



# PORTS HARBORS

Official Journal of the International Association of Ports and Harbors

## Personnel exchange

Staff learn from other ports' practices

## Legislative alignment

Better business through compliance

## Corrosive damage

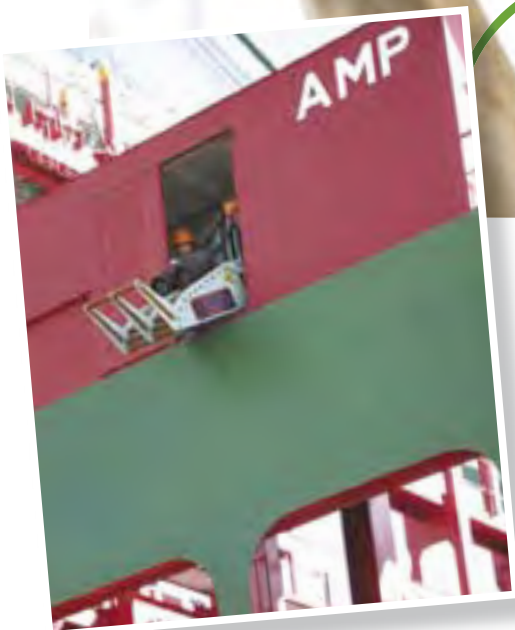
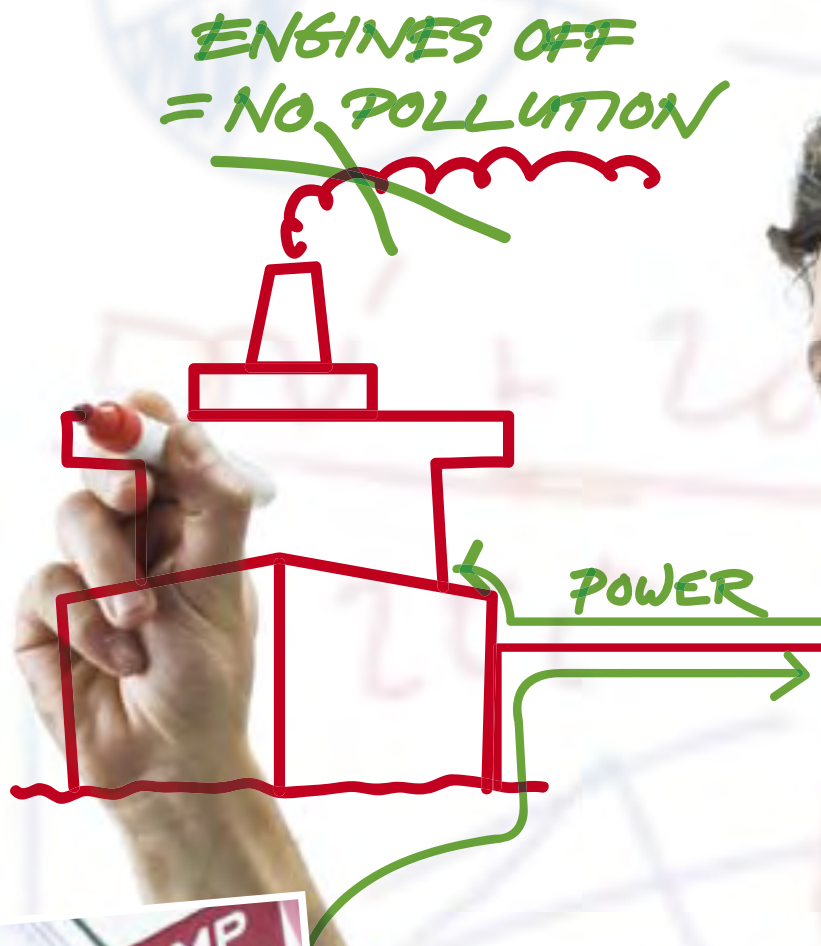
Planning to minimise maintenance

# Computerised community

Lessen port paperload with a PCS



# “Fresh thinking can lead to fresh air.”

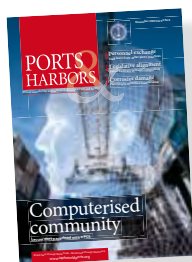


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Data sharing: a port community system cuts down on paper-work and allows easy movement of data among port players  
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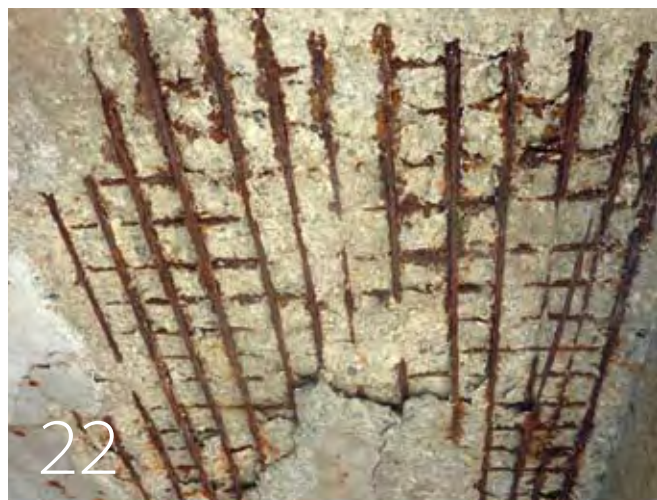
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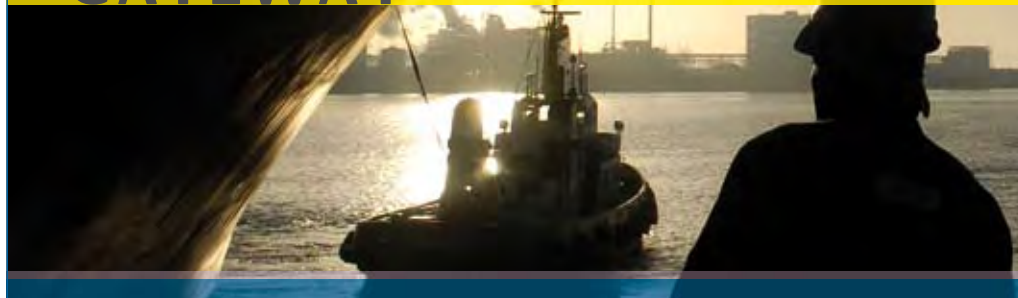
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# PORTS & HARBORS

Official Journal of the International Association of Ports and Harbors

## PORTS & HARBORS

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# Opportunity not threat

Working with climate change, rather than against it, will be more cost-effective and appropriate in years to come

The World Bank recently reported the findings of its in-depth study on the economics of adapting to climate change. This study, perhaps the first ever to be made on the subject, was discussed at the United Nations Framework Convention on Climate Change (UNFCCC) meeting in Bangkok. The costs for developing countries alone are likely to be between \$75Bn and \$100Bn a year from 2010 to 2050, the study reveals.

Rises in sea levels, more floods, more droughts, more storms and more heatwaves should be expected across the globe – even if we manage to limit global warming to around 2°C. This alone may be an ambitious challenge to our society, but it will be prohibitively more costly to adapt should temperatures rise higher than this. All countries and economic sectors therefore need to act immediately to reduce their greenhouse gas (GHG) emissions.

“We should treat climate change as an opportunity rather than a threat”

The Netherlands transport minister, Camiel Eurlings, stressed in his recent address to the port and logistics industry that we should treat climate change as an opportunity rather than a threat. Ports must continue their development both as an engine of local economy and a critical node in the global logistics system, but only in ways that reduce GHG emissions and take into account the impacts of

climate change. It is no longer ‘business as usual’ for ports.

The World Bank made it clear that economic growth and development is imperative to ensure we have sufficient financial resources to mitigate and adapt to climate change. But these activities must take a new form. For instance, the port could play a leading role in carbon capture and storage, as in Rotterdam. Ports could develop container throughput and yet reduce GHG emissions created by container movement, by shifting containers from road vehicles to railways and shortsea and inland shipping.

Next month, the world community will meet together in Denmark to establish a new regime for climate action to follow the Kyoto Protocol. I have no doubt that UNFCCC member countries are wise enough to work out a solid and effective framework in time. I am also convinced that the world port community will continue to join forces through IAPH to tackle this global challenge successfully for future generations. **PH**



**Dr. Satoshi Inoue**  
Secretary General – The International Association of Ports and Harbors

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## Port updates

### REGIONAL PLANS

APM Terminals has chosen Dubai as its new regional headquarters for its Africa, Middle East & Indian Subcontinent region. While visiting the office at its inauguration, CEO Kim Fejfer said the region is, "an important market that holds good growth potential for our customers in the years ahead. In line with our strategic plan, this new office places our team closer to markets, decision-makers and government leaders."

