice continues to resonate with



purpose and function. We have delivered tangible outcomes that benefit us all in the world trade community. As you know, IAPH

conferences provide invaluable networking opportunities.

We have planned a welcome 'Aussie barbecue' in one of Australia's oldest colonial precincts and a gala dinner at the Sydney

Opera House, along with many opportunities to explore our city. Sydney Ports is organising a social programme that we are confident you and accompanying partners will never forget so please let us know by clicking the link below if we can expect to welcome you in April 2014.

We are also offering various sponsorship opportunities which will maximise your brand awareness right across our membership and beyond. Our early bird rate is open for a limited time so we suggest you take advantage of this offer, which Sydney Ports believes represents very good value given the spectacular conference agenda.

More info and to register: www.IAPHSydney2014.com



Photo: The Argyle

Delegates can absorb Sydney's old colonial atmosphere at the welcome barbecue

Meet the chair

Ports of Auckland's general manager of people and processes, Diane Edwards, is used to bringing about change. She will be using her skills and knowledge gained in banking, consultancy, and government to promote the empowerment of women in the ports industry as she takes up the chairmanship of the IAPH Women's Forum

I am delighted to be offered the opportunity to chair the Women's Forum for IAPH. As someone who fell into the shipping and logistics industry by accident, it initially came as a shock to see how few women achieve senior status. I look forward to helping to change this aspect of the industry.

If you had asked me 30 years ago what I would be doing now, I would have guessed I

would be teaching. I started my career as a teacher in a challenging multicultural school – a job that I loved – but life has many twists and turns. In 1986 I visited New Zealand with my Kiwi fiancé – the beauty and vibrancy of the country captured my heart and became my home after we married.

Needing a job quickly I took a temporary post in a bank until I was settled. Eleven years later I was still there, having qualified as an accountant, but I preferred people to numbers and so my interest turned to training.

As the training manager for one of Australasia's largest banks I learned a lot about the challenges faced by business professionals. Realising training will not fix all performance problems, I moved into the human resource area to work on performance management. However, soon it was clear that performance problems may arise from sources other

► Women's forum

than people. Time to move again.

In my next position I looked at how the processes, policies, and systems change performance and realised that a holistic approach is needed to lift it.

In 1998 I joined my husband in rural Tanzania – itself a life-changing experience. Back in New Zealand two years later, I joined a company specialising in business process analysis, working on major IT change projects. Realising it was the people side of change that interested me most I started my own business, consulting to companies undergoing major change.

For the next decade I worked with some of New Zealand's major companies undergoing transformation. During this period my association with shipping began, including working with P&O Nedlloyd, where I got to grips with its global shipping processes. Following the purchase of P&O Nedlloyd by Maersk, I assisted Maersk NZ with the integration of the two workforces.

Later I worked on other key projects, including spending two years inside New Zealand's Parliamentary Services learning how the wheels of government work and at the Ministry of Transport gaining a knowledge of supply chains.

Then, just over two years ago, Tony Gibson, chief executive at the Ports of Auckland, invited me to help him manage the huge transformation programme he was leading. Still there, I now have a watching brief over the major projects and processes at the port and manage the Six Sigma programme. Leadership development, talent spotting, culture change, and coaching managers are also key aspects of my role. I work with inspirational women and men to build the platform to achieve great things.

Diane Edwards was nominated as chair of the Women's Forum in May. She enjoys the people side of her work most and wants to make port jobs more accessible to women

“A holistic approach is needed to lift overall performance”



Photo: Ports of Auckland



Photo: IAPH

Arley Baker is now chair of the Communication /Community Relations Committee

Two new committee chairs appointed

Monica Bonvalet, director and head of the Commercial Department at Port of Marseille Fos, France, was appointed as chairman of the IAPH Cruise Committee that was newly established at the 28th IAPH conference in Los Angeles, USA. Arley Baker, senior director of communications at Port of Los Angeles, USA, takes Bonvalet's previous position as chair of IAPH Communication/Community Relations Committee.

Monica had served as chairman of the IAPH Communication/Community Relations Committee since 2009 and Arley had served as its vice chairman since 2011.

Both have contributed greatly to the work of the committee in the past couple of years, for example, administering the Port Communications Award and Essay Contest (Akiyama & LA Open) and designing a new IAPH logo and orchestrating IAPH communications plans.

