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PORTS & HARBORS

Official Journal of the International Association of Ports and Harbors

Maasvlakte II is underway
Rotterdam spends for the future

Unseen threat from microbes
Learning lessons from land-based industries

A royal Canadian toast
Prince Rupert opens for boxes

Nurturing managers

Training the next generation

Cavotec in action.



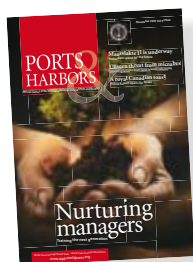
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Nurturing the next generation. Just how effective is training for the new demands the industry faces?

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The great hub transformation

The trend to develop logistics zones is taking off over the world

I was recently in Korea, visiting the major ports of Incheon and Gwangyang. Of course I was impressed by the aggressive port developments – especially the container terminals. But if anything, their commitment to integrated development of logistics zones in the ports was even more impressive. For instance, 400ha of logistics zones are being developed at Gwangyang Port. At Incheon New Port, logistics parks totalling 1,000ha are about to be developed to serve the 23 container terminals it will build by 2020.

This trend is being taken up by major ports round the world – Rotterdam, Le Havre, Barcelona, Dubai and Shanghai are just a few examples. It is part of a strategy to transform ports from

mere interfaces between ships and land to hubs in the global logistics chain. As globalisation goes on, logistics is increasingly managed through an integrated system of a limited number of central hubs. There is no doubt that ports have considerable potential to accommodate such

Ports can produce significant logistics added value to goods

hubs. This opportunity is emerging as a way for ports to produce significant logistics added value to the goods that are passing through their facilities in the era of globalisation.

As advanced terminal systems, particularly automation, are being widely adopted to enhance productivity, ports operating with terminals alone will not create as many jobs for their regions as they did in the past. This is despite the remarkable growth in throughput they are experiencing. So, if ports are to remain as significant economic engines in their local and national economies, they need to be more aggressive in embracing this new approach and developing as logistics hubs. To this end, port authorities should establish long-term visions that encompass working with all parties concerned to make their logistics parks convenient and productive to the maximum extent possible.

Thanks to IAPH's Technical Committee of Port Operations and Logistics, various examples of this new strategy adopted by member ports have been reviewed. The committee is about to embark on the second phase of its study, while phase one of the report will be published shortly. I am confident that this study will deliver great value to members. **PH**



Dr Satoshi Inoue

Secretary General – The International Association of Ports and Harbors

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Port updates

SUEZ DOUBLES

Suez Canal Container Terminal (SCCT), at the northern entrance to the canal, will nearly double in capacity under a new expansion plan. Agreed in late September, the scheme will expand throughput to 5.1M teu by 2011.

When completed, the terminal, 60% owned by the APM Terminals arm of AP Møller-Mærsk and 40% by an Egyptian public-private partnership, will have 24 super post-Panamax cranes capable of reaching across 22 rows of containers.

QATAR NEW PORT

Qatar will spend \$5.5Bn (QR20Bn) constructing a new port in the southeast of the peninsula. "The project is very much on," finance minister Yousuf Hussein Kamal told local businessmen at the Qatar Chamber of Commerce and Industry.

The port, at Mesaieed, south of Al Wakra, has been given the go-ahead, partly in an attempt to help ease import costs, which are being driven by a lack of storage space. Mesaieed is already Qatar's main oil and gas terminal, because it faces the Strait of Hormuz and is the terminus of the pipeline from the country's Dukhan oilfield on the west coast.

Qatar is also in the middle of a QR40M (\$11M) programme of upgrades at its various ports, which include Doha, the main commercial seaport with container ship and ro-ro capabilities, and Ras Laffan, a 30M tonne per year LNG export terminal.

JBIC BOOST TO OMAN

The Japan Bank of International Co-operation (JBIC) will lend \$600M to Oman to develop a port and drydock at Al Duqm, on the country's Indian Ocean coast.

The funds will part-finance a \$1Bn development that aims to make Al Duqm a hub for the export of mineral drybulk, crude oil, petrochemicals and the country's substantial fish catch. An oil storage facility is planned, as well as a free trade zone, an airport, industrial areas, port and drydock; a shipbuilding yard is also being considered. Oman will meet the balance from its own funds and from the Arab Fund.



Centralised: the new centre will bring together office, port navigation and training activities

SPC plans operations centre

A new eco-friendly marine operations centre is to be built by Sydney Ports Corporation (SPC), centralising staff from all over the Sydney Harbour port areas. It will be designed to meet the scope of the SPC green port guidelines and will cater for office and amenities, port navigation, communication and training.

The existing marine services building will be incorporated and refurbished as part of this new centre with the aim of centralising SPC marine operations and

recognising the expected increase in trade through Port Botany due to the reduction in Sydney harbor shipping movements.

Efficiency and sustainability have driven many of the development considerations for the new marine operations centre and the finished product will visually enhance the port area while also promoting an environmentally conscious design and the port's overall focus on sustainability, said SPC.

Externally, banks of solar cells on the rooftop will provide an

alternative source of electricity while internally the building will be fitted with energy- and water-efficient fittings, fixtures and appliances and the latest in microclimate design techniques.

SPC added that the building will house an energy-efficient ventilation system to reduce electricity usage and a stormwater treatment and storage system to reduce water consumption. It expects to gain a high four and a half star Australian Building Greenhouse Rating (ABGR) for the centre.

Tender extended for mega box port

India's southern province of Kerala has extended by two months the date for submitting bids for the proposed deepwater container port at Vizhingham at the tip of the peninsula. L Radhakrishnan, CEO of the project, said applications would be accepted until 31 December this year.

Unlike India's major ports, which are controlled by trusts, the new port is being developed by the Kerala government. But Radhakrishnan told delegates attending the 2nd Southern Asia Ports, Logistics and

Shipping conference that the government would be only a facilitator, holding no more than 24% equity, while playing a 'hand-holding' role.

The concession period would be 30 years, at the end of which the operator will be given the first right of refusal to extend the contract. The government will not have any share in the revenue and tariffs will not be subject to controls, he added.

Bids for the 6M teu capacity port, which will be developed in phases, have been invited.

Armenia corridor opens up

Land-locked Armenia has been granted access to Iran's ports Bandar Abbas on the Gulf and Engeli on the Caspian Sea in a new agreement between the two countries. A report in the *Armenia Diaspora* newspaper explained

that the deal means Armenian forwarders can now freely route their trucks through Iran, providing transit corridors for the country's exports and imports. The agreement aims to bring equality to transport rules between the

two nations, as previously only Iran was able to use Armenia as a transit country.

The 200,000 tonnes of Armenian trade moved through Iran in the first nine months of the year is now expected to grow.

Aqaba plans \$1Bn tender

Aqaba Development Corporation (ADC) is poised to open international tenders worth \$1Bn for a port project to move its existing main port facilities away from the urban area.

The southern Aqaba Port 2 will have deep water of at least 15m and increased capacity from 35M tonnes today to 120M tonnes by 2012, following \$750M worth of investment promoted by ADC – which culminated in the opening of a new container terminal just north of the proposed new port earlier this year.

Details of the port plan were outlined to *P&H* in London by Imad Fakhoury, chairman and CEO of ADC, at a conference held by UK Trade and Investment. The existing port area is being encroached upon by residential and leisure developments, he explained.

It will now be transformed into a financial and residential centre similar to that developed in London's Docklands.

The new port will be built in the southern industrial area of the Aqaba Special Economic Zone (ASEZ), a 375km² area launched in 2001 as a duty-free, low tax, multi-sector development zone encompassing the total Jordan coastline, King Hussein International Airport and the historic City of Aqaba.

Main cargoes will be phosphate, potash, fertilizer, dry bulk and liquid bulk – a throughput capacity of 8.5M tonnes is envisaged – as well as general cargo (2.4M tonnes), plus ro-ro and grain facilities, the latter expected to handle around 2.7M tonnes with landside silo storage capacity of 100,000 tonnes.

International partners will be invited to operate facilities in the new port on a 30-year BOT basis. ADC says it will release tenders once it gains cabinet approval for the plan, which is expected in the course of this month. Relocation to the southern port should be completed by 2012, Fakhoury said, adding the port was hoping to be a transshipment centre.

Energy boost for Hebei



Energised: Caofeidian will handle 200M tonnes of coal a year

The north China province of Hebei is developing a large new port to handle energy-related bulk goods – including 400M tonnes of coal – a delegation led by governor Guo Gengmao announced while on a visit to the Port of Rotterdam.

The province's main port is Qinghuangdao, which handles about 200M tonnes of coal each year at the moment and expects

that to double by 2015. By contrast, Rotterdam, which is the largest European coal port, has an annual throughput of 27M tonnes.

The aim is for Hebei to possess the first 'green' port in northern China and the Chinese delegation was on a fact-finding visit to study the means by which the environment and the economy are combined in Rotterdam.

Work is progressing on another new coal port in the province at Caofeidian on Bohai Bay, 235km from Beijing, which is expected to have an annual capacity of 200M tonnes once construction work is completed and it reaches full operational capacity in 2010.

The first part of the \$933M investment is already working and ultimately will be equipped with 16 deep-water berths capable of receiving 250,000dwt vessels.

Hebei province, with a coastline of 487km, a population of 68M and GDP of over \$100Bn year, is strategically important as it completely surrounds the capital Beijing and Tianjin city.

Other ports in the province are Jingtang and Huanghua.

China is also working to increase the rail capacity of lines serving the ports so more coal and other bulk cargoes can be moved.

LA/LB introduce TruckTag

PierPASS has announced that marine container terminals at the Ports of Los Angeles and Long Beach will require trucks to be equipped with TruckTags in order to gain access to the terminals from 1 December 2007.

Trucks without TruckTags will be processed through exception handling, which may include being denied access or processing via a trouble

ticket. The TruckTag programme has been devised by marine terminal operators in Los Angeles and Long Beach to meet US Department of Homeland Security and US Coast Guard guidelines requiring marine terminals to enhance their security measures.

TruckTag uses RFID technology.

More info: www.pierpass.org/trucktag

Port updates

DUBAI LNG

Dubai is building a huge new LNG terminal able to handle ships from 50,000m³ to 265,000m³ that will be able to discharge a 145,000m³ ship in approximately 12 hours.

The terminal will include a massive LNG tank farm, due for completion between 2010 and 2013. It will be operated as a joint venture between LNG Impel and the Dubai Multi Commodities Centre, have a capacity of 200,000m³ – and has already been nicknamed 'DubHub'.

BOX CONVERSIONS

Egypt's Alexandria International Container Terminals (AICT), owned by Hutchison Port Holdings (HPH) of Hong Kong, has officially opened two new container terminals at the ports of Alexandria and El Dekheila.

Converted from general cargo facilities, the two terminals have alongside depths of 12m and quay lengths of 380m and 510m in Alexandria and El Dekheila respectively.

GABON MOVE

Singapore-based terminal operator and port services provider Portek International has secured a 25-year concession to manage the multi-purpose ports of Owendo and Gentil in Gabon, paying 30% annual corporate tax for the privilege.

Both ports are ringed by extensive deposits of oil, timber and manganese, potentially promising the company a reasonable amount of cargo over the next two years. Development plans include new IT and security systems and other practices to improve the ports' overall efficiency.

NO BOXES IN NYNJ

The Port Authority of New York & New Jersey (NY&NJ) has finally agreed to buy the former Military Ocean Terminal at Bayonne – though it has had to promise not to build a container terminal there. Instead, NY&NJ plans a ro-ro terminal, and will pay \$50.5M to acquire a 62ha parcel to add to the 1,200ha it has in the port.

Cargo volumes have doubled in the past 10 years and could double again over the next 10.

Dredging

WORK COMES FIRST

Manson Construction and Connolly-Pacific will work 24/7 next month (December) at the Port of Los Angeles, dredging the main channel and clam-dredging at Pier 300.

More info: www.portoflosangeles.org

BRITO'S BUDGET

Brazil's northeast Port of Ilheus has been allocated part of the BRL1Bn (\$0.56M) dredging budget promised by the country's new ports minister Pedro Brito. A new soya terminal has helped raise the port's movements from 403,000 to 484,000 – a rise of 20% – in the first five months of 2007. Quay improvements and a deeper draught – from 12.5m to 14m – are urgently needed, therefore.

More info: www.codeba.com

MORE SILT IN THE WOUNDS

An unacceptable level of dioxins in dredged material will dramatically increase the cost of silt clearing from several berths at the US Port of Olympia, it has been reported. It will be taken by rail to east Washington for special disposal and capping.

More info: www.portolympia.com

HAPPY ENDING

Expansion plans by California's breakbulk Port of Stockton have finally got the go-ahead after a three-year lawsuit was launched by residents against local dredging. To avoid the need for dumping, the port has agreed to use dredged material for building foundations and as a filling for car parks around the area. It has also signed a set of environmental rules for the project.

More info: www.portofstockton.com

DEEPER AND WIDER

The Nigerian government has signed a \$65M contract with Nigerian Liquefied Natural Gas, the National Ports Authority and the Bonny Channel Company to expand the Bonny Channel in Rivers State. Led by Dredging International, the project which is scheduled for completion next March will deepen the channel from 12.5m to 14.3m and widen it from 215m to 230m.



Boom time: PPT will be finished by 2013

Halfway to \$3.4Bn facility

PSA Singapore Terminals (PSA) says it is half way through its S\$5Bn (\$3.4Bn) development of Pasir Panjang terminal (PPT).

The project has so far taken 10 years with the aim of developing 26 berths for Phases I and II PPT. With 50% of the berths fully operational, PSA says it expects another 13 to be in use by 2009. When fully completed, they will boost PSA's total handling capacity to 35M teu.

Kuah Boon Wee, PSA CEO Southeast Asia and Singapore Terminals, said: "PSA Singapore Terminals is well poised for further growth generated by buoyant global container trade. Year-to-

date, we have seen a 13.7% increase in volumes to reach 17.8M teu for the first eight months of this year. Our current focus is to bring on more capacity to support the growth of our shipping customers."

Kuah was speaking at the contract signing between PSA Singapore Terminals (PSA) and China-based Shanghai Zhenhua Port Machinery Company (ZPMC) for S\$400M worth of new super post-Panamax quay cranes. This series of dynamic quay cranes are expected to be the first of their kind in the region.

Added Kuah: "This latest acquisition of new super post-

Panamax quay cranes is part of our efforts to further develop Pasir Panjang Terminal. Each super post-Panamax quay crane has an outreach of 22 container rows across. These new quay cranes are also equipped with 40ft tandem lift capability and are custom-made to handle the newest generation of mega container ships that have a capacity in excess of 13,000teu."

PSA is now working closely with the Ministry of Transport and the Maritime and Port Authority of Singapore to develop Phases III and IV of Pasir Panjang Terminal (PPT) to be completed within the next 10 years.

New China facility opens

Guangzhou Port Group, COSCO Pacific and APM Terminals together have opened the 4.2M teu capacity Guangzhou South China Oceangate Container Terminal.

The new facility, located at the Port of Guangzhou's Nansha Phase 2, the container terminal is poised to benefit from exports from the economic engine of South China. Guangzhou's container throughput in 2006 was 6.6M teu, ranking fifth in mainland China and fifteenth in the world.

Guangzhou South China Oceangate Container Terminal has a total quay length of 2,100m across six container berths, representing a total investment of \$500M. APM Terminals joined COSCO Pacific in the

ownership, development and operations of the terminal, together with Guangzhou Port Group.