### SOUTH AFRICAN UPDATE

Transnet Port Terminals saw the handover of an Rd87M (\$12M) consignment of hauler units for Cape Town and Durban, plus six new cranes for the Cape Town container terminal, in September. Cape Town's container and multipurpose terminals will have 53 of the new hauler units, while six have been allocated to the Durban multipurpose terminal. When used with the recently procured cornerless bathtub trailers, they will offer safer and faster handling and transportation of containers in the terminal yard, Transnet stated.

Logan Naidoo, general manager capital projects and technology at Transnet Port Terminals, said the terminal's Rd4.2Bn (\$600M) expansion programme had taken a further leap forward with these deliveries.

### NEW ORLEANS VICTORY

CMA CGM added the Port of New Orleans to its Victory Bridge service between the US Gulf and North Europe with effect from 21 October. The French liner said the weekly service will offer competitive transit times to Antwerp, Felixstowe, Bremerhaven and Le Havre.

Four years after Hurricane Katrina, business in New Orleans is "reviving and recovering", said CMA CGM America president Frank Baragona. With the addition of New Orleans, CMA CGM now calls at 12 US ports.

The company was forced to enter debt restructuring talks with its lending banks earlier this year, but has become a dominant force in the market again as it seeks to bring down charter costs.



Photo: Port of Gothenburg

This cavern could be home to Gothenburg's new oil storage facility

## Gothenburg's oil storage goes underground

The Port of Gothenburg (Göteborg) is building a large facility for crude oil storage intended to increase the efficiency of transshipment of oil. Crude oil will be discharged from tankers across the port's quay at Tor Harbor and stored temporarily before being transhipped, using larger vessels, to markets including Asia and the US, port representative Eva Jonasson explained to *Ports & Harbors*.

Currently, around 9M tonnes of crude oil are handled annually at Tor Harbor, said Jonasson, but the new storage facility would boost this by up to 60%, "depending on the market". The port, together with Scandinavian Tank Storage, will build the oil storage tanks in

an underground cavern at the port. The cavern has not been used for a long time, and was previously used for the stockpiling of oil products.

"It is extremely satisfying that we will soon be able to offer this service to our customers. There are few ports that offer crude oil transit, which makes such an investment even more interesting," said Magnus Kårestedt, Port of Gothenburg's chief executive. Gothenburg is one of the few ports in Scandinavia that offers a deepwater harbor for crude oil and interim storage for transshipment to larger tonnage.

The initiative should also have a beneficial environmental impact.

Storing crude oil for transshipment to larger tonnage is a "secure and environmentally correct alternative to lightering out at sea", said Claes Jacobsson, CEO of Scandinavian Tank Storage.

To create the new facility, the port is introducing modern loading and discharge equipment for use at Tor Harbor, which, in the cavern, will include new pumps, pipelines, electricity supply and gas-handling equipment. The environmental aspects are of vital importance, the port said, and work is in hand to ensure handling is as environment-friendly as possible. The new oil storage facility is scheduled to come into use within two years.

## Dar-es-Salaam opens up to new operators

Tanzania has signed a deal that breaks the 25-year monopoly of container terminal operator Tanzania International Container Terminal Services (TICTS) at Dar-es-Salaam port.

The memorandum of understanding is intended to stimulate competition at the port and so cut congestion and increase cargo handling efficiency, infrastructure minister Shukuru Kawambwa told local media. Dar-es-Salaam is seeking new business from landlocked Malawi, Zambia and Zimbabwe.

Contract negotiations had been taking place for three years after the TICTS contract was renewed. This included a clause that gave it exclusive operating rights for a further 10–25 years. The move sparked public and political indignation and was seen as a major obstacle to port reform.

Severe congestion has prompted port users to threaten to transfer business to the Port of Mombasa, in Kenya. Dar-es-Salaam reported a 15% decline in trade during the first half of the year, to \$324.7M.



# Thaw benefits environment

Thawing Arctic ice is likely to be good for the environment, *P&H* learned in September from Jan Persson, a captain on an icebreaker and an instructor at Sweden's Transatlantic Ice Academy. He claims that melting ice will extend the season for the sea route past northern Russia.

"It's better for the environment because it's a much shorter route, so there's less pollution from ships," he explained. Persson's comments follow a *Reuters* report that said ice in the Arctic thawed this summer, which many scientists blamed on global warming. But without this sea route north of Russia – the Northeast Passage – ships "have

to travel around" said Persson, who said that global warming is not the only reason for melting Arctic ice. "Lots of companies are realising it is possible to go that way, so with more ships going up there the ice will break up quicker," he said.

On 8 September, Beluga Shipping vessels *Fraternity* and *Foresight* were the first ships to successfully complete the first commercial transit of the Northern Sea Route. The journey required "extremely accurate preparation", Beluga CEO Niels Stolberg said in a statement. "By the completion of the Northeast Passage transit and previously the safe discharging of the cargo in a

rather remote area in Siberia, we have opened the gate to a seaway which will further gain in importance in the future. The savings of voyage costs to a total amount of about €300,000 for each multipurpose heavy-lift project carrier of the F-class, later about €600,000 for each travelling vessel of our new Beluga P-class, are a major achievement, particularly in times that have become economically more difficult." Stolberg added: "With regard to the global CO<sub>2</sub> balance we are able to reduce the bunker consumption and cut down the environmentally harmful emissions by using the Northern Sea Route."

## Business focus for Houston

Alec Dreyer was announced the Port of Houston Authority's (PHA) new executive director in September. Businessman Dreyer will be the first director to come from outside the maritime industry.

Chairman James Edmonds said: "He not only has an exemplary business track record but also brings a fresh, new perspective to the port authority. The port commission believes that his business acumen will further advance PHA's mandate to create economic development and jobs through maritime commerce."

Most recently Dreyer was CEO of Horizon Wind Energy, a Houston-based wind energy developer. He serves as chairman of the board of Comverge, a clean energy company, and previously on the board of EcoSecurities Group, which sources and trades in carbon credits.



**EMBARK teachers conduct a saltwater intrusion demonstration during the Canaveral Port Authority Board meeting**

## Canaveral in the community

Staff at Port Canaveral, Florida, USA, and a team of educators from Brevard County have created a series of integrated web-based lessons highlighting the significance of the international seaport and the benefits it brings to the region's local community.

The web-based EMBARK (Energizing Minds-Brevard Area Resources for Kids) is designed to make learning relevant to real life.

The students are first taken on a virtual tour in the classroom before visiting Port Canaveral itself, where they get the chance to conduct hands-on field experiments and interviews with staff and tenants.

"This is very exciting," said Port Canaveral chief executive officer Stanley Payne. "It's innovative, creative, and directed at future generations who can help us in the growth of Port Canaveral."

## Port updates

### TWIC REPRIEVE

US seafarers who have lost their TWIC card can now receive 30 additional days of unescorted access to terminal areas and shore facilities while they wait for a replacement card. The new rule, issued by the US Coast Guard on 13 October, overrides the previous rule, which allowed only seven days of unescorted access for seafarers whose TWIC card was lost, stolen or damaged.

All US mariners are required to have a valid TWIC card.

### PORT ROLE PLAY

The Port of Felixstowe, UK, and Suffolk Education Business Partnership in conjunction with the Haven Gateway Partnership, held a Sea Port Role Play Day on 14 October. It was the fourth year that the event had been held, and it attracted over 50 students from local schools. The aim was to make students more aware of opportunities within the Haven Gateway.

Students played out an imaginary scenario and took on the role of the eight sectors involved in an emergency response – police, fire and ambulance services, the port's corporate affairs department, marine and operations divisions, lifeguard institute, local councils and others.

### APICS UPGRADE

Antwerp Port Authority is developing a new version of its APICS (Antwerp Port Information and Control System), which among other things helps vessel traffic controllers draw up the safest, most efficient scheduling for ships travelling up- and downriver, to and from the port. APICS was introduced in 1989 and now needs to be restructured in collaboration with the authority's subsidiary Amaris and other users. It should be fully operational in 2012.

### SHIP TO STORE

ISO 9001:2000 accreditation has been awarded to the All-Weather Terminal at King George Dock, Port of Hull, UK. The terminal provides "uninterrupted all-weather covered storage facilities", the port claims, allowing cargo to be handled from ship to the store in the dry; it also allows for an undercover rail-freight connection.