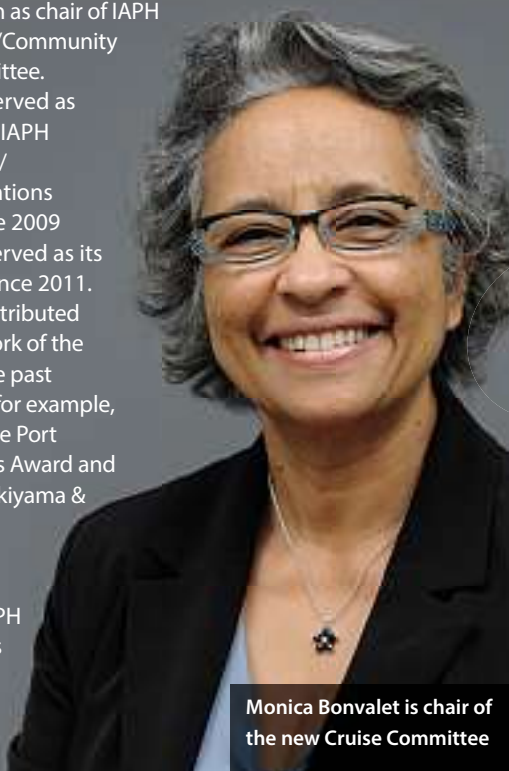


Photo: Port of Marseille Fos Authority

Monica Bonvalet is chair of the new Cruise Committee

More info: www.iaphworldports.org/AboutIAPH/TechnicalCommittee.aspx

Recently at the clubhouse

IAPH 3rd Vice President Dr Priyath Wickrama visited the IAPH office in late August. While at the Tokyo office he discussed and exchanged views with Secretary General Naruse on various port and regional maritime topics such as environment and port safety, as well as discussing how to keep the regional members engaged and interested in the association.



Photo: IAPH

Membership notes

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

Associate members

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Representative Hitoshi Yamashita, president

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E-mail jan.matthe@worleyparsons.com
Website www.worleyparsons.com
Representative Andrew Wood, CEO
Business Activities: Ports and terminals consultants

Tell *P&H* about your port's plans

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

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

Next year we have a mix of technical and managerial themes planned, as follows:

March/April issue

Cover feature: Americas regional focus
Feature: Vessel traffic management
Feature: Port design and planning

May/June issue

Cover feature: Africa/Europe regional focus
Feature: Port cranes and yard equipment
Feature: Dredging and contaminated sediment

July/August issue

Cover feature: Climate change/green ports
Feature: Port automation
Feature: Insurance/finance



If you have any ideas for articles that you would like to discuss with the editor, please email Penny Thomas at: penny.thomas@ihs.com
 If you are interested in advertising, please contact Andrew Boyd at: andrew.boyd@ihs.com. IAPH members can place an advert with a 20% discount

Photo: Shutterstock

Dates for your diary

A selection of forthcoming maritime courses and conferences



November

20-22: IAPH Africa/Europe Regional Meeting – Amsterdam, Netherlands
www.portofamsterdam.nl/eng/iaph-meeting

21-22: 11th Intermodal Africa South 2013 – Port Elizabeth, South Africa
www.transportevents.com

21-22: 8th European Conference on Inland Terminals – Liège, Belgium
www.inlandterminals.com

Commences

26: Certificate in Cargo Surveying – distance learning
www.ibc-academy.com

27-28: 9th International Conference 2013 – Amsterdam, Netherlands
www.millenniumconferences.com

December

9-11: TOC Container Supply Chain: Middle East – Dubai, UAE
www.tocevents-me.com

10: JOC Port Productivity Seminar – New Jersey, USA
www.joc.com/events

January 2014

1-5: Seminar on Dredging and Reclamation (Australia) – Australia
www.iadc-dredging.com

13-31: UNESCO-IHE Short Course: Coastal Systems – Delft, Netherlands
www.unesco-ihe.org/short-courses

20-31: Seminar on Port Management – Antwerp, Belgium
www.portofantwerp.com/apec/

23-24: 8th Indian Ocean Ports and Logistics 2014 – Mauritius
www.transportevents.com

23-24: Shifting International Trade Routes – Tampa, Florida, USA
www.aapa-ports.org

29-30: Cargo Logistics Canada Expo & Conference – Vancouver, Canada
www.cargologisticscanada.com



Photo: Port of Marseille Fos Authority

Cruising through challenges

Monica Michel-Bonvalet, director and head of the Commercial Department at Port of Marseille Fos Authority, has taken up the chairmanship of the new Cruise Technical Committee. She tells *P&H* about the committee's aims and its value to members

“The cruise industry may appear glamorous, but it does present a number of complex challenges to a port”

One of the major decisions made by the new IAPH president in Los Angeles last May was to create an additional technical committee to focus on the cruise sector. Many ports worldwide are either already offering facilities to the cruise industry or considering adapting or introducing facilities. The cruise committee should therefore be relevant to many IAPH members across the regions.

At first sight, the cruise industry appears glamorous when compared with bulk handling or container transshipment. However, it does present a number of complex challenges to a port, for several reasons. The cruise industry is very different to regular shipping because it is about accommodating people, which places great emphasis on the type of facilities that are offered by a port.