Richard Nicholson, APM Terminals' VP for the greater China area, commented: "Our vision in the South China market is to invest in terminal capacity so our customers can grow with the trade, achieve better profitability and attain the speed, service and flexibility they need to compete and win in world markets. Guangzhou's remarkable economic growth makes this an exciting time for all of us living and working here. We are committed as a company, and as members of this community, to providing opportunities for personal and professional growth as well for all of our employees."

Biofuels expand in Europe

Spain's Abengoa Bioenergia has started construction of a bioethanol plant with an annual capacity of 480,000 tonnes in the port of Rotterdam. The site is located in the central Europoort area, amidst tank terminals, chemical distribution centres and chemical plants.

Abengoa is Europe's largest producer of bioethanol, operating three factories with a joint capacity of 500M litres a year. The Rotterdam installations will nearly double this amount.

Meanwhile, European Biofuels 012 (EBF) is to invest €26M (\$36.8M) in the construction of a new biodiesel plant at Barcelona's Muelle de Inflamables dock. The biodiesel plant will produce a maximum of 250,000 tonnes of biodiesel products a year.

The Port of Barcelona expects the plant to generate around 100 additional ship calls a year, conveying the primary materials used to make biodiesel products and exporting the finished products from the plant.

Last September the Barcelona



Photo: Aeroview Rotterdam

Newbuild: construction of the biofuels terminal has started

port authority approved the modification of a concession held by Decal, a fuel storage company, to allow for the construction of the biodiesel plant.

The commercial manager of the Port of Antwerp chemical cluster, Xavier Vanrolleghem, has urged concerted drives to turn transport 'green'. He has called for the increased use of biofuels, as this will benefit ports.

Several ports in Europe are now considering following the lead set by Rotterdam, Amsterdam and Antwerp and want to attract

biofuel production, he told *P&H*, adding that the market in Europe was likely to be an artificial one for the next 6–12 years, driven by subsidies from the EU.

Once these expired, market forces would prevail. Biofuels may be a small part of the energy market now, but Vanrolleghem said he could see movement. "We've had the hype and now more and more ports are concentrating on making it work." Port authorities had a key role to play – they needed to be able to provide land for facilities.

Mandatory IMDG Code training urged

TT Club, the specialist transport insurer, has called for training for land-based staff who handle dangerous goods prior to shipment by sea. It wants the training to be mandated under the International Maritime Dangerous Goods (IMDG) Code.

The demand came in support of a proposal by the UK delegation at a meeting of the IMO's sub-committee on Dangerous Goods, Solid Cargoes and Containers (DSC).

"The consequences of badly packed, misdeclared and inaccurately labelled hazardous cargoes in terms of loss of life, damage to vessels and destruction of goods continues to be at unacceptable levels," argued the club.

Speaking at the IMO session, TT's risk management director, Peregrine Storrs-Fox was adamant that such training was necessary and logical to support compliance with the IMDG Code obligations.

"Historically, IMO members have been opposed to such a move on the grounds that the organisation has no jurisdiction on land. However, TT Club contends that training of shore-based operatives is vital in increasing safety throughout the transport chain and urges national maritime administrations and ship registries to support the proposal," he said.

In support of his case Storrs-Fox cited evidence

from a host of incidents over recent years, in which sub-standard handling of dangerous goods has been proven, or is strongly suspected to have been the cause of fires on vessels and leakages from containers resulting in significant damage and loss of life.

Statistics also bolster the case. A modern container ship is bound to carry a cocktail of chemicals.

Industry figures show that between 5% and 10% of an average container ship's payload is made up of declared hazardous goods.

On super post-panamax 8,500teu vessels plying the Asia–Europe trade that means the contents of some 600 containers is declared hazardous. At conservative estimates that's 8,000 tonnes per ship.

In one year, there may be about 10M declared 'dangerous' boxes with over 130M tonnes of cargo being shipped. As Storrs-Fox pointed out, "Of the 166 IMO member states only an average of five per year have reported on systematic inspections over the last decade, amounting to less than 0.5% inspection rate of only declared cargoes. This is, however, the tip of the iceberg, as we can't count the undeclared or estimate the extent of the misdeclared or badly stowed containers."

Dredging

READY, STEADY DREDGE

Consultants are studying a potential dredging site so a second container terminal can be built at the Port of Mombasa. The Kenyan government recently approved the three-year \$224M project which involves deepening the Likoni Channel. The dredged material will be used to reclaim land for the terminal.

More info: www.kpa.co.ke

CONTAINER COUNTDOWN

The Rs12Bn (\$294M) contract for the Mumbai Offshore Container Terminal project has been awarded to construction firm Gammon India and the Spanish civil engineering company Dragados. The work will be on a 30-year BOT basis and includes the operation and management of the port's existing container terminal for the first five years.

More info: www.gammonindia.com/html/port.htm

DUMPING DISPUTE

Dredging is due to resume at Vancouver Port Authority's Deltaport Third Berth Project, but regulator Environment Canada (EC) is investigating the illegal dumping of dredged material by a contractor. The materials were dumped outside a designated area and may have damaged underwater power lines.

More info: www.portvancouver.com

DOLPHIN DANGER

Conservation group Kiwis Against Sand Mining (KASM) has drafted a petition calling for a blanket ban on seabed iron-sand mining after Rio Tinto carried out aerial surveys off the west coast of New Zealand's North Island. It says future dredging could endanger the local Maui's dolphins and lead to erosion of the surfing beaches.

More info: www.arc.govt.nz

CHANNEL CROSSING

The Chinese government is investing \$66M to dredge the Xiazhiemen Channel to 22m below chart datum. This will make it the country's deepest manmade channel and allow ships of 300,000dwt to enter the growing Ningbo-Zhoushan Port.

Cash & cargo

TERMINAL SALE

India's Adani Group, which has promoted Gujarat's Mundra port, is holding talks with Dubai Ports World for the sale of the port's newly commissioned second container terminal.

Adani is legally bound to sell the second container terminal to DPW when the first container terminal – owned and operated by DPW – handles over 750,000teu. And DPW expects to end this year with 650,000teu.

Meanwhile, Adani's Mundra Port and Special Economic Zone is in the process of taking over the right to develop a \$371M port at Dholera in Gujarat from JK Group – funds will probably be raised through an IPO. *More info: www.adanigroup.com*

CREDIT RATING

Sri Lanka Ports Authority (SLPA) is planning to get a credit rating so it can make an international bond issue to raise funds to help pay for new port developments and repay loans that funded construction of Colombo's existing container terminals.

SLPA has \$1.5Bn debts, largely taken to fund the state-run Jaya Container Terminal, built with loans from the Japanese government. *More info: www.slpa.lk*

IRAN EXPANDS

Iran has allocated £563M to expand and upgrade its ports in 2008. The two major projects are expansion of container operations at Bandar Abbas and developing the Port of Chabahar. *More info: <http://directory.lrfairplay.com>*

MITIGATION PAYMENT

Virginia Port Authority's made a first, \$490,000 payment on a \$50M environmental mitigation plan to restore 4ha of tidal wetlands at Paradise Creek Nature Park that will reduce the impact of Craney Island Marine Terminal on the Elizabeth River. *More info: www.vaports.com*

INCOME RISES

Port of Rotterdam Authority's first half income for 2007 rose by €7M to €93M, compared with the same period in 2006. *More info: www.portofrotterdam.com*



Khalifa will take shape by 2010

Centrepiece port project starts

Work is to start soon on an ambitious \$2.5Bn project to build a new port, called Khalifa, at Taweelah, halfway between Abu Dhabi and Dubai.

The project is expected to take about four and a half years to complete. Work includes dredging an entrance channel and a harbor basin, reclaiming land for a harbor island and wharfs, and constructing breakwaters and a causeway to the island.

Jetty and quay walls will be built for container handling and a new aluminium smelter. The construction of Khalifa port is the centrepiece of Abu Dhabi's port development strategy which was revealed by Sheikh Mohammed Bin Zayed al Nahyan – Abu

Dhabi's Crown Prince – in May last year. Mina Zayed Port's commercial operations will move to Khalifa Port because Mina is too small to handle current and predicted traffic and it will instead become a residential and leisure development.

Khalifa will include a large industrial and container handling terminal and piers for cargo handling, as well as an industrial zone that could grow to more than 450km². Completion of Stage 1, for the first 170 km², is expected in February 2010, according to Bechtel, the Khalifa port manager.

It is estimated that 44M m³ of material will need to be dredged, for which a variety of equipment will be employed.

SCI moves into terminal ops

Shipping Corp of India (SCI) has teamed up with two other state-owned companies – Container Corp of India and Central Warehousing Corp – and MSC to bid for container terminal concessions.

SCI chairman and MD S. Hajara said a consortium is likely to be formed soon, which will make SCI "a complete player" in container operations.

"There are many opportunities coming up in the sector. We will bid for the fourth container terminal at Jawaharlal Nehru Port," he said.

The three Indian public-sector units will jointly hold a half-stake in the consortium with MSC and group companies controlling the other 50%. SCI is also looking at becoming involved in container transport by rail.

New power supply for Antwerp

An onshore power supply (OPS), or alternative maritime power, facility is to be installed at Antwerp's Independent Maritime Terminal (IMT), by Hamburg-based SAM Electronics, part of L-3 Communications of New York.

The facility will typically enable up to three container vessels to connect to it for approximately three days within any one week while berthing, allowing their auxiliary diesel motors to be disconnected and so significantly reduce noxious NO_x, SO_x and CO₂ emissions, said SAM Electronics in the announcement.

Newly developed by SAM, the OPS system ensures uninterrupted power supplies of 800kVA electrical power to vessels while in port. This is possible through use of a static three-phase AC converter, which has already been successfully installed as a shaft alternator in pulse width modulated (PWM) technology.

Power to vessels is also converted to meet the requirements of 50Hz and 60Hz standard requirements in Europe and other countries.

SAM claims this is the first onshore power supply facility with automatic synchronisation and 50/60Hz conversion to be commissioned in Europe.

As part of the installation work, vessels under construction for International Container Lines will be equipped with a 60HZ network in addition to the necessary OPS components such as a 6,600V/450V transformer, a 6,600V medium-voltage supply station and a cable drum.

Construction work for the OPS is scheduled for completion in August 2008.

SAM Electronics is also developing larger comparable onshore power supply systems for port use that are based on advanced PWM technology. *More info: www.L-3Com.com*

Photo: Abu Dhabi Port Company

Turkish ports plan privatisation

Bandirma and Samsun ports in Turkey have taken a step nearer privatisation, the state Privatisation Administration has revealed. Bandirma and Samsun ports now have an official entry in the Administration's latest privatisation portfolio.

The industry is not surprised. "We've been waiting for this to happen, especially as they've just sold Derince Port," a Turkish port agent told *P&H*.

Samsun port is in the centre of Turkey's Black Sea Coast and has 10 berths, with draughts ranging from 6m to 12m, and offers dry bulk, passenger, ro-ro, box and general cargo facilities. Quay lengths range from 150m to 400m. An airport lies 5km away.

Bandirma is in the Southern Marmara region and boasts 18 berths with draughts ranging from 4m to 112m and quay lengths from 80m to 360m.

Local facilities include dry bulk, bagged, passenger, ro-ro and general cargo facilities. Both ports have a fleet of modern, high-performance cranes.

Turkey's privatisation programme began back in 1984 but lately appears to be gathering momentum once again.

Maritime privatisations include Derince Port, which was sold for \$195.25M in early September; Izmir Port, which is awaiting signature on a \$1.28Bn deal; and Mersin Port which went for \$755M in May this year.

New expressway drives growth

The US Port of Stockton has formally opened its new Port of Stockton Expressway linking the port's West Complex – previously the US Navy's Rough & Ready Island – to California State Highway 4.

Plans for the project date from 2000, following the conveyance of Rough & Ready Island from the Navy to the Port of Stockton. A planning document was developed and then released in February 2001, identifying Daggett Road as a possible secondary entrance to the port, which at the time had only one entry point. This was deemed to be insufficient to support the commercial purposes of the growing port.

The expressway project broke ground in July 2005 and was completed in less than two years. Financed entirely with port funds, which included a partial grant from the Economic Development Department, the expressway consists of a newly constructed four-lane bridge and a rehabilitated old gravel farm track called Daggett Road.

The single-span concrete bridge was planned in an area where its construction would not affect port tenants, neighbouring communities, the flow of traffic or normal port operations. Additionally, the construction was designed to eliminate any need to work in the water and to obviate environmental concerns.

Port director Richard Aschieris said road freight traffic in the local area will decline significantly as



Express delivery: port officials cut the ribbon to open the new road, rebuilt from an old gravel track

the West Complex grows and traffic is moved on the new road, alleviating noise and exhaust from heavy truck traffic in the surrounding residential neighbourhood. "The new Port of Stockton Expressway, as its name implies, will enable the port to expedite the movement of cargo through the port faster and more efficiently," he added.

More info: www.portofstockton.com

Colombia looks for FTZ investments

Colombia will introduce single-company free trade zones as part of its target to attract record foreign direct investment of \$8Bn this year – a four-fold increase since the turn of the decade.

Industry minister Luis Guillermo Plata told *P&H* that any business, maritime-related or not, will be able to declare itself a free trade

zone in return for prescribed, minimum levels of either capital investment or job creation.

Plata told an investment seminar in London that Colombia expects to have completed free trade agreements with 54 nations by 2010 and has just been ranked by the World Bank as the developing country that's best for

"doing business", after Egypt.

Plata said Colombia, ranked just a decade ago as one of the world's most dangerous destinations, has undergone a "huge transformation" in the past five years. Philippines-based port operator ICTSI is among a new wave of investors, earmarking \$106M for a new facility at Buenaventura.

Cash & cargo

DUBLIN UP

Dublin Port Co handled a record 29.3M tonnes and posted an operating profit of €25.6M (\$36.6m) for 2006 – and 2007's first half performance is continuing the trend with throughput up 10% over the corresponding period of 2006 to 15.6M tonnes and turnover up 7% at €34M.

More info: www.dublinport.ie

ECONOMIC BOOST

Aberdeen Harbour contributes £420M (\$860m) a year to the economy of northeast Scotland, according to an economic impact assessment by Ove Arup & Partners. The research found that the port helps sustain almost 11,000 full-time equivalent jobs.

More info:

www.aberdeen-harbour.co.uk

HINTERLAND HELP

Construction of two LNG terminals and increased commercial traffic helped Milford Haven Port Authority post pre-tax profits of £179,000 (\$367M) for 2006. CEO Ted Sangster highlighted the port's crucial role in the local economy – last year MHPA gave £200,000 to support community and voluntary groups.

More info: www.mhpa.co.uk

CHINA BUILDS PROFIT

The world's biggest port builder, China Communications Construction Co, saw its first-half profit more than double compared with a year earlier as the country increases the capacity of its deepwater ports.

In the firm's first reported half-year earnings since its December initial public offering in Hong Kong, net income climbed to Yuan2.74Bn (\$363M), up from Yuan1.08Bn. *More info: www.ccccltd.com.cn*

Auckland boost

Ports of Auckland, which is engaged in a NZ\$150M (\$111M) investment programme, achieved a 12.6% increase in container volumes to 773,160teu for the year ended 30 June 2007. Full import and export container volumes increased 4.9% and 6.5% and cruise calls are up. *More info: www.poal.co.uk*

People

AAPA APPOINTS

The Association of American Port Authorities presented distinguished service awards to Virginia Port Authority executive director Bobby Bray and Cleveland-Cuyahoga County Port Authority president Gary Failor, bringing to 10 the number of AAPA leaders ever to be awarded this prestigious honour. Also at the association's annual conference a professional port manager certification was awarded to Phyllis Saathoff, MD of Port Freeport, Texas (see *Maritime Update* p37).