Photo: Port Canaveral

## Port updates

### CHINA VISITS ANTWERP

Antwerp's port community emphasised its links with various Chinese authorities in October. Chinese vice-president Xi Jinping visited the Belgian port on 9 October, while the previous day a delegation from Port of Yangzhou paid a working visit.

The visit was a follow-up to the working visit to China made earlier this year by port alderman Marc Van Peel along with representatives of the Antwerp port community. This in turn formed part of the Im-Pact on China programme developed by the port authority with the aim of raising Antwerp's name recognition and market share in China.

### VLADIVOSTOK TERMINAL

Joint stock company Russian Troika has acquired 3.5ha for a container terminal at the Port of Vladivostok, on the Sea of Japan. The land was purchased at a cost of Rb103M (\$3.4M), with the auction starting price being Rb95.7M.

The terminal will have a capacity of 250,000 containers and will be built in two phases. The first will take place on foreshore land owned by the FESCO shipping company and the second on a newly developed plot.

Stakeholders in the joint venture are Russian railways with a 25% share, the NPF Welfare pension fund with 25% and FESCO shipping company with 50%. Russian Troika has Rb956M (\$33M) in capital.

### OPERATING UPGRADE

Port of Barranquilla has upgraded its in-house terminal operating system to a Navis SPARCS to improve operations and productivity.

"Navis SPARCS was the most robust option for us. It was the best way to optimise the use of our equipment and boost productivity in the terminal, delivering increased value to our customers," said Pablo Riveira, port operations director.

"Barranquilla is the largest city in the northern coast of Colombia and a prime industrial and commercial sector of the Caribbean coast. The Navis system will help us handle the increased amount of imports and exports as Baranquilla grows."



Photo: Port of Boulogne

The new Hub Port terminal was ready for business in September, after a €45M investment

## Boulogne Hub Port is now ready for ferry season

The Port of Boulogne's new Hub Port terminal was officially opened for the start of ferry operations on 19 September. Representing an initial investment of €45M, the development covers 20ha of land and includes two new linkspans, each costing €10.5M.

To accommodate both

conventional ships and fast ferries, the linkspans can be mechanically moved along the quayside. The first linkspan is now operational, while the second should enter service next year.

Landowner of the Hub Port site is the Région Nord-Pas-de-Calais, while Boulogne Chamber of

Commerce (the Boulogne port authority) is manager of the new multi-activity port and responsible for its development. Fast ferry *Norman Arrow*, operated by LD Lines on the Boulogne–Dover service, has transferred from a berth at the Gare Maritime to the new Hub Port.

## APM Terminal goes green

APM Terminal's Rotterdam container terminal will be powered by electricity generated by wind power, following the official opening of its new power distribution network in October. By switching from grey to green electricity the terminal can reduce its CO<sub>2</sub> (carbon dioxide) emissions by 45% per year, APM said in a statement. The electricity is sourced from two windfarms in the Netherlands, namely Hagenwind in Aalten and De Landtong in Rotterdam.

The new network, which cost €12.5M, will power 14 gantry shore cranes that serve some of the largest container ships in the world, all the refrigerated

containers stored on the terminal, light poles and workshops.

APM Terminals also announced that it is aiming to reduce its CO<sub>2</sub> emissions by 15% per teu handled globally within three years. In 2007, APM Terminals' total global CO<sub>2</sub> emissions amounted to 543,000 tonnes, or 17.5kg CO<sub>2</sub> per teu handled.

"APM Terminals will reduce this number through innovative operational initiatives, best practice sharing, benchmarking, strategic investments and energy-conscious planning at every terminal. The target figure of 14.96kg per teu reflects the projected 15% decrease," the company said in a statement.

## Maersk's cargo mix

Maersk Line's purchase of more than 10,000 new flat-rack and open-top containers has increased its ability to lift breakbulk and out-of-gauge cargoes. Delivery of the final containers will take place by the end of the year.

Ed Long, Maersk's director of project sales for North America, said that the line now offered the full range of services customers had requested. Breakbulk cargo was easily integrated into Maersk's cargo mix on the wide variety of ships deployed on its current routes, Long maintained.



# LA/LB 'wrap' up pollution

The ports of Los Angeles and Long Beach have agreed to develop a co-ordinated Water Resources Action Plan (WRAP) to address water and sediment pollution sources that remain in San Pedro Bay.

There have been great improvements in water and sediment quality in the bay over the past 40 years thanks to increased monitoring, more aggressive regulation by state and federal agencies, better pollution source control and dredging that has removed accumulated contaminants in harbor sediment. Nevertheless, both ports still face

challenges from contaminants that remain in port sediments, flow into the harbor from port land, and flow from upstream sources in the watershed, well beyond the ports' boundaries.

The two ports are working closely with federal and state officials and other stakeholders to develop measures that will further minimise landside and waterside sources of pollutants in the San Pedro Bay. The WRAP will incorporate these new programmes while continuing the many water quality initiatives that are already under way at both ports.

## Honesty is best policy at MOL

MOL launched a safety campaign during October with the aim of encouraging candid discussion and best practice among its staff.

"Our seafarers are effectively our eyes and ears into what happens on a daily basis on board our vessels, and it is they who enable us to be proactive in our safety measures rather than reactive," said Masanori Kobayashi, general manager of MOL's Marine Safety Division. "The seafarers who actually carry out the

day-to-day work on board our vessels are often able to identify areas needing improvement which shore-based staff would otherwise miss."

The campaign was focused on exchanging information between the company's onshore and seagoing personnel, as well as passing on best practice on how to fight swine flu. Kobayashi said that MOL was confident its seafarers would feel able to relay honest assessments of company safety practices.

## Port updates

### SAVANNAH GETS KIA

Kia Motors selected the Port of Savannah, Georgia, for parts imports to its US plant. The deal is said to represent a 15,000teu annual increase for the port. In his final "state of the port" address, Doug Marchand, outgoing executive director of Georgia Ports Authority, said that Savannah handled 2.4M teu in FY2009 – the second-highest container and tonnage volume in GPA's history.

### LA FEE DELAYED

The city of Los Angeles, which oversees the port, has postponed until July 2010 a charge that was due to come into effect in January 2008. Dubbed the infrastructure fee, it is intended to help pay for upgrades to bridges and roads serving the port. Introduction has been postponed as there are no projects to spend the projected \$1.4Bn on.

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## Cash & Cargo

### SPANISH GAS INVESTMENT

Enagás, Spain's gas network manager, is to invest €377M in the construction of a new LNG regasification plant in Gijón, northern Spain. Company chairman Antonio Llardén announced the news on 22 September on an official visit to Gijón where the port authority unveiled 18ha of newly developed land allocated for the plant. He said the money would be invested into initial construction of the LNG facility, which will be connected to a pipeline linking the facility to Llanera, in the Asturias region.

### SUSTAINABLE RUSSIA

Sergei Ivanov, the Russian deputy prime minister in charge of the maritime sector, told a maritime policy session in the Baltic city of Kaliningrad in September that this year's growth in the country's northwestern seaports is sustainable. Oil exports are the main growth area, according to six-month port results to 30 June. Primorsk grew by 3% year on year to 38.4M tonnes, Murmansk grew almost twofold in the same period to 8.7M tonnes, while Arkhangelsk grew by 87% in the period to 6.9M tonnes.

### PAPER FEEDER

Yantian International Container Terminals (YICT) announced the launch of a direct feeder service for Nine Dragons Paper (Holdings) Limited in September. The new service will run directly from YICT to the factory of Nine Dragons Paper in Xibeisha, Dongguan, China. This new service will enable Nine Dragons Paper to "directly receive import containers at its factory by barge, which is a more cost-effective and less carbon-intensive mode of container transport," YICT said in a statement.

### INCREASE FOR ATI

Manila-based port operator Asian Terminals posted a net income increase of 36% in the first half of 2009 – from \$8.2M to \$11M – compared with the same period of 2008. Revenues from non-port operations rose 41% from \$4.4M to \$6.1M, attributed to higher volumes and favourable foreign exchange rates.



Photo: Port of Liverpool

**A £10M investment is being made into Port of Liverpool's lock gates**

## Liverpool's lock investment under way

The second phase of a £10M investment in the lock gate facilities at the Port of Liverpool is expected to be completed by the end of this year.

The £5M refurbishment of a caisson (sliding doors) at Langton Lock began in September. Once complete the caisson will be reinstalled. It follows a similar £5M upgrade carried out on two lock gates at Gladstone Lock last year.