The newly created cruise committee is now finalising its mission statement that should be presented to and approved by the IAPH Board of Directors at its next meeting in Sydney in April 2014. Our ultimate aim is to ensure that member ports benefit, through our committee works, from an array of data that can

assist them in areas such as planning and designing terminals depending on region and requirements, and marketing their cruise facilities and cruise itineraries in order to attract cruise operators.

The financing and pricing of these facilities are of paramount importance for ports and our committee should also allow our members to benefit from worldwide experience in these respects.

Cruise facilities are understandably located close to cities and our committee will also endeavour to showcase as many examples as possible on best practices with respect to port-city relationships. This work will also include the sensitive issues surrounding environmental protection.

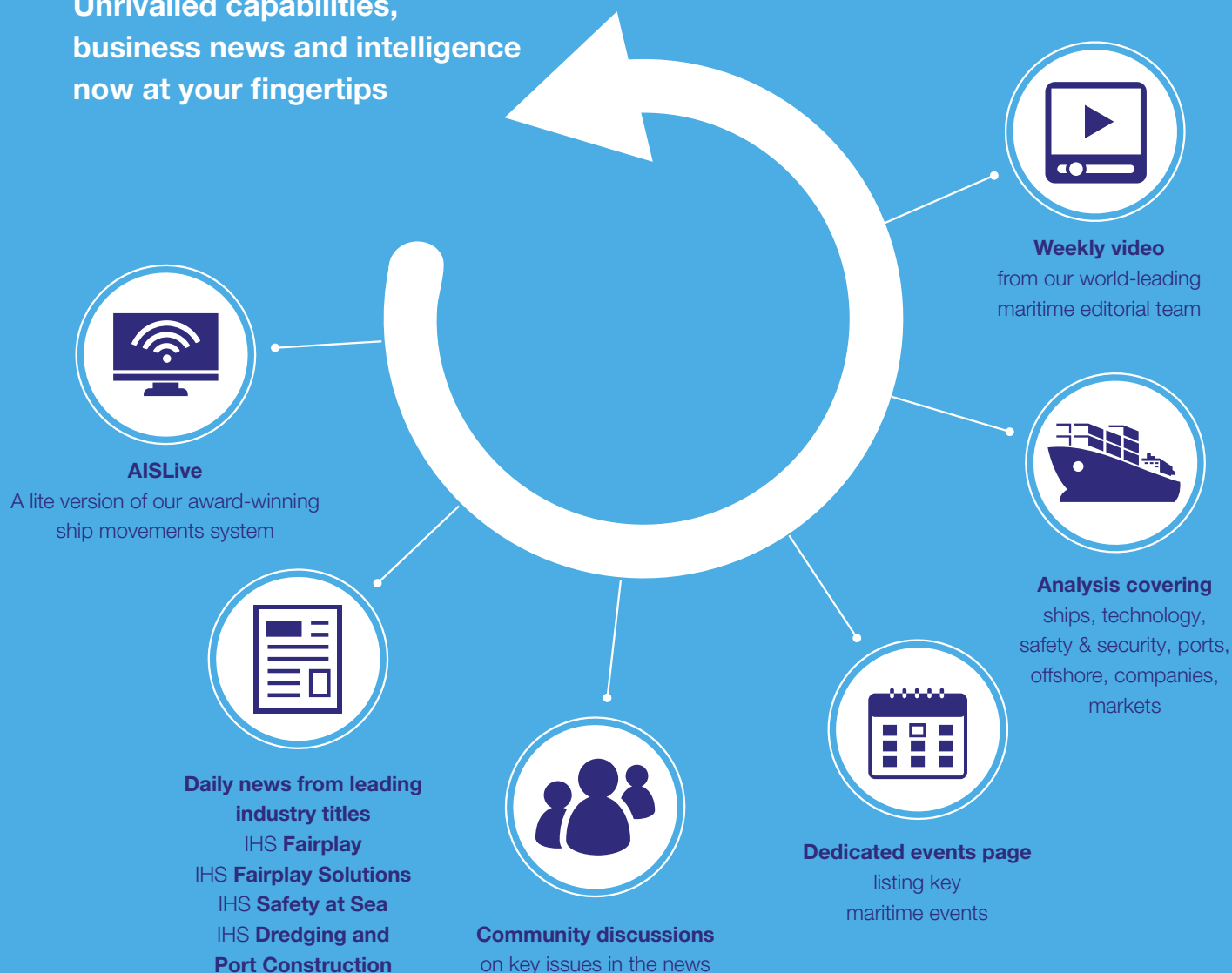
The Port of Marseille is a major Mediterranean player in the cruise business. In 2013 we have hosted over one million cruise passengers and our experience in this field will certainly be very helpful within the scope of this new committee's works. I am now looking forward to co-operating actively with our future committee members to achieve these goals. **R.I**

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