ICTSI TERMINAL TEAMS IN SYRIA...

International Container Terminal Services Inc (ICTSI) has appointed key officers for its Syrian subsidiary, Tartous International Container Terminal – Russell Mitchell is its engineering manager, Romeo Salvador is chief financial officer and Augusto Obledo is the terminal manager.

...AND IN CHINA

International Container Terminal Services Inc (ICTSI) has appointed Apollo Zhou as general manager of its Chinese unit, Yantai Rising Dragon International Container Terminals. Apollo honed his business management skills at Sea-Land Services and CSX World Terminals, both in Hong Kong and mainland China.

TACOMA DESIGNS

The Port of Tacoma has selected Robert Stromberg as senior programme manager to lead the design and construction of new terminal development on the east side of the Blair Waterway. Stromberg previously provided consulting services as a senior associate with Seattle's Nielsen-Wurster Group and has been a construction manager for Berger/ABAM Engineers.

SANTOS PRESIDENT

Jose Di Bella Filho has been appointed the new president of Santos port authority Codesp by ports minister Pedro Brito, replacing Jose Carlos Mello Rego, who had been in the job for nearly three years.



Photo: VPA

Craney Island: a step further after the payment

Paradise Creek helps mitigation

The Virginia Port Authority (VPA) has made its first payment on a \$50M environmental mitigation plan to reduce the impact of the Craney Island Marine Terminal planned on the Elizabeth River. What's more, the payment was delivered ahead of schedule.

VPA environmental director Heather Mantz handed over the \$490,000 payment to the Elizabeth River Project. The money will assist with the cost of restoring 10 acres (4ha) of tidal wetlands at Paradise Creek Nature Park.

Mantz explained: "There is still some state permitting that needs to be completed on Craney Island, but we understood that the Elizabeth River Project needed to proceed with purchase of the waterfront property in order to secure the site for our partnership

project at the park, so we decided it was best to make the first payment a bit early."

The Elizabeth River Project played an integral role in working with a team of stakeholders and regulatory agencies to develop an environmental mitigation plan for the Craney Island project. The mitigation plan calls for a series of projects to restore more than 50 acres (20ha) of wetlands on the river and clean up all known hotspots of contaminated sediment on the river bottom.

"We believe in the Elizabeth River Project's mission and know the money for the nature park is being used in the best interest of the river and the community," said Jerry A Bridges, the port authority's executive director.

More info: www.vaports.com

Hamburg–Poland rail link

Hyundai Merchant Marine has launched a container train connection between Hamburg and Mława in Poland, adding to the 200 container trains already serving the port.

The Mława container train, which initially will operate weekly, has been developed in conjunction with the shipping company's Asia–Europe express service, the AEX container line service. This new train service is primarily used by the shipping company's clients LG Electronics and Pantos Logistics, which transport time-critical consignments using the container train.

In 2006, traffic to and from Poland via the Port of Hamburg totalled 267,666teu, representing a growth rate of 18%.

Conservation challenge

A South Carolina state administrative law judge has dismissed a local conservation group's objections to a port development. The South Carolina Coastal Conservation League (SCCCL) challenged state permits for the new port's proposed access road and container terminal at the former navy base in Charleston.

"We're pleased that this has finally been resolved," said Bernard Groseclose, president and CEO of the South Carolina State Ports Authority (SCSPA). "Every state and federal permitting agency has signed off on the plan, recognising that this project benefits our neighbours, the environment and the economy."

The favourable ruling removes an automatic stay of construction and allows the SCSPA to move ahead with the three-berth, 280-acre (113ha) container terminal.

The project includes nearly \$10M in environmental and community mitigation (see *P&H March 2007*), and a voluntary air quality programme to minimise emission from both new and existing terminals.

Work that does not require the state or federal permits is well under way. A major building and structure demolition contract has been awarded and sites to test consolidation were developed earlier this year.

After the state Department of Health and Environmental Control (DHEC) issued water quality permits for the terminal and road, the SCCCL sought to challenge both permits before the DHEC Board.

The SCSPA questioned the timeliness of these challenges, but the board agreed to hear the matter, ultimately upholding the staff decisions to issue the permits.

The SCCCL then filed contested cases with the Administrative Law Court. The SCSPA again argued that the SCCCL did not follow the law and had filed its request for final review too late.

Stanbrook guides river

The Port of London Authority (PLA) has appointed Roy Stanbrook harbor master for the Lower Thames District, which stretches along the Kent and Essex coasts. He joined the PLA as deputy harbor master six years ago and has extensive maritime experience.

Stanbrook started his sea-going career with the Royal Fleet Auxiliary (RFA) where he served aboard the ship *Sir Galahad* during the Falklands War. Stanbrook also saw action in the first Gulf War.

Since leaving the RFA he has worked aboard cable ships for BT Marine; taught radar, ship handling and bridge team management at what is now the Warsash Maritime Academy on the Solent; and been employed by a marine insurance company. Before joining the PLA he was director of operations for the Rochester-based Laphorn shipping company.

Stanbrook said: "These are exciting times to be on the Thames and to be working with a really active river community."

"There is a lot of change under way and I know change can cause tensions. I'm determined to work with all our Thames partners, to hear their hopes and concerns, and ensure we get what's best for our river and the people on it."

More info: www.portoflondon.co.uk

Supply chain complexity

Innovative and flexible solutions are needed to provide companies with the speed to market and delivery certain as the China trade surge has created unprecedented complexity, additional costs and potential choke points in thousands of international supply chains according to Brian Lutt, president of APL Logistics.

Lutt said that these challenges will be magnified as China looks to spread wealth beyond the coast. "Getting products to market from China quickly, reliably and cost-effectively already keeps logistics providers and their customers up at night," he said. "But the main production and consumption zones are still clustered in the east of the country. So, the challenges we face today will be multiplied many times once China's vast hinterland is unlocked."

Lutt praised the Chinese government's planning, fast decision-making and committed programme of investment in transport infrastructure.

"While the rest of the world failed to anticipate the speed of the production shift and build sufficient capacity, China has put

money and minds to the task of staying ahead of trade demand growth. China has recognised that transportation infrastructure is closely linked to its future economic and social prosperity," he observed.

Lutt said China had been particularly successful in developing its container ports, but pointed out that China's 11th five year plan (2006–2010), outlines ambitious initiatives to develop its roads and railways. There are, for example, plans to introduce dedicated container traffic corridors and double-stack trains throughout China in order to expedite the flow of products within the country and the east coast for export.

However, Lutt said that building infrastructure is only part of the solution to China's challenges.

"From a container logistics perspective, this additional road and rail capacity must be matched by precise connectivity with ocean transportation and other value-added logistics services. Without this connectivity and integration, supply chains will falter," Lutt added.

More info: www.apllogistics.com

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Photo: Michael Hollmann

Connecting corridors to ports

Siyabonga Gama reports on the investments that Transnet Freight Rail is making to strengthen the logistics functions of South African ports

Global logistics trends are driving changes at ports all over the world. The logistics chain is facing a new world that is flat in terms of supply and demand, with product distribution a global game. Choice is influenced by the agility and cost of the total supply chain.

Now that we see the balance of power shifting to carriers and service providers with a huge focus on intermodalism and integration, the challenge is to make the massive infrastructure investments needed.

There is a role for the railways to play in this, because globally use of the transport mode is undergoing a revival. This makes particular sense in developing countries that are working to reduce the cost of doing business.

The port and rail institutional structures in South Africa provide a unique opportunity to integrate land-side and quayside logistics. At the core of our logistics infrastructure are 11,695km of primary railway lines and 5,500km of secondary lines.

We at Transnet Freight Rail – which you may remember from our previous name of Spoornet – operate intermodal connections to Durban, Cape Town, Maputo, Ngqura and East London together with bulk cargo links to Richards Bay, Saldanha and Port Elizabeth.

The historic relationship between railways and ports in South Africa is strong, but

development and realignment are needed now to emphasise strategic focus and growth, investment planning, operations planning, operations execution, marketing and customer relations, and supply chain requirements.

Unfortunately, our customer and country performance is affected negatively by its logistics efficiency linked to performance. If we look at direct logistics supply chain costs in other countries, we find there is a 30–50% gap between our costs and those of other economies. And in a ‘flat’ world, costs count.

So there are challenges for railways and ports in South Africa, because it is estimated that in 2004 these logistic cost differences amounted to 15% of gross domestic product. Transport and port costs are high and rail contributes 11% to total transport costs.

At Transnet Freight Rail we are on a mission to reduce the cost of doing business as the economy shifts from a mining-based one to a networked one. It is our role to enable shippers to be competitive globally.

Rail is integral to the total supply chain promise, so what is being done to deliver on that promise? We are providing more capacity against long-term investment returns as ports expand. Of course, ports are feeling the impact of capacity constraints, in terms of both space and obsolescence. Cities are encroaching on

port developments, traffic congestion is increasing and there are problems with transport connectivity to ports, which also have to deal with changing vessel profiles.

Any inefficiencies will be perpetuated by an obsolete rail infrastructure, so more back-of-port logistics infrastructure development is needed. In addition, ports are being squeezed by cities’ spatial development aspirations and by environmental constraints.

The effect of this infrastructure inflexibility – as well as investment and funding limitations – is to constrain market adaptation.

Rail managers are concentrating on improving the quality and cost of service delivery, enhancing asset utilisation and efficiency, and improving railway and port alignment. On the equipment side, efforts are being made to redress historical under-investment in rolling stock replacement and maintenance, cut rolling stock cycle time and reduce the number of safety- and security-related incidents.

In an aggressive and competitive environment, it is important to increase rail’s market share while managing the fragile balance between continuous capital investment and marginal returns.

All this is being conducted against a background in which ports and rail are starting

to act as integrated systems in which railways connect the port 'islands'. Actions for integrating rail and port operations start with planning and communication.

We need to restore the operational capacity of rail to feed ports, upgrade the rail network (including within ports), improve rolling stock turnaround in ports, improve in-port train movement management, increase in-port yard efficiencies (including shunting), and give crews the opportunity to re-skill and improve their route knowledge by introducing new technology. The golden rule to remember is that railways and ports are not storage facilities.

So we have embarked on capital investment for rail corridors to ports by 2012, spending some R185Bn (\$26Bn) over 10 years. Specific rail and port corridor investment projects to 2012 are linked to efficiency initiatives and will improve container, car and bulk links.

One case in point is the automotive sector – an important one for South Africa since various manufacturers became established here following an export incentive scheme supported by the National Treasury. These manufacturers compete globally with low-cost producing countries and the supply chain costs drive their cost competitiveness.

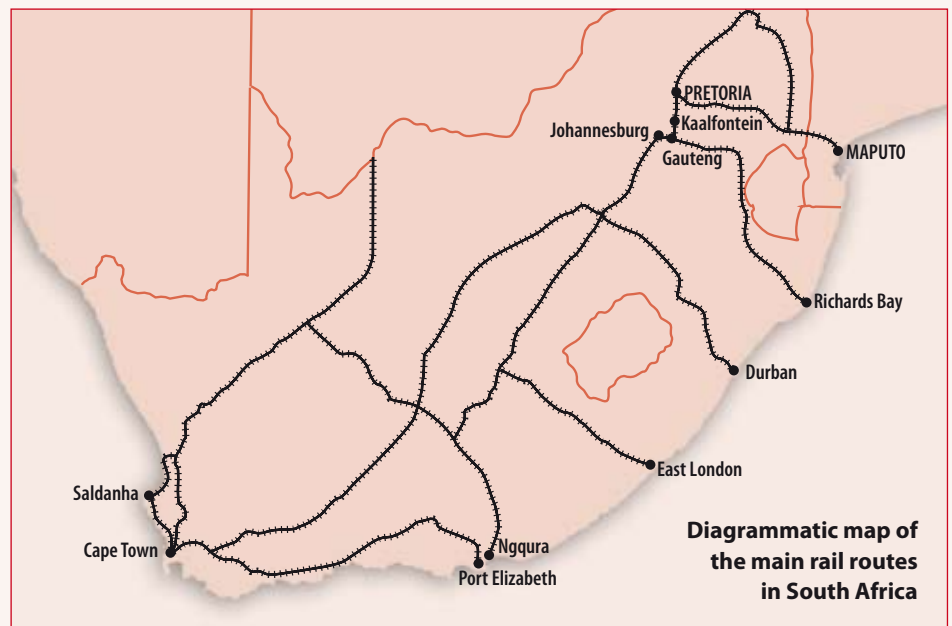
There is no doubt that demand for port and rail infrastructure in South Africa is exceeding supply. In order to support its expansion programme, industry requires an improvement in current service levels.

Significant infrastructure investment based on best practice include rail-based solutions to provide a premium service, integrated rail-port solutions and contracts, and optimal utilisation of assets by both rail and ports.

The automotive sector is seeing corridor service enhancements in the form of new services, shuttle services, improved terminal operations (including lighting for 24-hour working) and redesigned loading ramps, among a raft of innovations.

Automotive corridor investments include new access links and services inland at Kaalfontein costing R45M and a R2–3Bn intermodal hub at nearby Sentrarand. A further R2Bn is to be invested in railway upgrades. Added to this are car terminal expansion at Port Elizabeth and Durban (R300M) and automotive railway fleet renewal (R380M). Together with other investments, these enhancements will create an intermodal 'superhighway' to Durban, with planned growth of more than 10%. I know this market needs rail-based solutions.

The City Deep project in Durban will incorporate a refurbished stacking area, replacement of reachstackers with RTGs, and implementation of a port-integrated stack management system. The crane operation



process will be redesigned and flow within the terminal improved.

On the rail line-haul service between Gauteng and Durban there will be dedicated slots, locomotives and crew, reduced terminal and in-port shunting, and management of the port-rail channel 24 hours a day, seven days a week, with train services increased from five to 11 by 2008/09.

Revised stripping and loading procedures will be introduced at the Kingsrest Yard, together with a rail buffer stack for transshipment and rail shuttles to the buffer. Durban Container Terminal and Pier 1 Terminals are also earmarked for inclusion in capacity expansion and efficiency programmes.