In total there are three sets of gates at Gladstone Lock, operating as a lock-in/lock-out system, and three caissons at Langton Lock, all of which will be upgraded over the next five years. Local tidal conditions require all ships to use the locks when entering or leaving the dock.

Derek Hendry, projects director at the port, said: "These are key assets essential to the smooth

running of the port and we are delighted to announce this significant investment.

"Put simply, these facilities allow ships to access the harbor, therefore help generate considerable business both for the port and the city of Liverpool. We envisage that once all gates and caissons have been upgraded it should ensure they are functional for at least the next 15 years."

## Bigger NY bridge would bring rewards in future

Raising or replacing the Bayonne Bridge in New Jersey will be critical for the country's second-largest port to compete for growing container traffic, according to a study released on 16 September.

Last year the New York Port Authority commissioned a study analysing the commercial consequences and economic benefits of changing the bridge's 47m air-draught restriction, which prevents most container vessels bigger than 7,000teu reaching major terminals in the New York port complex.

The study concluded that while modifying or replacing the bridge could cost from \$1.3bn to \$3.1bn and take 10 years to complete, shipper cost savings and port economic benefits would "far outweigh" the costs.

The Bayonne Bridge crosses the Kill van Kull, one of the busiest shipping channels in the world, which is the access channel to the vast majority of the port's container facilities. The port accommodated 2,671 vessel calls carrying 5.3M teu in 2008.

Last month, the port authorised \$10M to analyse the best option for changing the draught height restriction.

Construction of the bridge, which links Staten Island with Bayonne, began in 1928 and it was completed ahead of schedule in 1931, when it opened to traffic. At a length of 1,762m, it is one of the longest steel arch bridges in the world.

## Largest ships sail the Scheldt

Vessels of 14,000teu and more than 360m length overall should find it easier to visit the Port of Antwerp. Test visits of vessels with these dimensions have proved successful, the port reported recently.

"The most important change is the increase in the maximum draught sailing downstream, from 13.5m to 14m; the maximum upstream was already 14m," the port said in a statement. The time windows within which ships are allowed to proceed up and down the River Scheldt have also been extended, permitting a more flexible sailing schedule.





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## People

### CAROLINA'S NEW CHIEF

James Newsome III began his new position as president and chief executive officer of the South Carolina State Ports Authority (SCSPA) on 1 September. Newsome, 53, has more than 30 years of global shipping experience. "I hope to lead in a way that allows us to focus squarely on our core mission – serving our customers and bringing economic benefits to the state. With the region's deepest channels and the most efficient operations in the country, we are very well positioned," said Newsome.

### TRANSNET'S OPERATOR

Nosipho Damasane's been appointed as Transnet Port Terminals' chief operating officer following the departure of Solly Letsoalo. Nosipho was previously general manager of sales and logistics – a role to be filled by executive commercial manager Don Maclean in the short term.

### UK RECRUIT TO OZ

Captain Steven Young from Southampton, UK, has been appointed harbor master for the Ports of Sydney and Botany. Australia's ports and waterways minister, Joe Tripodi, said 51-year-old Captain Young was chosen after a comprehensive global search to recruit an internationally experienced harbor master. "Captain Young is a master mariner and an experienced harbor master, having worked at one of the world's busiest container ports in Southampton," he said.

### PROMOTION AT JAXPORT

Raul Alfonso has been appointed Jacksonville Port Authority's new senior director of trade development and global marketing. Raul, who joined Jaxport's marketing staff in 2002, has worked in the maritime industry for 30 years.

### ICTSI'S NEW VP

Manuel Fernandez is ICTSI's new senior VP for Europe, Middle East and Africa. Previously employed as DHL Express's senior VP for customer experience and real estate, Manuel holds a degree in business administration from Florida International University.



Photo: Mauritius Ports Authority

Alongside at Port Louis... cruise trade is up, but container trade is down

## Cruise boost for Mauritius

Mauritius Port Authority (MPA) has reported encouraging results for FY2008/09, with a 17.5% increase in transshipment business and a doubling of cruise passengers (to 52,000) at Port Louis compared with the previous financial year. Captive trade, however, saw a 7.4% fall in container volumes imported and a 0.6% drop in exports, following a sharp decline in business at the Mauritius Freeport.

The MPA is pressing ahead with upgrading works at Port Louis, where a new cruise jetty opened in November. The MPA's Mauritius Container Terminal (MCT) is to be extended by 150m and other quays are to be strengthened. Until recently, Mauritius has exported about 500,000 tonnes of raw sugar a year,

but as of 1 November sugar will be refined in Mauritius and despatched to Europe in containers, adding an estimated 15,000teu to MCT's annual throughput.

The port is also set to benefit from a 210ha industrial zone that will be built over the next five years with \$660M of Chinese investment. The three companies involved envisage the Jinfei Economic Trade and Co-operation Zone, at Terre Rouge, near the port, becoming a hub for Chinese trade with COMESA (Common Market for Eastern and Southern Africa) and SADC (South African Development Community) countries. Jinfei will concentrate on exports of solar power equipment, medical instruments, ocean products processing and stainless steel products.

## Zero emissions for MOL

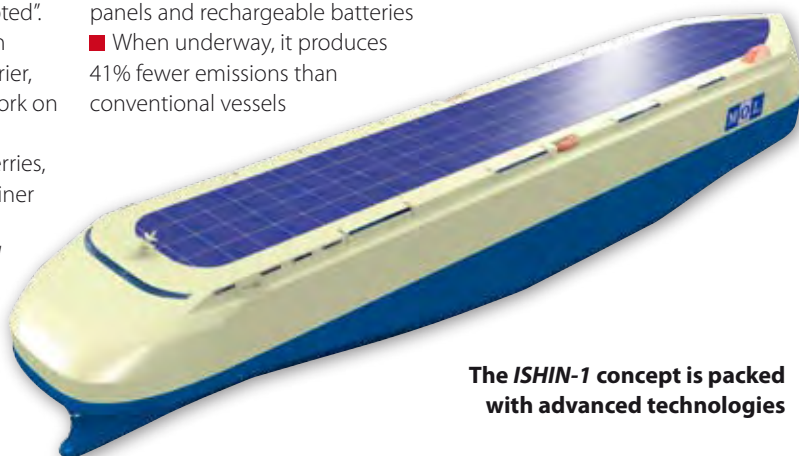
MOL has created a concept for its next-generation vessels, which it claims "will be technically practical in the near future, by building on and refining technologies it has already developed and adopted".

The first vessel design is an environment-friendly car carrier, but MOL will continue to work on concepts for other next-generation vessels such as ferries, bulkships, tankers and container ships. MOL named the conceptual car carrier *ISHIN-1* – Innovations in Sustainability Backed by Historically Proven, Integrated Technologies. Two main features

underlie the concept:

- During loading and unloading in port, it produces zero emissions through use of renewable energy sources, such as solar power panels and rechargeable batteries
- When underway, it produces 41% fewer emissions than conventional vessels

thanks to optimised propeller efficiency, a voyage information system, wind-resistant design and other advanced technologies.



The *ISHIN-1* concept is packed with advanced technologies





## A sea of opportunity

### Coast protection project

Van Oord maintains and reinforces the Dutch coast by foreshore and beach replenishment.



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## Dredging

### BOSKALIS GETS BUSY

Dutch dredging major Boskalis has clinched a €45M contract to deepen the inner harbor basin and access channel at Port of Fremantle, Australia. Around 3M m<sup>3</sup> of sand and rock will be removed by cutter suction dredger *Mercurius* when work begins in the first half of 2010.

### ALL BUT DONE

Trailing suction hopper dredgers *Queen of the Netherlands* and *Cornelis Zanen* have completed their duties at Melbourne as the port's channel deepening project draws to a close. All major work within Port Phillip Bay has now been finished, with overall dredging "99% complete", said spokesman Greg Russo.

Crane dredgers are now carrying out the remaining work in the Yarra River leading to the main container dock. The channel's depth will be 14m when complete.

### MAJOR DEAL FOR SANTOS

Brazil's port minister Pedro Brito has signed a \$117M contract to dredge the Port of Santos from 13m to 15m. The Draga Brasil consortium – comprising Shanghai Dredging, EIT Empresa Industrial Técnica, DTA Engenharia and Equipav Pavimentação – will also widen the port's entrance channel from 150m to 220m to facilitate a faster turnaround of vessels.

### ENSENADA IMPROVES

A \$17M project to dredge the Port of Ensenada's bay area has been completed. Over the past two years while the work was being carried out ship movement was reduced. It is hoped the deeper bay will ensure the port is well positioned to take advantage of the market's recovery. The Mexican port can now handle 7,500teu box ships – up from 5,500teu.

### GOING DEEPER

The Clarence River's main shipping channel, which services the Port of Yamba, Australia, is being dredged to a continuous navigable depth of 4.2m. Work is well under way as P&H goes to press, with completion expected by the end of November.



Photo: Aker Yards

Port of Rauma has reduced its fees in a bid to win business

## Finnish ports fight back

Recession-hit Finnish ports are changing their business focus in a bid to improve results. The Port of Pori, for example, has decided to concentrate on the coal trade, according to a report by Finnish broadcaster YLE.

In Kookola, port officials have turned to shipping iron ore from Russia. The Port of Rauma has slashed its ship fees, while the ports of Hamina and Kotka are reportedly considering joining forces to increase business.

Finland's ports have not only

been hit directly by the economic recession, but have also suffered the knock-on effect of declining trade from other struggling Finnish industries, YLE reported. Traffic at the Port of Kotka dropped by about 35% from January to September 2009, compared with the same period last year, while at the Port of Hanko traffic fell by up to 70% and at Rauma traffic dropped 37%.

The current trade slump has put even more pressure on ports than was seen in the recession of the

1990s, according to the Finnish Port Association.

Pekka Meronen, the administrative director at the Port of Rauma, told YLE that hard times are mainly due to the struggling forest industry and a fall in paper exports.

Paper exports at Rauma are down 1M tonnes from last year. Kimmo Naski, managing director of the Port of Kotka, said the steep decline in Russian trade had badly affected port traffic, YLE reported.

## Auckland up on trend

Container volumes at Ports of Auckland, New Zealand, during the July–September quarter were 208,812teu, up 7% on the April–June period. Managing director Jens Madsen said that while some of the increase could be attributed to normal seasonal fluctuations, the overall trend was heartening. "In particular, we are seeing a gradual increase in full import container volumes. This is a good sign as we head in to the traditional busy import season ahead of Christmas," said Madsen. "We anticipate a similar trend with export volumes over the coming months."

Despite the positive signs, container volumes remain below 2008 levels with total teu for the July–September quarter down 5% year on year. Transshipment volumes were up 8% for the quarter compared with the equivalent period in 2008.

Madsen said: "Unrelenting cost pressures have seen the large international shipping lines run much leaner operations over the last 12 months. Lines have also cut back on capacity, reducing the number of ships calling New Zealand and the number of available container slots."

## New chief at UKHO

Nick Lambert will take over from Rear Admiral Ian Moncrieff in August 2010 as UK national hydrographer, deputy chief executive (hydrography), at the United Kingdom Hydrographic Office (UKHO). Lambert graduated in Geography from the University of Durham in 1983. He joined the Royal Navy as a seaman in 1977. He will report to the chief executive, and work with the international hydrographic community.



# Boost for US port security

US ports received a boost on 23 September: the release of \$150M under the American Recovery and Reinvestment Act, which has returned funding to the \$400M that ports have received in federal grants for port security in each of the past two years. The funds will bridge a funding gap for 2010 and help them hire security personnel.

"Without the economic stimulus package, if you kept our port security grant appropriations at the level they're likely to be, we would not have achieved the level we believe is necessary on an ongoing basis," American Association of Port Authorities president Kurt Nagle told *P&H*. "If we didn't have that level of investment in security enhancements that we can achieve through technology, such

as radiation portal monitors, we would have seen far more Draconian impacts on cargo flow and on vessels moving in and out of our facilities."

The port security grant programme began in 2002 and it took six years to reach that \$400M level. For 2010, however, the US House of Representatives has recommended it be cut back to \$250M, while the US Senate has proposed \$350M.

The grant programme does not, however, cover operations and maintenance of security equipment or security personnel labour costs (the ports' biggest expense). It also requires ports to match 25% of the grant they receive – a requirement that the AAPA says has deterred some ports from even applying for

grant funding in the past.

The \$150M stimulus addresses ports' two main complaints by allowing the money to be used for hiring security personnel and by waiving the matched funding requirement. Vessel owners should benefit from the extra money too. Nagle pointed out that "because some of those security aspects do get into pier security and nearby water security, it also increases the security of their vessels when they're entering US ports".

According to Nagle, "A lot of the security enhancements are used to help ensure that measures taken to secure cargo are done in an efficient matter, so they're not unduly slowing vessel loading and unloading, which keeps deliveries on schedule."

## Bahrain implements ballast regs

Sea operations in the waters of Middle East will be affected by the decision of the regional states to put the IMO's ballast water rules into force from 1 November. Any non-compliance will be unacceptable by the turn of next month, said Captain A M Al-Janahi, director at Bahrain-based Marine Emergency Mutual Aid Centre, claiming that ship operators were given three months to prepare.

The Regional Organization for the Protection of the Marine Environment (ROPME) is also studying a unified penalty regime for non-compliance with ballast water rules. "Right now, the respective state can impose the penalty either by fines, detaining the ship or rejecting to accept the ship," Al-Janahi said. He added that the regulations will have no effect on shipping operations.

## Function upgrade simplifies transfers

An upgraded customs procedure for the transfer of import cargo from Fos container terminal to the adjacent Distriport logistics zone has been introduced after trials earlier this year.

A new 'transfer database function' for the Marseille Fos port information system, known as AP+, has removed the need for shippers and forwarders to provide an individual customs transit document for each container, the port announced. The function was developed by system provider Marseille Gyptis International in collaboration with customs authorities, shipowners' and forwarders' associations and the Marseille port authority.



The new system is expected to cope with an increase in boxes

It is hoped it will simplify the import transfer of 175,000 import containers a year. This number is set to treble by 2012 with the

opening of new warehouses at Distriport and growth in traffic at the Fos 2XL container terminal extension after it opens next year.

## Dredging

### VITAL DREDGING

Oklahoma-based Govcon has removed around 115,000m<sup>3</sup> of material from Florida's Ponce de Leon harbor in a move to restore safe navigation. The \$1.9M project, which was part-funded by the American Recovery and Reinvestment Act, saw the harbor channel dredged to maintain federally authorised depths.

### PROGRESS IN ITAJAÍ

Dredging works along the access channel and turning basin of the Rio Itajaí-Açu dock complex have been restarted. Van Oord subsidiary Somar Serviços de Operações Marítimas will remove a sandbank left over from last year's floods, allowing full restoration of the pre-flood draught of 10.5m. Around 400,000m<sup>3</sup> of material will be removed by trailing suction hopper dredger HAM 309.

### DONE AND DUSTED

A 12-year harbor deepening scheme at the Port of Oakland, USA, has been completed at a cost of \$432M. Work included the widening and deepening of the harbor entrance, outer and inner harbor channels and two turning basins. The port is also working on a joint funding proposal to strengthen the wharf at its APL terminal ahead of deepening work to take the berths from 12.8m to 15.2m.

### UPGRADES FOR SFDS

The Brazilian Port of São Francisco do Sul will follow up its recent \$150M expansion project by deepening its channel from 10.5m to 14m. The federal government will spend around \$40M on the dredging and other improvements at the port, which has doubled operating capacity to 600,000teu a year with the opening of its Terminal Santa Catarina.

### LOOKING TO THE FUTURE

Construction of a 136km shipping channel at the Port of Lianyungang, eastern China, has started. Around 71km of the channel will need to be dredged. It's hoped that the project will set the ball rolling for the transformation of Lianyungang into an international shipping hub.

# Double vision

Ports have obligations to both sea and land during the decision-making process. The issue of climate change is no exception, **Kurt Nagle** tells *P&H*

**S**eaports are the economic lifelines to the global market. They are busy, dynamic transport hubs that act as part of a country's water border for security and as stewards of their coastal environment. They are constantly adapting to global trade, security and environmental demands while they connect us internationally.

Seaports serve as a nexus between land and water, allowing people and cargo to move easily between the two. For centuries, ports have straddled our coasts, with one foot on firm earth and the other in deep water. They know the opportunities and constraints of both worlds.

In recent years, environmental issues have become one of the pre-eminent challenges facing ports, which continuously address these issues on land and water. And for ports, air and water quality are both of critical importance.

It's no surprise that the issue of climate change again confronts ports in two ways. Large stationary emissions sources – refineries, power plants and factories – see the challenges of climate change primarily in terms of reducing greenhouse gas emissions. Coastal planners, however, have to consider the potential effects of a warmer climate, in the form of sea level rise and more frequent extreme weather events, such as hurricanes. Ports must view climate change through both lenses.