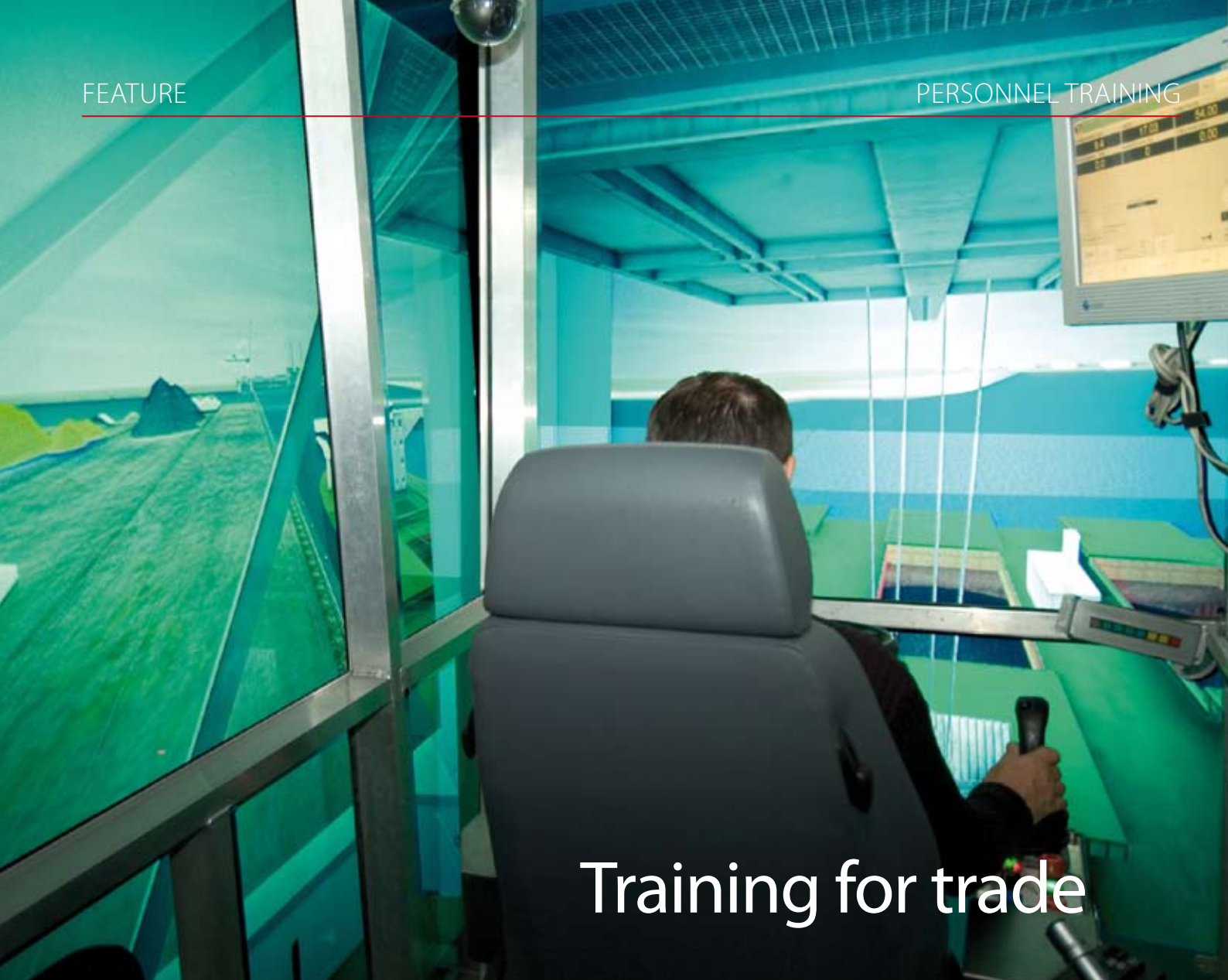
I believe the corridor approach allows for integrated support of industries' logistics needs and will enable investment in supply chains that would traditionally not pass the rail investment hurdle test.

For the future, in addition to investment in operations, equipment and infrastructure there will be the introduction of new models to share risk and profit, provision of capacity guarantees for future high-growth industries, and greater co-operation between rail and port entities to support the country's growth. **PH**

*Siyabonga Gama is CE, Transnet Freight
More info: www.transnet.net/FreightRail.aspx*



Siyabonga Gama:
increasing rail's
market share in
South Africa



Training for trade

There may be strong growth in the movement of goods, but who will deliver them on time? **Maurice Jansen** explores the need for training as world trade continues to grow

**Looking forward:
learning to
handle the
ever-increasing
amount of bulk
cargo passing
through ports**

Ordinary consumers in western Europe may not always realise it, but the way they are spending money is fuelling the worldwide economic upsurge. Africa, once considered the 'lost continent' as a result of wars and corruption, is beginning to prosper as demand for its raw materials surges to feed China's production lines.

Long-forgotten mines in Western Australia are being reopened as current market prices have made them economically viable again. Ports and the shipping industry are flourishing, because all these goods have to find their way to consumers around the world. This leads us to the question that few people ask: are there sufficient qualified people to do the job?

The maritime industry, including the port sector, is working 24 hours a day, seven days a week to make sure that the world's goods are delivered on time where they are wanted. It's running on its toes, however, because the supply of labour has lagged behind the enormous demand for skilled people.

The worldwide shortage of seafarers should be ringing alarm bells. The International Shipping Federation/BIMCO Manpower Update 2005 estimates the shortfall to be more than 10,000 officers now, increasing to 27,000 by 2015.

Shipowners highlight this figure as they search desperately for crew for their newly built ships. Land-side, a similar trend is apparent. In Rotterdam, the trade volume growth and consequential expansion of terminal capacity at Euromax and Maasvlakte II (see pp34-35) will require more manpower at the terminals and for related port employers such as forwarders, ships' agents and carriers.

A recent study by the Dutch Maritime Network calculates the number employed directly by the port's maritime cluster at 130,000 and estimates a 10% employment growth until 2010. The same study quantifies the outflow of the baby-boom generation at 11% as they retire.

This will put employers under greater pressure to

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SS/H/2007



attract a greater proportion of the well-educated younger generation – which in turn drives the need to educate thousands of young people to fulfil this demand. And these developments in the Port of Rotterdam can be regarded as the rule rather than the exception in this worldwide trend.

In Rotterdam, there is a tendency for port and people to drift apart as the port area expands westwards towards the sea and away from the city. How, then, can this gap be bridged?

First and foremost, huge efforts have to be made to instil enthusiasm in younger people for professions in the port industry.

In the short term, this means people need to be aware of the existing infrastructure that is available – advanced training facilities, experienced teaching staff, and a research and development centre that is constantly developing new training materials in response to new legislation, changing market needs and training requirements.

The simulator park at STC-Group in Rotterdam is an example of the existing knowledge infrastructure in the Port of Rotterdam. It is an environment in which simulators have a central position in the learning process. This is because, besides their educational role, simulators have a very practical purpose.

By the time it was set up in 1990, the STC-Group realised that there was no longer a justification for complementing the theoretical transfer of knowledge in education and training with experience from traditional working. All tasks in the transport chain have become too complex and demanding for that. The required competencies cannot be acquired by explaining theory in class.

Simulators, though, can replicate any practical task – and, just as important, any undesired event. All industries in the port and maritime cluster can be accommodated at the simulator park. It covers more than 3,000m² and its equipment embraces container crane, straddle carrier and bulk crane simulators; full-mission bridge and engine room simulators; inland navigation radar simulator; fishery and dredging simulators; as well as a transport chain and crisis management simulator.

These devices are also used for research and development purposes, such as nautical simulator studies for port expansion programmes, simulated mooring trials (ports and offshore field development) and interactive tug assistance training. Most of these simulators have also been installed at STC-Group's knowledge hubs – subsidiaries and joint ventures – in South Africa, Vietnam, Oman, the Philippines and South Korea.

Over the long term, labour demand from the business community and education programmes to supply the market with well-educated young people should go hand in hand. Large-scale promotion campaigns should result in sufficient young entrants for all white- and blue-collar functions at vocational, bachelor and master's level.

A close relationship needs to be maintained between the port industry and education institutions

STC-Group facts

- Independent, Dutch Ministry of Education accredited and licensed
- Close relations with the Port of Rotterdam, the city and businesses
- 280 courses
- 4,000 students in subsidised education
- 8,000 professional course participants
- Locations: Netherlands, Vietnam, Oman, South Korea and South Africa
- 3,000m² simulator park, Rotterdam
- Simulators: VTS, dredging, crane, straddle carrier

to ensure that the curricula are up to date, so that graduates can acquire the practical skills they will need in today's jobs.

Education programmes should also put an emphasis on knowledge and understanding of the international environment and functions and positions within the supply chain. As it is the largest education and training centre for the port, maritime and process technology industries in the Netherlands, the STC-Group places tremendous emphasis on attracting young people to its education programmes.

Since the early 1990s the STC-Group – previously known as Shipping and Transport College – has developed a vertical education structure for all port, shipping logistics and process technology-related vocational education. Its vision has always been to educate people at all qualification levels, for all relevant professions. A pupil can choose from a wide variety of professions, from truck driver to master mariner, skipper on a push barge to shipping agency clerk, among many others.

The college believes in strengthening the competitiveness of the maritime sector by investing in people and to this end has set up a master programme called Shipping and Transport. This is to be provided by the STC-Group's latest department, the Netherlands Maritime University.

The master programme has been set up at request of, and in close co-operation with, Rotterdam's port and logistics community. It is targeted at the existing professional workforce at management level with the potential to progress upwards. This education programme has now been made available to the port and maritime industry.

Although training and education budgets float on the waves of economies, the best step for the port and maritime industry is to embed training in their human resource development programmes and invest in people through financial support and the provision of attractive job profiles for existing and new employees.

That allows knowledge in the maritime industry to be transferred and exchanged in the best possible way to strengthen the whole sector's competitiveness.

So, who's looking for a job? **PH**

*Maurice Jansen is head, Netherlands Maritime University
More info: www.stc-nmu.eu*



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Photo: Royal Haskoning

The unseen threat from microbes

Port installations fighting corrosion can benefit from years of experience gathered by land-based industrial concerns, as **Willy Sonck** explains

**Inspection:
the damage
accelerated low
water corrosion
can cause in ports**

Microbe-induced corrosion (MIC) has long been known in some industrial systems such as sprinkler installations or condensers, but over the past 25 years it has also been seen to affect steel sheet piling in natural waters on a large scale.

Any inadequately protected static steel structure exposed to natural water is susceptible to MIC, which causes accelerated low water corrosion (ALWC). Once MIC starts, steel piles exposed to seawater corrode very fast, as do quay walls exposed to fresh or brackish water.

Quay walls that include steel profiles with plate thicknesses of 1cm would normally be expected to have useful lives in the order of between 50 and 60 years. This reassuring estimate is supported by the corrosion rates set out in the manuals that port engineers are likely to consult. So it is unlikely that there will be widespread concern about what is happening to existing structures or what will happen to pilings yet to be built.

Yet unprotected pilings are exposed to the most severe corrosion known on earth – a rate of up to 5mm of steel loss per year has been recorded.

MIC on steel pilings exposed to natural water is characterised by a layer of black sludge in contact

with the steel surface, which in turn is covered by the orange corrosion products.

Underneath layers of shells and biological films that contain algae, bacterial activity may initiate the development of by-products that are highly corrosive to iron. These can include sulphuric acid. And under laboratory conditions it has been proven experimentally that a concentration of 10% sulphuric acid dissolves iron at a rate of 58mm per year.

Hydrogen sulphide dissolves the steel by reacting with iron to create black iron sulphide, which is in contact with the steel surface, and orange-red corrosion products, which are pushed away from the steel surface, covering the black material with a layer of corrosion products.

After washing away the black sludge, the bright, dissolving steel appears. Iron ions come into solution continuously. MIC may deteriorate steel pilings very quickly, necessitating costly repairs to the wall or even complete replacement. Repair works are expensive, take time and may well disrupt the port's activities. There are likely to be financial consequences if the dock cannot be used at all.

The loss of backfill material through holed piles may

result in cavities underneath the concrete apron. Once weakened in this way, the structure could be at risk of collapse, if huge loads continue to be applied to the quays. This creates danger for the operation of harbor cranes too.

MIC starts as a hidden problem below low water and it is not easy to predict when it may manifest itself. Bacteria are always in the water, but, if triggered by pollution or some other stimulus, populations can explode exponentially. This can happen with sulphate-reducing bacteria within the bio-film at the steel surface.

PIANC concludes that, if left untreated, ALWC can cause premature weakening and collapse of maritime structures

Corrosion is considered as the interaction of metal and liquid, eg between steel and water. For unprotected steel pilings exposed to a wet environment, however, a third factor is involved because of the biological make-up of natural waters.

The microbial interactions within the bio-film attached to the steel surface may develop corrosion rates that can be 1,000 to 100,000 times higher than abiotic corrosion rates.

Although any constructional or maritime steel surface will be protected against rust and carefully maintained, this protection does not usually extend to the steel pilings that are exposed to, and defenceless against, natural water. Where the risks of severe corrosion are most likely, some means of protection should be included in the specifications.

It is recommended that the piling as a whole should be protected. Protection of individual piles by pre-coating is the cheapest option, but has important disadvantages, including: abrasion of any coating at the interlocks; burning of the paint because of red-hot interlocks; loss of bond strength, which will considerably decrease life expectancy; pile-driving vibrations create stresses that compromise strength.

Pre-coating does not guarantee that life expectancy

will be extended. Coatings are, however, available to help arrest decline and to render the quay walls maintenance-free over their projected lifetime. Worldwide, about 280,000m² of pilings have been protected this way since 1985.

Maritime structures should be designed, where practicable, to optimise safe inspection and maintenance. All immersed structures ought to be inspected for signs of corrosion in the low-water zone. Techniques available for more than 20 years permit high-quality survey, repair and prevention work in dry conditions beneath the water level using a mobile coffer dam known as a limpet dam or dry setting installation (DZI). A risk-assessment strategy for the management of port and harbor assets is essential.

PIANC has been giving a lot of attention through its working groups of specialists to the corrosion that occurs on unprotected steel structures and says that occurrences of ALWC were noted as far back as the first half of the 20th century. It says all owners of maritime structures would be strongly advised to include ALWC corrosion protection. It has also published a report on the issue, the result of work from its MarCom Working Group 44.

According to Eric Van Draege – technical director of ACOTEC, a member of MarCom WG44 and the newly formed InCom WG30 – national codes for maritime structures do not provide guidance on ALWC. The exception is British Standards Institution Maritime Structures Code BS 6349-1:2000, which provides a general description and warnings.

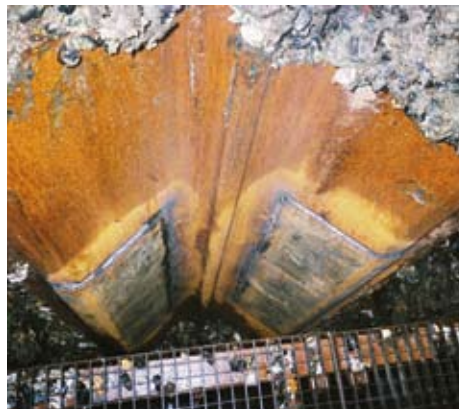
Nevertheless, there are effective methods to treat, repair and prevent ALWC, including coating, wrapping, plating/welding, and cathodic protection. Hybrid cathodic protection systems are very effective. Maritime structures should be designed to ensure that high bending moments do not occur near anticipated ALWC sites.

PIANC concludes that, if left untreated, ALWC can cause premature weakening, perforation and collapse of maritime structures. For safety and to protect asset value, owners and operators should actively control the condition of their steel maritime structures through inspection, maintenance and remedial work. **PH**

Willy Sonck is managing director of ACOTEC NV

More info: www.pianc-aipcn.org and www.acotec.be

Corrosion: the results from different ports





Photos: ArcelorMittal

Full-length sheet-pile walls carry extra mooring loads and higher crane surcharges; they also allow the harbor bed to be deepened

Making them fit for the big ones

What to do if your berth needs deepening and strengthening to cope with the biggest vessels and cranes? **Daniel Reiter** offers some solutions

The number and size of container vessels is on the rise, matching the increase in world trade. This massive expansion in container vessel capacity means that many ports built during the 1960s and 1970s, before the containerised traffic era had fully developed, are not fit for modern ships.

Ports are being forced to invest heavily to increase capacities to attract shipping lines, offering deep draughts and upgraded load-carrying systems for giant container cranes exceeding 100m in height. The required depth cannot be achieved alongside the quay wall simply by dredging: structural analyses need to be carried out to gauge the stability of the quay.

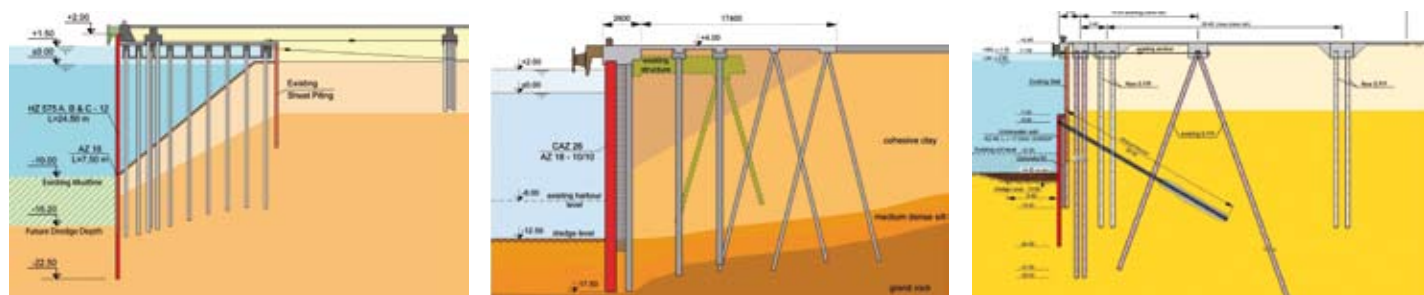
Leaving the existing structure in place and installing a secondary retaining system carrying the additional loads of the upgraded terminal is certainly more cost effective than entirely tearing down and rebuilding the old berth. Because of its greater flexibility, the steel sheet pile is the material most commonly used for deepening many of the world's older berths.

This new retaining system could take the form of either: an underwater cut-off toe wall installed right in

front of the old structure; a new wall carrying additional loads installed in front of the old structure; or a new retaining system incorporating the old structure.

Deepening Berths 65 and 66 in Taiwan's port of Kaohsiung was a typical example of a cut-off toe wall. If the berth is in good condition – as was the case in Kaohsiung – installing an underwater toe wall is the fastest and easiest way to upgrade berth walls. To cope with the introduction of large vessels and to maximise the harbor's efficiency, several of Kaohsiung's container wharves had to be deepened. The modernisation project included the rebuilding the existing Berths 65 (length 244m) and 66 (length 440m) as container wharves.

The harbor bed was dredged from 12m to 14.5m to accommodate post-Panamax container ships, necessitating redesign of the existing sheet-pile berth wall. The port authority chose not to use a concrete tender solution for the redesign, as this would have exceeded the budget by 70%. It was decided instead to opt for a high-strength steel sheet-pile solution to deepen the two berths.



Leaving the old structure in place means it can be used while the berth is upgraded

There were several physical conditions to meet, including seismic loads, which it was felt could only be handled by the world's strongest conventional sheet pile. The design called for 17m-long piles driven into the harbor bed. Cement grout and concrete were injected between the new and existing sheet-pile walls.

The new wall had to be anchored with 25m pre-stressed anchors, held back by a grout injection. These heavy-duty anchors were installed 0.5m from the top of the underwater sheet-pile wall and were attached to the head of the sheet piles to ensure the stability of the underwater wall. Deflections thus remained well within the set limits, thereby guaranteeing safe operation of container traffic.

Compared with the cut-off toe wall, a full-length wall is able to carry a major part of the extra loads that modernisation projects generate. They include higher lateral forces that affect fender and mooring systems as well as higher vertical loads generated by bigger cranes and increased surcharges. Building a new sheet-pile wall right in front of the old structure minimises the loss of space inside the harbor basin.

This is what was installed in front of Berths 82 through to 98 in Port Elizabeth, NJ, US. The port authority decided to modernise the 30-year-old wharf to make it fit for the next generation of container vessels. A five-phase plan increased the water depth at the wharf's face to cope with higher crane and mooring loads.

Inspection of the existing wharf, which comprised a concrete deck slab supported by timber piles, showed that all elements were in good condition. The design office therefore decided to combine the new construction with the existing wharf structures as the optimum and most economical modernisation alternative.

A combined sheet-pile wall installed along the face of the 1,830m wharf enabled the water depth to be increased from 10m to 15.2m. Several of the wharf improvement elements were governed by the seismic loading, including the size of the king piles and anchor bolts.

Short construction times were achieved by leaving the existing mudline elevation beneath the wharf in place. The plan also included the removal of the existing crane rail support beams in favour of new piles and beams to support the increased loads. The existing timber fenders were substituted by a new system supported by the king piles capable of resisting the berthing energy of 150,000dwt vessels.

The tips of the king piles were driven into lower

dense sand and gravel layers to counter slip-circle type of failure. Soil and static analyses showed that it was necessary to anchor the top of the king piles into the concrete fascia wall. This also reduced the bending moment, deformation and embedment depth of the piles in comparison with a cantilever solution.

As the heads of the king piles remained 2m above the waterline, driving operations were considerably simplified. A special beam transmitted the vibration energy of the driving equipment to the short intermediary piles that were installed under water to prevent soil erosion from turbulence caused by ships' screws.

If a run-down berth is to be upgraded or if the existing structure is simply too small for its new application, the new construction can be built on top of the old berth. This method avoids costly and time-consuming removal of existing walls and piles. Refurbishing Berths 102 and 103 in the Brazilian harbor of São Francisco do Sul is a prime example of adoption of this approach. With container traffic in the fifth-largest Brazilian port on the rise, the state's Ministry of Transportation decided in co-operation with the port authority to upgrade the 300m quay wall, primarily by dredging the harbor bed.

The work required installation of a 'combined box pile wall' in front of the old berth. The 300m-long wall was made up of 120 23m double sheet piles welded together as box piles, alternated with 118 intermediary double sheet piles.

The new steel wall has a section modulus of 3,810cm³/m and carries the additional forces from dredging the harbor bed from 8m to 12.5m. One metre of over-dredging was considered in the design. The box pile wall is also able to act as part of the foundation system: the box piles carry the loads from the front rail of the new cranes. A new deck resting on concrete bearing piles was built at a 4m elevation on top of the existing smaller structure to complete the facelift.

By not removing the old structure it was able to serve as working platform for the construction of the new wall. Efficient organisation of the construction site at São Francisco do Sul meant the existing berth was able to remain operational during the installation of the new wall. The Port Authority of São Francisco do Sul was satisfied with the sheet-pile solution and is currently investigating another 280m extension of a new quay using sheet piles. **PH**

Daniel Reiter is promotion manager, ArcelorMittal Luxembourg. More info: www.arcelormittal.com



Training for productivity

Ports have a vital role to play in generating wealth, but they cannot afford to fall behind the latest techniques if they are to play that role to the full, as **Bridget Hogan** reports

The explosion in maritime transport is benefiting many economies around the world. This growth is dependent on efficient port services, and ports are straining to meet the requirements being put upon them for increased productivity.

To ensure that ports are able to shoulder their share of the wealth generation, it is essential that all personnel are properly trained. This is a particular need for many developing countries.

Ports' efforts to streamline operations and improve productivity will be felt in the general economy, because transport costs form a significant element of

the total costs of both exports and imports. They also determine whether goods can reach their intended markets and enable new markets to be explored.

Training is not just about productivity, however, for today's port manager faces other pressures too. Although certain of these influences may be emerging only rather slowly in some parts of the developing world, all ports will have to address these challenges in the future.

The key issues concerned include safety and environmental management standards, computer and information exchange systems, new cargo handling



Photo: Transnet Ports Terminals

Line-up: Transnet Ports Terminals has trained what it claims is the world's first female RTG team

and commercial practices, privatisation, restructured shipping services and traffic growth. According to the United Nations Conference on Trade and Development (UNCTAD), countries that are unable to cope with such rapidly advancing realities will find that they are not in a position to participate in vital trade development.

"Indeed, ports are subject to increasing competition in a world where exchanges are becoming more and more prominent," UNCTAD observed. The transport chain and the port links located at the intersection of all transport modes together constitute a key element of national economic competitiveness.

In the face of this competition and the new constraints that sustainable development imposes, ports have to be efficient. In the drive to adopt a rational way of managing resources, ports rely heavily on the quality of middle managers. "The development of human skills according to local conditions is, more than ever, of paramount importance," added UNCTAD.

This is the background against which ports in developing countries have asked the agency to devise an integrated training programme for the middle managers of port communities. They are calling for help in coping with a port environment that is perpetually in a state of flux.

UNCTAD is concentrating its efforts on ports' middle managers, who often find themselves perplexed by the pace of change. Increasingly, they need to be able to multi-task and hold a variety of professional positions or responsibilities throughout their career. That, in turn, means they need to receive the training that will prepare them for this career path.

The agency believes that port efficiency depends heavily on the middle managers who have to implement strategic decisions taken by senior management. It says that they need to receive targeted training that will give them a global understanding of port management and the complexity of decisions taken by senior management.

If these decisions are to be implemented successfully, middle management needs to have the appropriate technical competencies. This sort of training is oriented towards the future needs of port community enterprises and covers new and high-priority fields such as customer satisfaction.

UNCTAD has investigated current training programmes for middle managers and has found them wanting. Often the courses are just aimed at ensuring competency in those technical fields in which the middle manager is currently working, rather than inculcating the flexibility needed to make sense of a constantly evolving port environment. These criticisms are levelled at the training programmes in existence, but, as UNCTAD found out, in some developing countries they do not exist at all.

These findings led UNCTAD to set up its port training programme, which leads to a diploma for middle managers and new recruits. It forms part of the agency's TrainForTrade port training initiative and is aimed at training the trainers as well as those directly working in the port.

Several developed-country ports are taking part in

“ To ensure that ports are able to shoulder their share of the wealth generation, training of all personnel is essential ”

the UNCTAD partnership network, including many that are members of IAPH. The agency expects them to have high-level expertise in port management and operations, to make a commitment to the network activities, to have a good working knowledge of one or more of the network languages – French, Portuguese and English – to understand distance learning tools and to keep up regular contact with UNCTAD.

Those working in the programme have reported that there are advantages to joining the partnership network, including the visibility of working through an international UN programme with worldwide coverage. The courses also provide opportunities for networking, to gain knowledge of potential markets and the needs of targeted countries.

Most found it an opportunity to build national expertise in the field of port management, the use of information and communication technology tools for training, and exchange information and experiences.

UNCTAD's Modern Port Management Course involves about 240 hours of training. On top of that is a thesis or final assignment that has to be prepared under the supervision of a mentor and defended before a jury of port experts in order to obtain the UNCTAD Port Certificate.

This year, for instance, 19 Cambodian port officials, from Sihanoukville Autonomous Port and Phnom Penh Autonomous Port, are being trained under the UNCTAD Port Training Programme umbrella. At the end of 2007 participants will be defending their final written assignments before an examining commission made up of a group of experienced port managers.

The aim of the training is to improve the port management skills of the participants, who should be able to:

- Assess current and future roles of commercial ports
- Define users' requirements
- Master daily tasks
- Contribute to the improvement of port efficiency
- Explain the role and functions of an innovative port that integrates the future needs of the port community
- Be ready for multi-tasking and new responsibilities.

Le Havre's work in port training follows the objectives of UNCTAD initiatives very closely, but this time working with the International Maritime Organization. For 21 years now the Port Autonome du Havre has helped organise an advanced course on port operations and management with the Le Havre Port Teaching Institute, IPER.

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20 executive-level staff exercising the highest responsibilities in the port-related administrations and organisations in developing countries.

The objective of this technical training is to improve port management and operations. The course reviews different port functions including planning and development, commercial and pricing policy, financial management and ship and goods reception. It looks at the changes imposed by new technology and the special environments of emerging countries.

The most recent course finished last month. During their stay in Le Havre, participants were given the opportunity to visit various installations to witness the daily operations of a major port. Another element of the programme enabled them to see the application of new technologies at first hand. On the social side there was a reception by the chairwoman and members of the association *Accueil des Villes Françaises*.

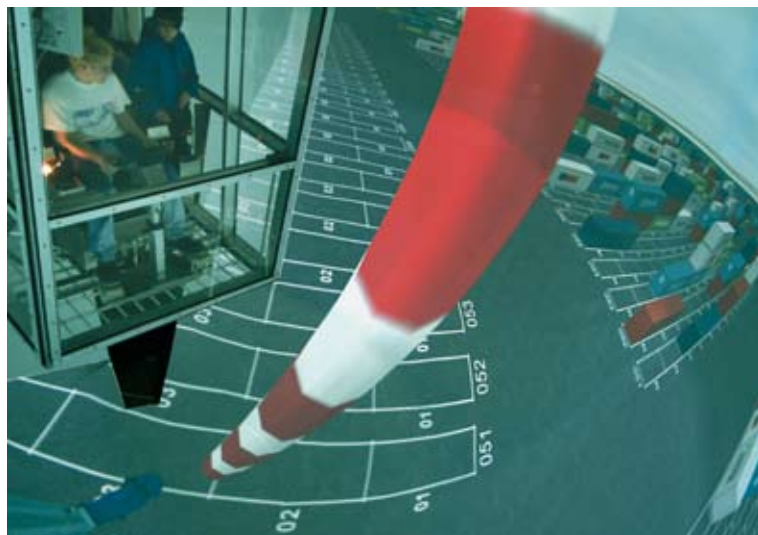


Photo: STC Group

Off the job: simulators such as this one at STC in Rotterdam help candidates gain wider experience

This year, the 20 trainees invited to Le Havre came from Algeria, Belize, Benin, Brazil, Burkina Faso, Cameroon, Ivory Coast, Gabon, Guyana, Iran, Liberia, Morocco, Myanmar, the Philippines, Senegal, Sierra Leone, South Africa, Togo, Tunisia and Turkey.

So busy is the port of Singapore that it has set up its own training base, the PSA Institute, where it conducts courses in the management and operation of container and conventional cargo terminals. Not only does PSA Corporation keep its training in-house but it also offers institutional training for other ports.

Courses available include port management, pilotage, ship-handling simulation, and quay and yard crane operations training. Training programmes can also be tailored to meet the specific demands of the students.

More training options in Singapore are offered by the Maritime and Port Authority of Singapore (MPA). Its port-related training courses and attachment programmes for foreign officials cover areas in which MPA has expertise, such as hydrographic surveying, digital nautical chart production, and oil pollution response and control.

The Antwerp and Flanders Port Training Centre (APEC) was set up in 1977 and so far has seen 9,000

port-related colleagues from 140 countries work with it on its courses.

APEC chief executive Paul Verkoyen explained that several official bodies are involved in the global co-operation effort, including IAPH, the ILO, SAFEA (State Administration of Foreign Experts Affairs in China), Transport Education & Training Association of South Africa and the São Paulo state government in Brazil.

APEC's board is made up of three working members: the Antwerp Port Authority, the Flemish government and ALFAPORT/CEPA, the umbrella organisation for private maritime companies and the Antwerp Port Employers Organisation.

"The knowledge present in these three vital components is delivered from the top down in our seminars, where participants are confronted with the daily reality in the many aspects of port business," he explained. "This results in what we feel is a successful and adequate transfer of specific professional knowledge to the international port community."

Each year APEC receives more than 1,000 applications and selects over 500 participants from 60 countries worldwide to attend the seminars in Antwerp.

Verkoyen said that APEC had worked out a strategy to maintain standards and to meet the requirements of the participants. Certain key elements are central to the seminar structure, including:

- Short-term courses in a standard year programme on a variety of port-related topics
- Interactive lectures
- Integration of up-to-date, highly qualified lecturers from the private and the public sector with a broad experience in their field of activity.

"Interactivity is our keyword," Verkoyen continued. "APEC does not stand for a classical approach but for a professional interchange between local and international port colleagues."