The American Association of Port Authorities (AAPA) is pleased to be working with IAPH and the European Sea Ports Organisation (ESPO) in the World Ports Climate Initiative. In November 2008, AAPA hosted a Climate Change Workshop in Houston, Texas. This workshop discussed climate change in the context of ports, including the impacts of climate change

on port facilities and navigation channels. The workshop also included an overview of the regulatory environment at the local and federal level as it relates to greenhouse gases and a panel discussion of what port authorities can do – or should be doing – to mitigate the effects of greenhouse gases.

In the US, Congress is considering a cap-and-trade regime to regulate greenhouse gas emissions. Under this proposed programme, the federal government would set an overall limit on emissions and distribute allowances or credits to polluting entities. Emissions sources that have more credits than they need may trade them with sources that have more emissions than are allowed. While legislation is far from finalised, the bill that has had the most momentum to date (HR 2454, also known as the Waxman-Markey Bill) would raise the cost





of greenhouse gas emissions in order to provide an economic incentive to decrease emissions. While not part of the cap-and-trade programme itself, the bill would require the US Environmental Protection Agency to set greenhouse gas emissions standards for mobile sources, including heavy-duty trucks, marine engines and locomotives – the kinds of engine that operate in and around ports.

A cap-and-trade regime may present opportunities for ports in the way of alternative energy sources. As windfarms gain prominence, ports are vying to handle the lucrative traffic in components required to make this energy source a reality. Additionally, ports in the Americas may follow their European counterparts in locating windfarms on port-owned land or using wave technology as a means of electricity generation.

Of equal importance is the need to adapt to the projected effects of climate change. It is difficult, however, for ports to know precisely what course to take, as the rate of sea level rise and the increase and intensity of weather events are still the subject of much research and modelling. The impacts of climate change may present specific challenges throughout a port, including maintenance of the authorised dimensions of navigation channels, stability of quay walls and breakwaters, capacity of stormwater drainage systems, location of future disposal sites for dredged material, and

“Once again, port authorities are the nexus point for two aspects of one issue”

vessel clearance under bridges. The associated cost implications could also be significant. Ports may be forced to undertake major construction projects to ensure that vessels can still use their facilities in the future.

Ports need data to help them understand the changes that may be coming their way. AAPA is urging its federal partners, including the US Army Corps of Engineers, the National Oceanic and Atmospheric Administration and the Environmental Protection Agency, to help provide this information to inform ports' planning and decision-making processes.

One tool that will be critical in adapting to climate change will be marine spatial planning. In the US, the states of Massachusetts and Rhode Island are blazing trails on marine spatial planning, working to plan for multiple, and often competing, uses of the ocean. AAPA believes that marine spatial planning offers opportunities to protect critical human uses of the ocean, including current and future working



waterfront areas that deliver prosperity for their communities, regions and country.

While the challenges of climate change are relatively new to port authorities, the situation confronting ports regarding this issue is familiar. Once again, port authorities are the nexus point for two aspects of one issue. As countries determine how they will approach greenhouse gas emissions and coastal communities determine how to adapt to, and prepare for, the possible effects of climate change, seaports must continue to have one foot in each world. **PH**

*Kurt Nagle is the president/CEO of American Association of Port Authorities (AAPA)*





# Changing places

Growing numbers of ports are using staff exchange schemes to expand the experience of their personnel and to develop their professional skills. Journalist **Scott Berman** explores how widespread and how effective these programmes have been

**P**ort staff exchanges – in which professionals spend extended periods in counterpart ports for training and other professional purposes – are becoming increasingly common. They take many forms, varying in the numbers of staff involved, the types of professional participating, the areas of expertise covered and the duration of the exchanges.

But there's one constant: those who support such programmes recognise the need for diverse, challenging training opportunities for port professionals, international understanding and co-operation, and building relationships across the global port community.

It is difficult to quantify how many staff exchanges are under way between ports around the globe. Many

programmes grow out of sister port relationships, which foster co-operation around the globe with varying degrees of formality. The Port of Los Angeles, which has 10 sister ports, is a case in point. Formal staff exchanges between Los Angeles and the ports of Nagoya, Tokyo, Yokohama and Osaka take the form of fact-finding delegations, both inbound and outbound. Typically, each visit lasts for a few days, according to Phillip Sanfield, director of media relations for the Port of Los Angeles.

Yet in the past – before the recession of the early 1990s took hold – the scheme was more ambitious and, Sanfield enthused to *Ports & Harbors*, “the exchange was extremely positive in terms of exchange of technical information as well as culturally”.



Other exchange programmes are rather more comprehensive, as in the case of the Port of Rotterdam. About 40 Rotterdam staffers have each spent periods of up to two years lending their expertise at the Port of Sohar, Oman, according to Sjaak Poppe, spokesman for the Port of Rotterdam. In turn, about 20 port professionals from Oman have spent up to six months in Rotterdam for advanced training and to share best practices. The initiative is part of Rotterdam's joint venture with the government of Oman to manage the facility near the Strait of Hormuz. The JV started in 2002 and its staff exchange arm will help implement Sohar's policy of employing local professionals in key port positions.

Officials at the ports in Rotterdam and Saint-Louis in Senegal are in talks about another programme tied to international development aid. This would see Dutch specialists spending two weeks in Senegal providing consultancy services, free of charge, on inland navigation, board management, port construction and water quality.

Poppe added that, although this would constitute "quite a short involvement, it would give people in Senegal ideas and opinions". Simultaneously, the programme is expected to be a valuable learning experience for the Dutch participants and will serve to demonstrate in a proactive way Rotterdam's commitment to corporate social responsibility.

There is a different kind of staff exchange programme under way between Ports of Auckland (POAL), New Zealand, and its sister ports of Hakata, Japan, and Shanghai. Each port will host an employee from its counterpart for three to four weeks in alternate years, explained POAL managing director Jens Madsen. It's tied to an Auckland professional development programme that supports junior managers in various business areas around the port with training outside the port.

"Gaining an international perspective of the ports and shipping industry, and seeing a different container terminal operation first hand, will be extremely beneficial for both parties," said Madsen.

This year, one of the first two Auckland professionals to go through the programme, Colin Tasi, went to Hakata in May and June, while the other, Julian Clarke, spent time in Shanghai as the host of a Chinese shipping line, which is a customer of the port.

Osamu Takashima, Hakata's director of port promotion, believes the programme helps to increase cultural understanding along professional lines. He explained: "Differences in culture and environment often cause differences in how to use, operate or develop the same kind of port facilities." Visits, and seeing other facilities first-hand, are keys to mutual understanding, he believes. A Hakata professional is likely to travel to Auckland next year.

Takashima described the programme offered to those who visit Hakata. The visitor will spend up to three days in various departments around the port and finally undergoes a debriefing session. "The staff exchange programme makes the relationship between two ports closer and gives trainees experiences from

“It is through exposure to other cultures that we are able to understand their protocol”

which each of them can grow and develop their careers," he added.

Tasi spoke highly of his experience. "This was a significant business opportunity in my career development, which had a real and positive impact on the way that I now conduct business within the Ports of Auckland," he told *P&H*. As he put it: "Shipping is an industry with a great cross-cultural dynamic and it is through exposure to other cultures that we are able to understand their protocol and learn how to effectively apply best practices."

Madsen added: "Fostering the development of the future leaders of the ports and shipping industry is vitally important. We look forward to arranging future exchanges for our up-and-coming graduates to our sister ports, including Hakata, Shanghai and Guangzhou, as well as with our customers and other sector contacts around the world."

But staff exchanges take time and "time is too precious," declared Paul Verkoyen, managing director of Antwerp Port Authority's APEC-Antwerp/Flanders Port Training Centre, which conducts training and management seminars for international professionals.

In today's tough economic conditions, many port operators cannot spare a highly trained professional to take part in a lengthy exchange. As a result, many ports choose the more straightforward alternative of international seminars: APEC, for example, runs programmes in Antwerp and the Flanders region, which have been attended by men and women from 140 countries. Now, in a new programme, APEC lecturers are travelling abroad for sessions with top and middle managers.

Trainees raise many topics – logistics is a regular theme now – but Verkoyen cited a particular issue that runs across many borders and cultures: internal communication problems. There is no silver bullet, said Verkoyen, but APEC trainers emphasise interactive discussions, listening skills, and aligning programmes and procedures with common objectives.

Looking ahead, Verkoyen revealed that Antwerp is in discussions with several countries about future co-operation over lecturing and sharing expertise and experience. One of those countries is Vietnam, which Verkoyen visited recently to hammer out a related collaboration agreement.