Port visits related to the topic are included and he puts stress on flexibility of the centre to ensure there is constant evaluation and adjustment, together with a drive to keep costs low.

"To cover all seminar topics during a regular working year, APEC can rely on approximately 300 lecturers and companies from the public and private sector to tackle the various aspects of our courses," he said. Depending on the topic of the seminar, the other Flemish ports of Zeebrugge, Ghent and Ostend are drawn into the programmes.

Increasingly, Verkoyen noted, demand is for tailor-made sessions matched to the particular needs of a company or port authority. This year alone APEC has been involved in devising bespoke courses for Egypt, Senegal, India, Russia, Malaysia, South Africa, Mozambique, Nigeria, Vietnam and China.

As an adjunct to this, experts can be sent abroad to organise seminars on the spot for a maximum duration of a week, he added. **PH**

More info: www.unctad.org
www.havre-port.net;
www.iper.fr
www.portofantwerp.be/APEC



Taking a different course

Training takes different forms around the industry and around the world, depending on port and staff needs. Here **P&H** looks at some case studies to see what works for which organisation

On the US West Coast terminals, stevedores and shipping lines have established a training centre to ensure they keep up the flow of trained labour into the ports.

Skilled equipment operators are at a premium in the major southern California ports of Los Angeles and Long Beach, where terminals are moving record levels of cargo. The lack of additional space for expansion means congestion is a constant concern for these ports and is increasing the demand for skilled workers.

In response, the Pacific Maritime Association (PMA) has trained record numbers over the past two years. While PMA's training expenditure generally averages about \$20M a year to train 28,000 people, it reached a peak of \$35M for 57,000 trainees in congestion-dogged 2005. Its proud boast in its 2006 annual report was that "99.9% of all labour orders were filled", ensuring there were "no discernible" labour shortages.

PMA has launched a revised version of its general

safety training programme under a new name to reflect the central role that dock workers play in maintaining security. The revamped course, General Safety and Security Training VI (GSST VI), is aimed at orienting both new workers and veterans towards safety issues. Significantly revised in 2006, GSST VI now includes a standalone module on security and has an increased focus on waterfront vigilance and alertness.

Key themes include Own Your Safety, Scan and Focus and Create a Safety Net. The programme encompasses classroom learning, instructional videos and a hands-on workbook to reinforce key lessons. All waterfront workers are required to participate in this programme on entering the industry and undergo a refresher every three years.

In many ports, containers are being stacked rather than stored on wheeled chassis. As a result, more labour is needed to move and stack the cargo. The resulting increased demand in training can be shown in PMA's

courses for top-handler and side-pick operations.

In the UK, the Port of London Authority (PLA) has set up a training scheme to develop potential future marine managers. The new marine trainee scheme differs from the earlier PLA marine apprentice programme by seeking not only to develop a wide range of marine skills but also to equip candidates for 21st-century management.

PLA's first recruit for its marine trainee scheme, 25-year-old Nick Evans, has already started the first stage of the three-year course. During the first two years he will complete an intensive programme on PLA craft, covering navigation skills and marine and port operations. In the final year he will receive more specialised training in key areas of PLA work, including harbor master activities, pilotage, port control centre work and operational support.

During this time – which will also include a period at college – Evans will gain practical experience along the 150km length of the tidal Thames working on different types and sizes of vessel. At the end of his training he will have a practical marine qualification and have gained a wide understanding and knowledge of the PLA, the Thames and the Port of London.

Julian Parkes, who helped develop the marine trainee scheme, said: "We are very pleased that Nick has joined us as our first new marine trainee. He has already made an excellent start. This is a modern and practical marine training scheme, which is intended to provide some future managers for the PLA in the longer term.

"The aim is to develop staff to achieve the specialised skills needed by the PLA to keep traffic on the Thames running smoothly and safely in the years ahead."

At the Georgia Ports Authority it is an internship programme that provides building block to success, as the port sees it. This year 18 college-level students were employed – the successful applicants from more than 200 hopefuls.

"The importance of this programme is vital, not only to the future growth of the ports, but to the growth

of these future leaders," commented GPA executive director Doug Marchand.

"GPA's internship programme is a supervised learning experience in which students apply their skills and knowledge in a professional setting," said Lise Marshall, GPA's director of human resources. "By offering their time, aptitude and enthusiasm, GPA interns contribute to the organisation's mission and goals, while gaining valuable skills for the future and seeing if a GPA career is right for them."

Each intern's major played a strategic role in the departmental placement process, with students working across a range of departments including the client relations centre, engineering, external affairs, human resources, information technology, operations, protective services, risk management and trade development, giving them a feel for port activities.

"Our internships help students develop professional work habits and provide an understanding of GPA's culture," said Marshall. "We give students an opportunity to analyse various business settings and help them establish a professional network."

One student, Kevin Ryan, who is studying business management, enthused: "My position in operations management was ideal. I was able to apply classroom knowledge to real work experience."

Durrell Lyons and Cheick Quatarra, both engineering and maintenance interns, spent their summer updating master plans of all the hydrants on the Garden City Terminal. "We used a global positioning system to identify hydrants and underground water valves," said Lyons. "We plotted their locations and created a master blueprint. I felt like I was an actual GPA employee."

Since the internship programme was established, nine interns have become full-time GPA employees. Stacy Watson, manager of economic and industrial development, started as an intern in 1992. "If it wasn't for GPA's internship programme, I wouldn't be where I am today," said Watson. "I built a life and career here at GPA. The experience of interning was so rewarding that I never left." **PH**

Photos: Georgia Ports Authority



Looking into ports: interns in Georgia get a feel for the industry



\$14Bn spend at Rotterdam for future trade

It's taken 10 years to get to this point, but at last the development of Maasvlakte II is under way. *P&H's Helene Miseur* was in Rotterdam to report

A former sandbank that was a hazard to shipping is now shaping up as Europe's largest port expansion project. Rotterdam spent decades as the largest port in the world, and still holds the position as the biggest in Europe. Now the battle is on to keep up with the region's growing trade.

In all, some €10Bn (\$14Bn) projects are under way in Rotterdam, including €1.2Bn being spent by the port authority, up to €6Bn by private companies on 45 projects to deliver everything from LNG terminals to terminals to rail links and €2Bn on road expansion. These will add some 20% to the existing port area.

Heading it all up is the €2Bn Maasvlakte II container terminal. Construction will start in 2008, and already over a third of the available terminal space has been allocated. The deal for the management of the first terminal there – to be called Rotterdam World Gateway (RWG), with a capacity of 4M teu covering 156ha and opening in 2013 – has now been signed. Shareholders are DP World (DPW) (30%), APL and Hyundai Merchant Marine (HMM, 20% each) and CMA CGM (10%). APM Terminals has also agreed to operate a second 170ha, 4M teu capacity terminal, to be opened in 2014.

DP World will act as terminal operator of RWG for all partners and, with the ink hardly dry on the document, vice-chairman Jamal Majid Bin Thaniah said the company is already considering the future – and a possible bid for terminals III and IV, depending on market developments.

RWG will feature innovative equipment that will make it fully automated, he said. The post-Panamax quay cranes will have an outreach of at least 22 rows, with double trolleys, the second trolley automated.

The automated yard operations will feature the LIFT automated guided vehicles (AGV) concept, designed by Gottwald, which has been devised to place the container in position in the yard, rather than wait for the box to be lifted off the AGV. This will save time, the partners say.

Security will be a priority. In addition to complying with the ISPS Code and domestic Dutch legislation,



Looking to the future: the new terminal will be built on reclaimed land near this site

Rotterdam World Gateway vital statistics

Cost	\$1.25Bn
Capacity	4M teu
Completion (phase I)	2013
Terminal area	156ha
Industrial area	1,000ha
Depth	20m
Deepsea berth	1,900m
Feeders/inland berth	550m

the terminal will be compliant with ISO 28000, which DPW is applying successively to its terminals. Environment is a key issue too. The terminal operators have pledged to reduce main emissions from NOx and PM10 from their current (2007) levels by 50% by 2020 and 80% by 2035. They will also influence the terminal's environmental impact beyond the gate.

Ron Widdows, CEO of APL, said RWG will be proactive in reducing the proportion of containers moved by road, with the partners working with the Port of Rotterdam to develop a so-called green lane to achieve this. Key to the strategy will be the development of block trains on the new €4.5Bn (\$6.4Bn) Betuweroute freight railway line linking the Netherlands to Germany, for which Maasvlakte is a starting point. It is expected that up to 150 freight trains a day will be using the new line within five years.

Widdows said the partners would be exploiting the advantages of the scale of the terminal to develop block trains on the service. Other lines link Rotterdam to France, Scandinavia, Italy, central and eastern Europe and Russia. The final layout of the new Maasvlakte II terminal is undecided, but a minimum of four berths are expected to be built over its 1,900m quay length.

The existing Maasvlakte facility features three big terminals operated by Mærsk, ECT and Euromax. A powerplant is also located in the area, operated by the Eon group, which is contemplating building another plant at Maasvlakte III, according to chairman and CEO Dr Wulf Bernotat. Inland waterways, shortsea

Rotterdam vital statistics

Tonnage 2006	378M tonnes
Tonnage 2009	397M tonnes*
Length	40km
Area	10,000ha
Vessels: seagoing	30,000
Vessels: inland	130,000
Teu 2006	10M
Teu 2010	12M*

*Predicted

Source: Port of Rotterdam

and feeder operations are also being stressed in the development of the new terminal. A considerable network exists and it is hoped to build on this.

Gradually the port has moved farther from docks in the city towards the North Sea. When the Maasvlakte site was first developed in the 1960s, it was a typical Dutch project. Land was reclaimed from the North Sea by the construction of dykes and fill. A lake was created – Lake Oostvoorne – so huge was the demand for sand. The three main container terminals are operated by APMT, ECT and Euromax.

Now all this has taken on a new dimension with Maasvlakte II, which will be constructed next to the existing Maasvlakte terminals. The 2,000ha site will be created by building a seawall and filling in with sand.

The Port of Rotterdam says it is building in phases to reduce the project's environmental impact and ensure there is a minimum of vacant sites. While Maasvlakte II is anticipated to be open from 2012, the whole area may not be operational until 2033. Maasvlakte II will be home to container terminals, distribution activities and the chemical industry.

The development will take place in the Voordelta, a protected nature reserve. It has been a complex journey for the port authority negotiating its way through the EU Sea Habitats Directive. Compensatory measures have been put in place. A seabed protection area of some 25,000ha is proposed along with a new 35ha dune area near Hoek van Holland.

Developments are also under way in other areas of Rotterdam to cope with growing trade before Maasvlakte II is in service. In 2008 the new Euromax Terminal will open on the northern edge of the existing Maasvlakte area. ECT and APM Terminals are expanding at Maasvlakte, to bring the existing port to 16M teu by 2014. On present predictions this will bring the port to capacity. So before long P&H is likely to be reporting on Maasvlakte III and IV. Watch this space. **PH**

Maasvlakte II project

Phase I	2008
Phase II	2016
Phase III	2026

Plans: A plan of the new terminal looks out over the old harbor





All together now

Security systems work well in isolation, but here **Gary Jordan** reports on a movement to integrate them to help fight criminals and terrorists

Protection: Genoa was the location for the latest SOBCAH test

Customs, goods tracking, vessel tracking and personnel identification systems may each be excellent in their own right, but using them as standalone systems may reduce their effectiveness in the fight against criminal and terrorist activity. And although manufacturers are developing ever-more sophisticated equipment, concerns sometimes arise about their compatibility with other systems.

These issues could actually make ports more vulnerable. In response, a Europe-wide movement has been mobilised, under the banner of SOBCAH – Surveillance of Borders, Coastlines and Harbors.

With some 6,000km of land borders and 85,000km of coastline forming the European border, illegal migrants, drug smugglers and terrorists have many opportunities to attempt to enter. One of the lead partners in SOBCAH is the Italian port of Genoa and it played host to a practical demonstration of the operation of an integrated border surveillance system with the aim to find better ways of protecting these borders.

The work is being funded by the European Union under the 2005 Preparatory Action for Security Research (PASR-2005). The demonstration provided comprehensive

SOBCAH project members

CTM R&D
Fraunhofer IITB
Port of Genoa
SELEX Galileo Avionica
SELEX SaS

Skysoft Portugal
Thales Optronique
Thales Research & Technology (UK)
Thales Underwater Systems
TNO

detection of activities on the sea and land borders using sensor systems, either in full production or prototype form, supplied by partners on the project.

The exercise consisted of a series of staged events, all acted out in the area of Voltri Terminal Europa to the west of Genoa. These were devised to illustrate the advantages of an integrated network of sensors over conventional discrete port security systems.

To test the sensor network's capabilities, a fast boat entered the demonstration area to drop off a diver, who then swam well below the surface of the water to the wharf where there was a shipping container. The would-be assailant approached the container and



Photos: Thales Research & Technology (UK)

opened it, dodging between obstacles on the way.

So how did the systems react? The diver's actions triggered alerts at various stages, each report visible on the central monitoring display in the control room. Radar and sonar tracks gave his location in the water; his path along the wharf was automatically tracked by imaging systems; and entry into the container was detected by a container security system.

Concluding the three-week period of installation and demonstration there was an informal presentation of the work to the European Commission project officer, Paolo Salieri, and members of the SOBCAH advisory board, who observed from the control room.

Salieri expressed his satisfaction with the outcome of the demonstration, which marked the successful conclusion of this phase of the project. The Genoa demonstration, and the substantial work leading up to it, helped identify technology gaps in border and coastline security and will contribute to identifying the technological priorities of future EU projects.

The SOBCAH advisory board was set up to provide insights from the user community and to help validate project results. The project has involved 16 partners from 10 European countries, each partner providing expertise in specific fields of security and logistics, or supplying advanced solutions for border protection.

Fixed sensor nodes provided coverage of intrusion routes across sea and land borders. Container security was also included, because shipping containers provide an obvious way of obscuring cross-border movement of people or goods. All data was sent to the central SOBCAH engine for prioritising and display.

The architecture for the demonstration was a challenge in its own right. The heart of this system of systems was the SOBCAH engine, which stored data from each of the sensor nodes and built up a picture of all activity in the area surveyed. Alerts from any of the peripheral sensors were prioritised before being presented to the user. The combination of data from all systems was used in this way to provide the border control community with a richer set of intelligence than could be provided by the individual systems via their native interfaces.

One element of the system was the prototype container alert device, developed in consultation with insurance companies, UK port authorities and Britain's HM Revenue and Customs, utilising defence systems technology. Innovations included an acoustic classifier capable of detecting attempted entry into

the container through its walls, and a motion-sensing algorithm that could identify when the container was being lifted and the vehicle it was being carried on.

In the SOBCAH demonstration the container was tracked on its journey from the UK, across France to the demonstration site in Genoa. A container protected by this type of system can be afforded 'green lane' treatment at borders, saving transit time and port authority or customs resource.

The progress of the container was monitored along the planned route and each time the driver left the route a yellow marker was displayed. In this case, all the minor diversions were innocent choices made by the driver. However, in the event of the container being stolen in transit the yellow markers would clearly identify a more significant change in route.

Seconds before receiving confirmation from the driver that the container had been delivered, engineers in the UK were notified that the doors had been opened as their Italian partners in the SOBCAH team investigated the new arrival.

The journey to Genoa was reported over the mobile telephone GSM network through France and Italy. There are times when containers will not have a good sky view and so be unable to communicate by this method. It is important, therefore, that port authorities can examine the logged data by other means.

This issue was addressed in the standardisation of a 'smart' container interface, and was the subject of an EC-funded project to define a standard for SECure CONTainer Data Devices (SECCONDD) – see *P&H, July 2007*. The technical challenge of integrating all partners' equipment for this demonstration was a feat in itself, yet it represented only part of the challenge set by SOBCAH.

So where next? The invaluable experience gained in constructing a comprehensive surveillance and protection system that will form a solid foundation for further EU work under Framework 7.

Large volumes of multi-sensor data will be converted into actionable information for tactical operations, introducing a high level of automation to assist operators to recognise threats and to initiate subsequent interventions. **PH**

Gary Jordan is principal engineer at Thales Research and Technology (UK)

*More info: http://ec.europa.eu/enterprisesecurity/doc/project_flyers_2006/766-06_sobcah.pdf
www.thalesgroup.com*

Front line: the group tested the system throughout the port





Photos : Tony Slinn

The ZPMC cranes are the tallest structures in Prince Rupert

Getting ahead of the game

Prince Rupert is the lynchpin of the Canadian government's Asia-Pacific Gateway programme. *P&H's Tony Slinn* reports

Port of Prince Rupert president and CEO Don Krusel gave an emotional welcome to guests at the official opening of the C\$170M (\$174M) Fairview Container Terminal. He had reason to be emotional, for he's seen the port and town almost die in boom-to-bust cycles over the past 20 years.

But the story of Prince Rupert as a Pacific gateway goes back even further – to US railroad tycoon Charles Melville Hays, who built the Grand Trunk Pacific Railway (now Canadian National – CN) to Prince Rupert, hoping to see Canada's most northerly ice-free, naturally deepwater port become the Pacific terminus for his railway. Hays went down with RMS *Titanic* in 1912 and it seemed his dream had died with him. Until Krusel joined the port in 1987, that is.

Just as it was a century ago, the key factor is Prince Rupert's connectivity: boxes will be double-stacked and shipped on CN's newly expanded lines to US Midwest cities, including Chicago, Illinois and Memphis, as well as Toronto and Montreal. CN executive VP James Foote told *P&H* that his company has upgraded rail traffic control systems, spent C\$30M on the port rail terminal and C\$200M on rolling stock, including 50

new locomotives and hired 68 people. He claims that a container exported from Shanghai via Prince Rupert will be in Chicago before it could reach rival US west coast ports such as Long Beach or Los Angeles by sea.

The rail line to Prince Rupert is considered to be the best to the Pacific coast in North America, because of its direct routing, heavy load capability, avoidance of major urban areas and moderate gradients. Additionally, CN has invested in new intermodal terminals in Prince George and Edmonton to take advantage of the myriad materials that can be exported on the backhaul – raw cotton from Memphis, Alaskan seafood, Canadian wood and forestry products, for example.

The 500,000teu capacity Fairview has certainly transformed this 14,000-strong British Columbia (BC) community. More importantly, though, it has become the lynchpin of a congestion-free sector of the much-hyped Asia-Pacific Gateway on which the Canadian government is pinning its hopes for future prosperity along with C\$1.1Bn of the C\$2Bn Gateway budget.

If all goes to plan, the estimated C\$600M Fairview phase two will increase the terminal's capacity to 2M teu by early 2011. In addition, to increase capacity

Simo-getneis Toi'x:
Prince Rupert is
on the "map of
opportunity"



Landmarks of the past are replaced by landmarks of progress – the giant cranes are higher than our totem poles

to 4M teu by 2015, Krusel is planning a second, entirely separate terminal, on which construction would start in 2011. Forecasts back him up: container volumes are expected to grow by more than 125% through to 2020, putting intense pressure on North America's Pacific coast import capacity. With expansion opportunities few and far between, Prince Rupert represents a key logistics advantage for trans-Pacific shippers to the US.

Fairview is very much a partnership – between Prince Rupert Port Authority, CN, the federal and BC governments (which have contributed C\$60M between them) and New Jersey-based terminal operator Maher Terminals, which has spent C\$60M to transform what was a bulk, breakbulk and general cargo facility into a state-of-the-art dedicated intermodal container terminal.

At the opening, Maher's chairman and CEO Brian Maher commented: "I was aware of the scepticism – Prince Rupert is isolated with no local markets – but I've been around long enough to know a good thing when I see it. I've seen a lot of container terminals in my life and I can tell you I'm impressed by Fairview. I'm also impressed by the fact the community wanted this project – we weren't trying to shove it down their throat!"

Support also came from the Tsimshian First Nation, representatives of tribes who have occupied the area for thousands of years. Their hereditary chiefs – led by

As Fairview opens
the port is gearing
up for even more
expansion



Fairview Container Terminal statistics

Access channel	44m deep and only 1km long
Quay	400m (one berth)
Depth	16.5m
Capacity	500,000teu
Cranes	3 super post-Panamax gantries
Reachstackers	17
Rail terminal	13 tracks
Yard space	7,100 boxes stacked four high
Reefer plugs	72, stacked three high

Simo-getneis Toi'x – played a major and very colourful part in the opening ceremony.

"Landmarks of the past are being replaced by landmarks of progress – the giant cranes stand higher than our totem poles," said Simo-getneis Toi'x. He thanked all those who'd made Fairview a reality "and for placing Prince Rupert on the map, the map of opportunity".

And as port development engineer Mike Graham pointed out, those opportunities abound. A further 400ha of waterfront land is already earmarked for industrial development, and potential new facilities could include a sulphur export terminal, crude oil transshipment and such major industrial undertakings as refining and smelting.

Krusel expects Fairview to hit full capacity by September 2008 – "Fairview Phase Two is not a question of 'if', but of 'when'," he told *P&H*. "We're now putting the commercial arrangements in place, the engineering plans are pretty well done and we're holding active discussions with carriers." **PH**

More info: www.rupertport.com



Welcome to new EU guidelines

The European Sea Ports Organisation has welcomed a new EU maritime policy blue paper and port development and the environment.

SG Patrick Verhoeven said the initiative would increase legal certainty for port development projects. The EU said it will now work on guidelines on the application of environmental legislation to port development to be published next year.

Verhoeven immediately offered help from his members, in a continuation of a dialogue ESPO opened when the maritime policy was first mooted last year.

"We gladly offer the Commission the practical experience of our members to prepare such guidelines," he said. "The Code of Practice on the Birds and the Habitats Directive we published earlier this year could, for instance, provide useful input."

ESPO plans a formal response to the EU document in the coming weeks. The new communication reflects the outcome of a year's consultation exercise.

Maritime affairs commissioner Joe Borg underlined the importance of the consultation process: "Our stakeholders have spoken and we have listened. This is a crucial first step for Europe's oceans and seas – unlocking the potential and facing the challenges of a maritime Europe will be our common goal. It will allow us to make the most of our maritime assets and will help Europe face some of the major challenges before it."

The blue paper identifies five action areas necessary for an integrated maritime policy for the EU: sustainable use of oceans and seas, knowledge and innovation, quality life in coastal regions, European leadership in international maritime affairs and visibility of maritime Europe and its heritage.

More info: <http://ec.europa.eu/www.espo.be>



Photo: MCA

Gap in coverage: If the *MSC Napoli* had been a chemical tanker HNS would be needed, says ICS

States urged to ratify code

The London-based International Chamber of Shipping (ICS) has called on states to ratify the IMO convention on liability for damage arising from carriage of hazardous and noxious substances (HNS).

It is concerned over alleged moves to abandon the convention, saying this would be a "huge blow" to the authority of IMO, and would lead to regulation by individual regions.

Abandoning the previously agreed convention terms now would be "an act of extreme folly", the global shipowners' body warned. ICS said it was "very concerned" by rumours regarding the future of the convention.

It was adopted in 1996 and establishes an international regime for damage by some of the most dangerous goods carried by

vessels, sharing costs between shipowners and cargo receivers.

ICS warned: "Until the convention enters into force there is a dangerous gap in global liability coverage. Imagine if the recent grounding of the container ship *MSC Napoli* off the coast of southwest England had involved a chemical tanker."

It continued: "If indeed there are technical problems with the existing HNS convention, the sensible course of action would be for governments to ratify it as soon as possible so that any issues could then be resolved by the HNS Fund assembly, as has been done by the IOPC Fund assembly."

The HNS Convention has been modelled on the highly successful CLC/IOPC Fund international oil pollution liability and

compensation regime, which is administered by the IOPC Fund.

ICS said it was 'most important' that the HNS Fund assembly resisted the efforts of a 'small minority' of governments to undermine the proposals which provide for a 'reasonable' distribution of risk between shipowners and cargo receivers.

So far only nine countries, representing receivers of about 1M tonnes of cargo, have ratified the convention, well short of the 12 states importing 125M tonnes that are required for the convention to come into force. However, an EU directive required member states to ratify the HNS Convention by April this year. Should the EU states ratify it, the convention would come into force, ICS pointed out.

Debate rages over 100% scanning

The International Chamber of Shipping (ICS) is the latest to add its voice to the opponents to the new US law that requires 100% scanning of all containers destined for the US by 2012.

It said the "draconian" measure was a "politically motivated" move by Congress, which would completely disrupt global trade if

implemented by US Congress.

"Leaving aside the massive technical and infrastructure investments that would be needed, 100% scanning would probably require a massive expansion of the physical size of ports," said ICS. This would come at a time when many ports are suffering from congestion, and the

demand for container shipping is on the verge of outstripping available port capacity.

ICS and its members are encouraging other governments to examine the full implications of what the US requires of its international trading partners, and to address these with the US at the highest political level.

Environmental credentials

Shipping's environmental credentials and responsibilities formed the core of the IMO secretary-general's World Maritime Day address. Efthimios Mitropoulos said the issues presented both an opportunity and a threat to the commercial maritime industry.

"The pressure is mounting for every potential polluter, every user of energy and every conspicuous contributor to climate change and global warming to clean up their act and adopt greener practices," he said. A list of 'green' conventions that had been enacted by the IMO were highlighted by Mitropoulos who said they covered a wide range of polluting activities. He identified atmospheric pollution as "perhaps the most significant

threat to our environment today" and criticised national governments for failing to follow up the IMO's work by not ratifying its conventions in good time.

He gave as an example the eight years it took for Marpol

Annex VI to come into force and the 2004 Ballast Water Management Convention, which has still not been ratified. "Delay may spur unilateral or regional measures by individual countries or groups of countries," he warned.



Promoting the sea: World Maritime Day in London

Trade promotion through Doha

Chairman of the International Chamber of Commerce (ICC), Marcus Wallenberg, co-hosted a panel discussion on the Doha round with the DG of the World Trade Organization, Pascal Lamy, and the new Swedish trade minister, Ewa Bjorling, in Stockholm.

Lamy was upbeat about the current status of the Doha round and said that although the round was not complete, the prospects for a successful completion were looking better now than they did six months ago.

Lamy acknowledged ICC's unwavering support of the round. He also claimed that some in the business arena had been "too quiet" recently, with the

exception of ICC. Lamy maintains that bilateral agreements are not the way forward. "Bilateral or regional agreements never go as deep as multilateral agreements do," he said.

Bjorling emphasised Sweden's willingness to work with Lamy and the WTO to reach a final deal in the Doha round. She said the last phase would be tough and that Sweden and others in the EU would have to make compromises.

Wallenberg stressed the need for business to speak with one voice on this issue and encouraged all participants from the business sector to show their support for the Doha round.

Efficiency and innovation in EC review

Mobility is a keyword in the mid-term review of the European Commission's white paper on transport. In revising its transport policy, the EC has abandoned its idea of modal shift to concentrate instead on measures to unlock the potential of each transport mode.

In the same spirit as its action plan NAIADES, aimed at promoting inland waterway transport, the EC stresses efficiency, logistics, innovation and mastering energy use, to place transport at the heart of the Lisbon Agenda. This is planned to

help growth in the EU countries, and transport is a major part of the policy.

Achieving competitive and sustainable mobility depends on combining efficient modes of transport, said the EC.

The EC said transport problems have not improved since the publication of the white paper on transport in 2001, but have got worse. Congestion is a growing headache for businesses, affecting competitiveness. Commenting on the latest EC stance, Inland Navigation Europe, which

promotes inland waterways, said that instead of more top-down measures, the Commission is opting for a pragmatic and result-oriented toolbox enhancing efficiency, innovation, intelligent and green transport.

"Integrated solutions to deliver goods across modes in Europe can only materialise when bottlenecks are effectively tackled and assets strengthened," said INE.

Now the EU is working on a freight transport logistics strategy and possible preparation of an EU action plan.

MOWCA transport debates

Ports and their progress were on the agenda of a key group of African transport ministers who met in Luanda, Angola to discuss a range of issues.

Members of the Maritime Organisation of West and Central Africa (MOWCA) debated a wide range of issues including maritime safety, maritime transport services, port management, navigation, security and protection of the marine environment.

MOWCA's bureau of ministers has agreed that they want to promote co-operation with international organisations and other partners who will help development of the sector.

The African Union's maritime action plan, which aims to help countries improve the efficiency of ports, increase port state control standards and promote training, was also discussed.

Founded in 1975, MOWCA mainly aims to promote inter-regional co-operation to help development of the maritime transport industry.

Bureau of Ministers

The Bureau of Ministers, one of the organisation's main structures, is made up of Angola (president), Senegal (first vice-president), DR Congo (second vice-president) and Nigeria, Gabon, Mali and Côte d'Ivoire.

MOWCA's 25 member countries

Angola, Benin, Burkina Faso, Congo Brazzaville, Cameroon, Cape Verde, Gabon, Ghana, Gambia, Guinean Conakry, Guinea Bissau, Equatorial Guinea, Liberia, Mali, Mauritania, Niger, Senegal, Sierra Leone, Chad, Togo, Central African Republic, DR Congo, San Tome and Príncipe, Nigeria and Côte d'Ivoire.

Demand 'feeds' ship emissions

A robust defence of shipping's share of the carbon emissions was delivered at a meeting in London by Mark Brownrigg of the UK's Chamber of Shipping.

Brownrigg said that the industry accepted that while shipping had to take action to reduce harmful emissions, society had to decide on priorities.

"Shipping is not the driver," he pointed out. "We do not make ships to sail across the sea unless the trade is there."

It is consumer demand that is fuelling the increase in trade, which stalls efforts to reduce pollution from shipping. And some restrictions on shipping will have to be paid for, either in reduced levels of trade or in increased transport costs, he added.

"Growing vegetables seasonally in hot weather and shipping them to Europe can leave a smaller carbon footprint than growing them in poly tunnels."

The world may want to see developing countries gain a larger share of global wealth – yet Brownrigg questions how this is to be achieved without cheap maritime transport. "Shipping is indispensable to the way people live. It is said that without it half the world will starve and half the world will freeze."

Then there is the presumption that new technology will provide a magic bullet to help the industry clean up. "That doesn't work well in shipping – as ballast water showed," he said.

"With world trade set to double, you cannot reduce the number of ships or the number of voyages," Brownrigg added.

Robert Ashdown, the Chamber of Shipping's environment manager, concluded: "The trouble is as soon as you reduce one emission you produce another and when you produce new technologies to combat air emissions it takes four years to see the benefits."



Southampton: one of the first six ports taking part in the SFI

US security boost

The US has introduced the next phase of its ports security programme. The Secure Freight Initiative (SFI) calls upon exporting ports to scan containers for nuclear and radiological materials before the boxes leave their berths.