Gaining valuable intercultural experiences, sharing common concerns and best practices, and building global port relationships should remain important objectives for port professionals. Staff exchanges, in all their diversity, are a well-proven way to achieve those objectives. **PH**





## Striving for virtual consistency

As more ports take the opportunity to use simulators in their training programmes, an EU project seeks to harmonise the ways in which they are employed. **Tom Bailey** reports

**A Drilling Systems crane simulator... simulators produce lower carbon emissions than the real thing**

**P**orts in the EU are increasingly using simulation products for training, but the administration of that training is not standardised. The Operational Port Training Models Using Simulators (OPTIMUS) project aims to change all that by developing a common European approach to the application of simulation techniques to the operational training of port staff.

The burgeoning use of simulators has been prompted by fears that traditional on-the-job training is no longer sufficient to provide today's ports' staff with the necessary skills and competencies and understanding of safety and efficiency standards. And while the use of such equipment can have considerable benefits for ports and their staff, the OPTIMUS project's stance is that, for optimal use, specific skills and methodologies are required. OPTIMUS, which got under way in November 2008 and will run until October 2010, is developing an all-encompassing approach for the benefit of training providers and workers alike. Organisations playing an active role in the project include Valencia's FEPORTS, Livorno Port Authority, Sociedad Estatal de Estiba y Desestiba del Puerto de Valencia (SEVASA), Grand Port de Marseille,

Pisa's Scuola Superiore Sant'Anna university and regional business development company RRC Koper.

One of the project's first tasks has been to produce a report on how widespread the use of simulation in training has become. "On the basis of the report, we note that the simulation industry in the maritime sector is widely expanding – especially in those ports that have benefited in the last decade from Far East traffic growth, such as Valencia, Marseille, Genova and Livorno," Julio Martínez, head of FEPORTS' training department, told *P&H*.

"However, despite a certain level of availability of simulation devices in European ports and logistic facilities, specific information and reference material for vocational training providers is still lacking."

The OPTIMUS project is based on the premise that standardised simulation-based training at ports will increase operators' efficiency, free up equipment availability for live cargo operations and decrease the risk of accidents. "In the competitive business of port privatisation and port holding operations, more widely used simulation environments for training could offer a proven competitive advantage and risk management support," said Martínez. While OPTIMUS is a European





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## “ More widely used simulation environments for training could offer a proven competitive advantage ”

initiative, there is scope for the ideas behind it to spread further, he added: “The simulator market might be relatively small in numbers, but it’s global in scope.”

The advantages stemming from the use of simulation technology for port-side training are clear; the most obvious benefit is the removal of the costs associated with using port equipment. Operating costs and depreciation of machinery are no longer an issue when simulators are used – and neither is the loss of operational capacity that normally goes hand in hand with the use of port machinery for training purposes. The partners behind OPTIMUS point out that the potential for damage to machinery by novice trainees is also something to be factored in when deciding between simulator and on-the-job training. Further, they believe that students who learn through the use of simulation technology are more likely to succeed with their training.

Shipping and Transport College (STC) provides a wide range of maritime training, including advanced crane and straddle carrier simulator training for terminal operators in Rotterdam. The company (part of the STC Group) is clear on the advantages that virtual training can provide: “The simulators make use of a range of scenarios taken from real-life situations, including some situations which can never be re-created in a real-life surrounding like a terminal – such as a straddle carrier falling over,” STC’s Ronald Janssens told *P&H*.

Simulator producer ABB, which has provided equipment to the Port of Göteborg and Karachi International Container Terminal among others, is just one of many companies offering simulators that go the extra mile in helping students feel they are operating a ‘real’ machine. The company’s CS800 crane system uses servo drives to move the cabin in an authentic manner during use. In addition, Global Port Training is one of several companies that offer a mobile simulator that can be taken in to those ports looking for a more flexible approach to training.

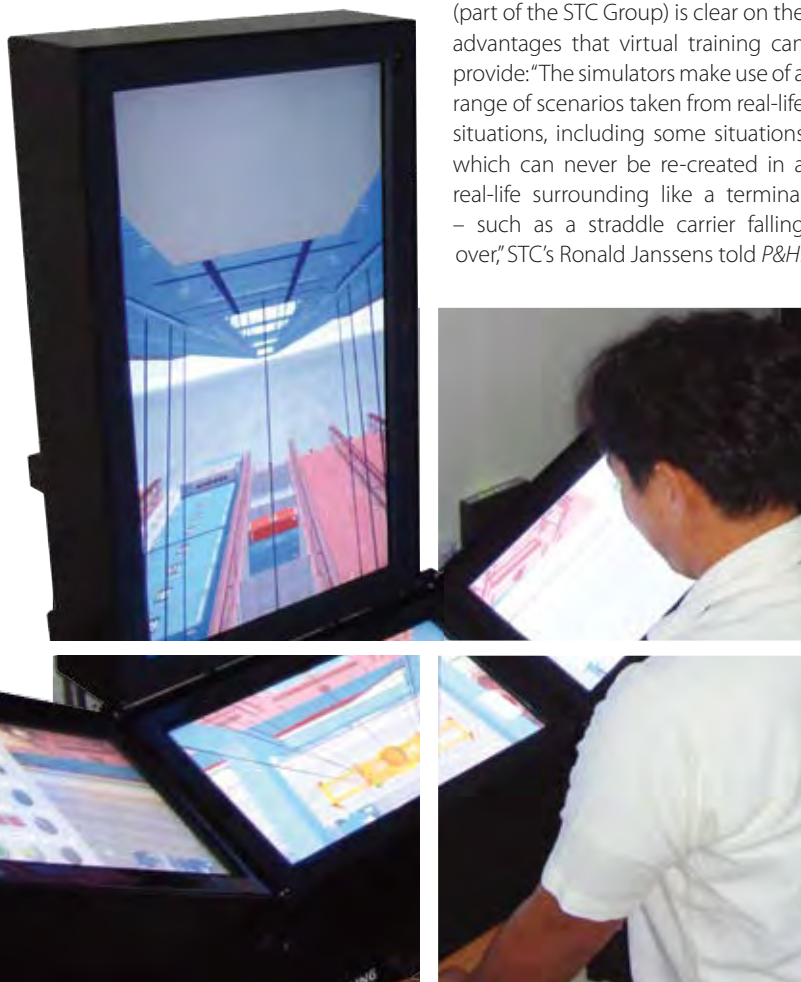
UK-based Drilling Systems has supplied its crane simulator, KraneSIM, to the ports of Felixstowe and Cork and also DP World’s terminals in Dubai and Vietnam. Sales and marketing director Ed Ramsey told *P&H* that the use of simulators in training offers other, less obvious, benefits: “We had a visit recently from one of the major global terminal operators. They said one of their cost justifications when looking at simulators is the reduction in carbon emissions when using the simulator compared to a real crane. I don’t have the exact numbers, but they seemed quite confident that it was a cost benefit.”

Simulators alone aren’t the be all and end all, though; crane manufacturer Liebherr says it’s crucial that machinery operators receive a well-rounded period of education that includes both simulation and hands-on training. Liebherr uses a KraneSIM simulator at the training department of its Maritime Division’s headquarters in Nenzing, Austria, and every purchaser of a Liebherr mobile harbour crane receives a two-week training course.

The first week, which covers theoretical training at Nenzing, gives attendees the opportunity to try out the simulator to get a good feel for the machine. The second week, by contrast, provides on-site practical training once the crane has been installed – and Liebherr’s Thomas Bachmann told *Ports & Harbors* that it’s crucial that this second part of the training takes place alongside simulator work: “While the crane simulator uses the identical seat and control panel as the original cranes and also allows the simulation of every crane movement as well as the simulation of errors or unforeseen circumstances – such as strong wind or a collision with another crane, for example – it still makes a difference to sitting in the ‘real’ crane. That’s why we always recommend both training sessions, theoretical and practical, to get an optimum preparation for day-to-day operation.” **PH**

More info: [www.optimus-project.eu](http://www.optimus-project.eu)

**KraneSIM is available in various specifications, from large-scale replica cabs down to desktop and even laptop versions**