A \$60M budget will help ports meet the new conditions, starting with Southampton in the UK; Port Qasim, Pakistan; Puerto Cortés, Honduras; Port Salalah, Oman; the Port of Singapore; and

the Gamman Terminal at the Port of Busan in South Korea.

The funds will be used to help ports install scanning systems and communications equipment for transmitting information to the US. Twelve more ports will be brought into the scheme in 2008.

"Our highest priority and greatest sense of urgency has to be aimed at preventing a nuclear weapon or dirty bomb attack against the homeland," said US

Department of Homeland Security (DHS) secretary Michael Chertoff. "This initiative advances a comprehensive strategy to secure the global supply chain and cut off any possibility of exploitation by terrorists. I appreciate the commitment of our international allies in sharing more information and harmonising our risk reduction efforts."

"Improving port security worldwide helps to improve our security right here at home. Through the SFI partnership with the DHS, we will be able to screen more cargo than ever before using the advanced detection technology, and be in a better position to prevent nuclear materials or devices from being smuggled into the United States or partner countries," DOE secretary Samuel Bodman said.

Should an alarm be triggered, homeland security personnel and host country officials will receive an alert. The US government is continuing the project with a port operator in Hong Kong to develop and refine the integrated box security architecture pilot test.

EU security deadline passed

Approval for the orderly way that European Union member states included the European Port Security Directive into national legislation has come from Patrick Verhoven, SG of the European Seaports Organisation (ESPO).

He said the "relative calm" in which the directive deadline was met formed a "striking contrast" with the hype the ISPS Code caused. "The present business-like attitude on security is very good news," he said. "Security should be an integral part of the good governance of ports, terminals, shipping lines and indeed every player in the supply chain."

Following the withdrawal of the European regulation on supply chain security earlier this year, ESPO is now waiting to see how the European Commission's authorised economic operator concept will enhance security throughout the chain.

"Resisting any supply chain security measures is no option and would not be in the interest of seaports," he continued. "A business-like attitude on security is above all one which works on the basis of risk assessment. This is a sound principle which allows security needs to be properly balanced with the efficiency needs of trade and transport operations."

Tokyo MoU 'effective' in safety

Port state control is the "effective measure" to promote safety, security and protection of the marine environment, the Tokyo MoU meeting heard.

The committee adopted a new set of amendments to the Tokyo MoU that includes clearer and higher qualitative criteria for membership. The amendments

will take effect in May 2008.

The committee noted that the joint Concentrated Inspection Campaign (CIC) on the ISM Code with the Paris MoU has started.

Current chairman Park Young-Sun, of South Korea, stood down and Dr Vitaly Klyuev, acting deputy director of the Department of State Policy for Maritime and River

Transport at Russia's Ministry of Transport, was elected as the new chairman for the next three sessions of the Tokyo MoU.

Roger Tupper, director of marine for the Marine Department of Hong Kong, observed at the Hong Kong meeting that Tokyo MoU port state control information has been widely used by the industry.

AAPA pledges to help TWIC

The US port industry has assured the US government that it will co-operate with the introduction of the Transportation Worker Identification Credential (TWIC) that is being launched by the Department for Homeland Security (DHS).

During the annual convention of the American Association of Port Authorities (AAPA), executives learned that port workers were to be enrolled in the programme from 16 October at the Port of Wilmington, Delaware.

This month, 11 more ports in November are to be involved, with the goal of enrolling all US port workers by 25 September 2008.

Kurt Nagle, AAPA's president and CEO, said the port industry looked forward to working with the DHS on the TWIC roll-out process. "TWIC is the next step for personnel security at America's ports, and we are partnering with DHS to ensure the programme is implemented in a way that enables freight movements to continue to move efficiently."

The TWIC programme is meant to ensure that any individual who has unescorted access to secure areas of port facilities and vessels is not a security threat. For each person, TWIC will include criminal background, immigrant status and terrorist watch list screening.

At the meeting executive director Kenneth O'Hollaren was formally installed as the AAPA chairman for the 2007–2008



In the chair: Kenneth O'Hollaren is the new AAPA chairman

period. "He has the experience, leadership skills and dedication to advance our association's mission of connecting port communities with the global marketplace, and we look forward to his chairmanship for the coming year," said Nagle.

In his role as board chairman, O'Hollaren will also serve as AAPA's US delegation chairman for 2007–2008 together with Port of Los Angeles executive director Geraldine Knatz, who is chair-elect, and Michael Leone, port director for the Massachusetts Port Authority, as vice-chair.

Representing AAPA's Canadian delegation, Québec Port Authority president and CEO Ross Gaudreault is that delegation's new chairman, Bill Mills, president and CEO of Nanaimo, British Columbia, Port Authority, is chair-elect and Karen

Oldfield, president and chief executive of Halifax, Nova Scotia, Port Authority, vice-chair.

The Caribbean delegation's chairman for 2007–2008 is Paul Hurlston, port director of the Port Authority of the Cayman Islands.

Lic José Luis Iberri, general director of Mexico's Administración Portuaria Integral de Manzanilla, is the Latin American delegation chairman for 2007–2008 and Armando Duarte, chairman of the Sociedad Portuaria de Santa Marta, Colombia, was installed as chair-elect. Alfonso Gil, port director of the Administración Portuaria Integral de Mazatlán, was named the delegation's 2008 vice-chair.

AAPA presented distinguished service awards to newly retired Dominic Taddeo, Montreal Port Authority president and CEO.

Plea for distillates

INTERTANKO is advocating a total switch to distillate fuels, marine diesel oil (MDO) and marine diesel gas (MGO), saying the fuels would provide net environmental benefits by reducing SO_x, NO_x and particulate matter (PM) and having a favourable CO₂ impact.

"This way, all ships would reduce their total air pollution on a global basis, while at the same time allowing new engines to become even more efficient, less polluting and with lower CO₂ emissions," said the association.

Running a ship on distillates makes the technical operation of that ship cheaper, more efficient and straightforward, it continued. The wear on the engine from impurities, installation, maintenance and day-to-day operation of emissions cleaning equipment is reduced, it added.

Deputy MD appointed at INTERTANKO



Joe Angelo

Joe Angelo has been appointed deputy MD of INTERTANKO with immediate effect. He has been with INTERTANKO since 2005, when he joined from the United States Coast Guard, where he was director of standards for marine safety, security and environmental protection.

Based in Washington DC, as director – Americas and regulatory affairs, Angelo has knowledge of the regulatory processes in the US and at the IMO, the association said.

More info: www.intertanko.com

Co-operation pledged by BIMCO

The president of BIMCO Philip Embiricos has pledged the commitment of the global shipping industry to develop solutions to environmental challenges.

Speaking for the Round Table of international shipping associations – BIMCO, ICS/ISF, INTERCARGO and INTERTANKO at an event marking IMO's World Maritime Day 2007, Embiricos said that the industry was "fully conscious" of the need to make shipping even more sustainable.

The Round Table organisations are closely involved with the IMO's scientific group of experts, who are evaluating the implications of practical proposals for reducing harmful emissions from ships without

negative impacts. Embiricos maintained that "a balanced mix" of technological advances and operational improvements will no doubt deliver what is needed to tackle a range of environmental challenges facing shipping.

If world trade growth is to continue at a healthy rate, a "balance" between improving the environment and additional transport cost must be maintained, he added. Eventually, the Round Table believes, this work would produce ships that create minimal environmental footprints, are self-contained and produce virtually "zero discharges", Embiricos said.

More info: www.shippingfacts.com



Grand opening: Prime Minister Han Duck-soo officiates at the Gwangyang ceremony



container vessel of Mærsk Line.

The port has been developed in several phases as a brand-new Korean box facility. For an investment of \$6.6Bn, it is planned to have 34 berths by the

scheduled completion date of 2020. Currently, the port offers 16 deepwater container berths in one continuous stretch.

The latest part to be finished was Phase III-1, at a cost of \$380M. This phase offers four new berths with depths alongside of 17m.

In parallel with the creation of container terminals, a huge area totalling 400ha is being developed immediately behind the terminals as a global logistics park. It has been designated a free trade zone and a free economic zone and will provide various incentives to companies located in the area.

Moreover, the government has been developing the Gwangyang Bay Area free economic zone of 90km² around the port by inviting a range of industries, both from South Korea and overseas, to set up new facilities in the area.

IAPH at new port's opening

The association's secretary general Dr Satoshi Inoue was welcomed at the Port of Gwangyang on 6 September for the inaugural ceremony of the new container terminal there. He joined some 1,000 participants including PM Han Duck-soo, as well as national

and local government officials, representatives of international shipping lines and shippers and leaders of local communities for the opening ceremony organised by Korea Container Terminal Authority (KCTA).

In his address, the prime

minister stressed the state's policy to develop the Port of Gwangyang as a leading hub port in the East Asian region. Guests of honour and KCTA president Chung Yee-Keel lined up at the ceremony to press the buttons that started up crane operations for a large

Membership notes

We are pleased to introduce new IAPH members

Associate members

SOGET SA

Address: CHCI, Quai George V, 76066 Le Havre Cedex, France

Telephone: +33 2 3519 25 54

Email: Jacques.ritt@soget.fr

Representative: Jacques Ritt, CEO

Nature of business activities: cargo community systems, port community systems, supply chain security

Fax: +33 2 3519 0293

Website: www.soget.fr

TOC Events Worldwide

Address: 29 Bressenden Place, London SW1E 5EW, UK.

Telephone: +40 207 017 4391

Email: sean.deane@toc-events.com

Representative: Nicola Mason, MD

IAPH co-ordinator: Sean Deane, commercial manager

Nature of business activities: Events organisation focusing solely on the port, terminal and transportation sector

Fax: +40 207 017 4987

Website: www.toc-events.com

New P&H associate editor

Aya Fujinami has joined the *Ports & Harbors* editorial team, following the departure of Yuko Akamatsu for pastures new.

Aya is no stranger to IAPH, as she has been busy in the office for some time now and met many members at the World Ports Conference in Houston in May.

"I look forward to working on *P&H*," she said. "I hope to hear from as many members as possible. Our members are in every part of the world and I want *P&H* coverage to reflect that."

Obituary – Howe Yoon Chong

Former IAPH president, cabinet minister, and first chairman of PSA Howe Yoon Chong, died in August. He was a long-serving member of many Singapore administrations, devoting almost 30 years of his life to public service, before retiring from politics in 1984.

Howe, pictured above (left) with former SG the late Dr Hajjame Sato, played a key role in several landmark projects including building Singapore's first container port.

Singapore PM Lee Hsien paid tribute to him, saying Mr Howe's work at the port has been an "inseparable element" of the nation's progress. "He built up the organisation, and left PSA with healthy financial reserves which enabled it to grow from strength to strength.

"Against the advice of professionals, he made a strategic move to build Singapore's first container terminal," he added.



New charity donation

Generous IAPH members have enabled the association to donate \$25,000 to the Save the Children Fund in September 2007. This is the second in a series of donations to be made by IAPH to the NGO until 2013, in accordance with a pledge given in 2004.

As with the previous donation, in 2005, the funds were raised at the IAPH World Ports Conference that took place in Houston, US, 27 April–4 May 2007. In the previous term, our donation was used towards an educational programme for children in Afghanistan.



Parley: exchanging views on French ports and other issues, as the delegation visited Tokyo

The IAPH headquarters welcomed a high-level delegation from French ports, who also visited the Port of Tokyo.

In the delegation was Bruno Vergobbi, MD, Ports Français-Union des Ports Autonomes et des Chambres de Commerce et d'Industrie Maritime (UPACCIM). A former IAPH EXCO member, he was given honorary membership at the World Ports Conference in Shanghai in 2005.

Also in the delegation were Bernard Scemama, chairman of the French Merchant Navy Council; Michel Quimbert, chairman of UPACCIM and chairman of the Port of Nantes Saint-Nazaire, France; Gil Themine, chairman of the Port of Guadeloupe, in the West Indies; and Lisa Yanagi, Japan representative for the Port Autonome de Marseille.

Dates for your diary

A selection of forthcoming maritime courses and conferences

November

- 4–8** The World Free Zone Convention – Kuala Lumpur, Malaysia
More info: www.freezones.org
- 6–8** TOC Americas – Panama City, Panama
More info: www.tocevents-americas.com
- 12–13** Global Ports Conference – Rotterdam, Netherlands
More info: www.lloydslistevents.com
- 13–16** Iberoamerican Institute of Maritime Law XII Congress, 20th Anniversary – Seville, Spain
More info: www.institutoiberoamericanodederechomaritimo.com
- 22–23** Med Freight 2007 – Genoa, Italy
More info: www.lloydslistevents.com
- 26–27** Bunkering in Asia – Shanghai, China
More info: www.ibt-asia.com
- 26–28** Maritime Security Expo – New York, US
More info: www.maritimesecurityexpo.com
- 28–29** 3rd Trans Middle East 2007 Egypt Exhibition and Conference – Cairo, Egypt
More info: www.transportevents.com

December

- 2–5** Ninth Meeting of the CIP Executive Board – Lima, Peru
More info: www.oas.org/cip
- 2–5** Ibero-American Port Forum on Logistic Activity Zones – Lima, Peru
More info: www.oas.org/cip
- 4–6** Intermodal 2007 – Amsterdam, Netherlands
More info: www.intermodal-events.com
- 10–11** 2nd Annual Conference on Forest Product Handling and Logistics – London, UK
More info: www.lloydslistevents.com

2008

February

- 24–28** PIANC/COPEDEC VII – Dubai, UAE
More info: www.pianc-copedecdubai.com
- 28–29** GreenPort Conference – Amsterdam, Netherlands
More info: www.green-port.net
- 28–29** 6th Intermodal Africa 2008 – Accra, Ghana
More info: www.transportevents.com

March

- 18–20** TOC Asia – Shanghai, China
More info: www.tocevents-asia.com



Time to collaborate

Ports are at the forefront of helping to handle growing world trade. Xavier Gesé Aperte, chair of the Port Operations and Logistics (POL) committee and deputy director of planning of Puertos del Estado, explains what the committee can do to help you cope

“Improvements in port activities cannot be achieved without the participation of all the parties involved”

World seaborne trade grew 19% between 2000 and 2005, reaching 7.11Bn tonnes of loaded goods and this growth is expected to accelerate in the future. Important port developments are under way all over the world, and large, ambitious projects are being planned, but ports also need to look at increasing the productivity of port operations in order to cope with this significant increase in traffic.

In our discussions in POL we hope we can help all IAPH members and the port industry in general enhance the performance of their port operations and improve the integration of ports within the global logistics chain. With this aim in mind, our committee analyses and disseminates best practices and looks at aspects that should be improved in the port's day-to-day operational activities.

Operations may be considered a port's core business activity. Consequently, ports have to be resourceful to ensure high productivity. Not only do they need to maintain productivity for their familiar, traditional activities, they must also cope with the new demands that globalisation and modern production processes are placing on them. In particular, we should take into account the connection between ports and logistics parks and their integration in door-to-door transport chains.

However, ports comprise a community of public bodies and private companies, forming extremely sophisticated systems grounded in specialisation, where each individual unit may achieve a higher level of efficiency in its specific competences. We ought to ask ourselves whether there is any need for co-ordination in this community and, if so, who should act as co-ordinator.

As a newcomer in co-ordinating the POL I believe that effective improvements in crucial elements of port activities cannot be achieved without the participation of all the parties involved. It is time to collaborate.

My personal view is that IAPH, as a global, non-governmental, non-profit-making association representing those who manage ports, is an ideal platform. It can conduct the studies that will doubtless make valuable contributions to improving trade and for the betterment of society as a whole. **I&H**

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