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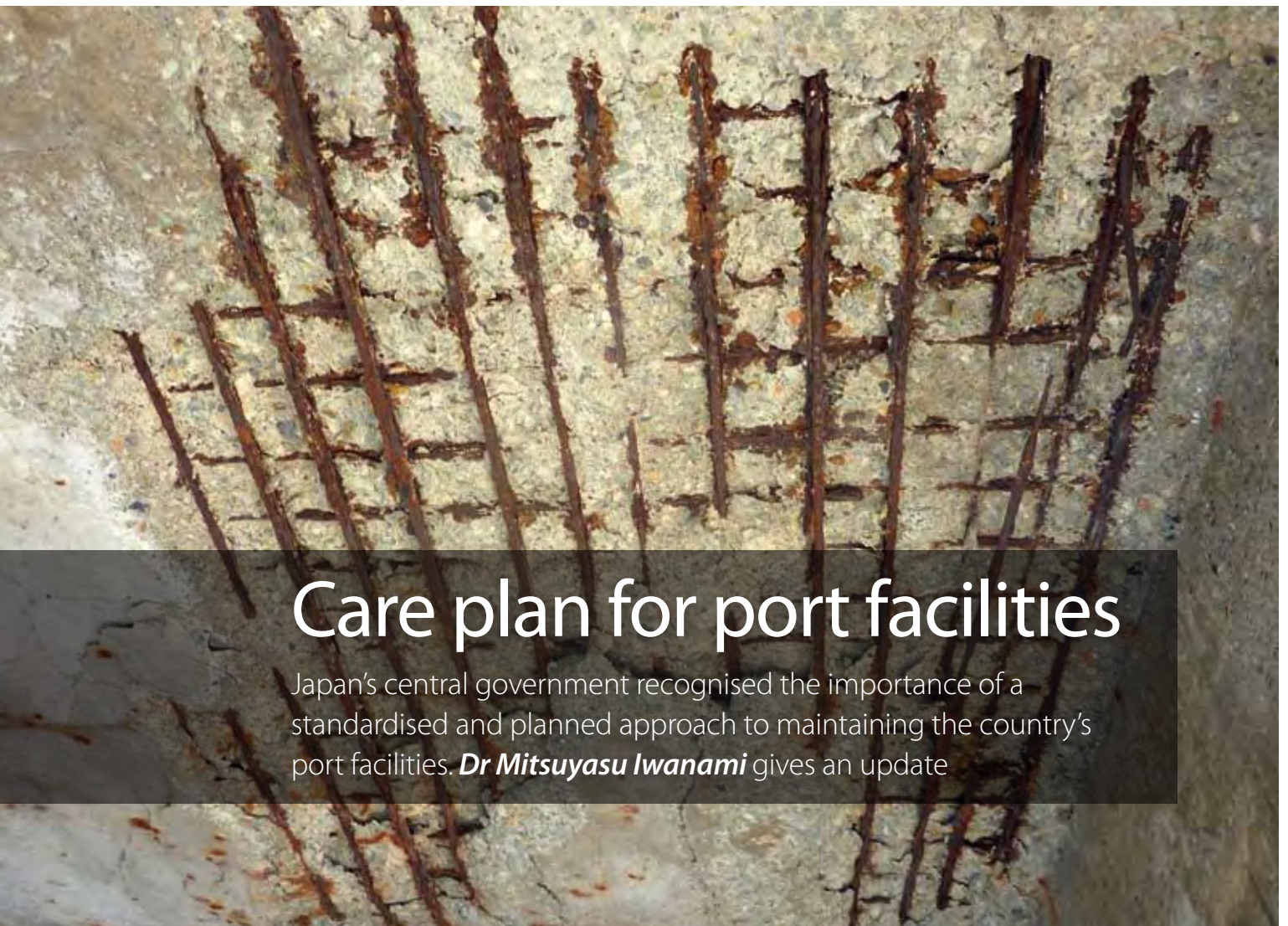
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## Care plan for port facilities

Japan's central government recognised the importance of a standardised and planned approach to maintaining the country's port facilities. **Dr Mitsuyasu Iwanami** gives an update

**Deterioration in the superstructure of an open-type pier has been caused by chloride in sea waves. The structural performance of these concrete members has degraded significantly, necessitating urgent repair and reinforcement**

Port facilities are affected by harsh marine conditions. Material deterioration and damage to components are likely to occur throughout a structure's service life. To avoid dangerous degradation it is essential to carry out regular inspections and repairs as required, following a well-prepared maintenance plan.

With the age profile of Japan's port facilities continuing to rise throughout the country, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) conducted a nationwide inspection of state-owned harbor structures such as breakwaters and deepwater wharves between 2003 and 2006. Its review of the damage and deterioration was aimed at evaluating the structures' functional capability and safety.

Based on this survey, in April 2007 the MLIT produced the procedures and standards required to create a port facility maintenance plan. These standards stipulate that each port facility – channel, basin, breakwater, wharf, embankment, port road – must be maintained in accordance with its respective maintenance plan. The plan should be prepared by the owner of the

port facility, be it central government, port authority or private company. Japan's central government will complete maintenance plans for 1,200 of its facilities (out of a total of about 2,200) by the end of 2009.

These plans should be based on the life-cycle management (LCM) concept, providing details of regular inspections, including the method, timing, frequency and procedure to be followed. It should also set out procedures for the overall evaluation of repair work options, taking into account any financial implications, the facility's priority status, possible contingency measures and so on. Finally, it should include an implementation plan for those repairs that have been selected.

When developing an effective maintenance plan, it is important to consider the purpose of the facility, its residual lifespan, required performance and natural conditions. There are three approaches to, or types of, planned maintenance depending on the structure in question (see box).

Different parts of a structure need different types of protection and maintenance. In the case of an open-



## Three ways to approach planned maintenance

**Type 1** – take a high level of precaution so as to maintain the structural performance of the facility over the service period well above the required level. For example, applying structures of longer life than the intended service period by using concrete structures with reinforcing bars of anti-corrosion steel (for example, stainless steel or epoxy-coated steel).

**Type 2** – repeat small-scale repairs at each stage of early deterioration so as to maintain the structural performance of

the facility above the required level. Typical examples are to plan repeated surface coating of concrete structures or the exchange of anodes of cathodic protection for steel piles and sheet piles.

**Type 3** – allow for a certain level of deterioration provided it meets the required level of performance, and apply large-scale repair works once or twice during the service period. This approach normally applies to structures of shorter life than the overall service period, such as yard pavement and wharf fenders.

type pier with steel pipe piles, those piles have to support the structure of a pier over its service life, so a preventative corrosion protection system should be installed. Cathodic protection will be needed for the underwater section and a surface coating applied to the tidal and splash sections, as in type one (see box).

The concrete superstructure of a pier, however, will quickly be affected by chloride, so applying preventative measures far in advance is not a cost-effective option. This sort of material requires regularly applied countermeasures during its service life, as detailed in maintenance approach type two (see box). Selecting the type of maintenance is the most important step to achieve the strategic maintenance required under the LCM concept.

The Port and Airport Research Institute (PARI), of Japan has played a central role in developing procedures and technical standards for the LCM-based maintenance plan.<sup>1</sup> At the moment, PARI is working to produce a practical and simplified inspection method. While inspection is a crucial part of maintenance, an extensive and thorough investigation often proves to be a costly and time-consuming exercise that hampers port operations. It also involves taking some samples out of actual structures to send to the laboratory for testing and evaluation.

To replace such extensive investigation with visual inspection in the field, PARI is analysing the relationship between the symptoms of deterioration that appear on concrete surfaces and degrees of structural degradation. Researchers extract concrete members from the decks of open-type piers and inspect them visually for signs of deterioration and also subject

these members to a loading test to measure their load-carrying capacity.

The load-carrying capacities of members with different structural details are then compared. To make the comparison fair, the capacity of each member must be 'normalised' using calculations based on 'beam theory'. This calculation takes into account the material's properties, the shape and dimension of member, and so on. As it receives feedback from the nationwide inspections, PARI should be able to present ports with a more reliable and simplified evaluation method based on visual inspection.

PARI is also developing a method for forecasting the deterioration of various structures. If effective maintenance plans are to be compiled, it is essential to be able to predict the extent of deterioration over a structure's intended service period as accurately as possible. Based on extensive analysis of inspection results, the study is expected to provide reliable forecast methods of deterioration for structures, taking into account a number of contributory factors. **PH**

*Dr Mitsuyasu Iwanami works in the Structural Mechanics Division at the Port and Airport Research Institute, Japan*

## Reference

[1] Yokota, H, Iwanami, M, Yamaji, T and Kato, E (2008). *Life-Cycle Management of Concrete Structures in Coastal Areas*. Proceedings of 2nd International Workshop on Life Cycle Management of Coastal Concrete Structures, Hangzhou, China

**Right: Removal of a deteriorated section. It will be replaced to strengthen the superstructure. Far right: A large-scale loading machine is used for testing the concrete member's integrity**



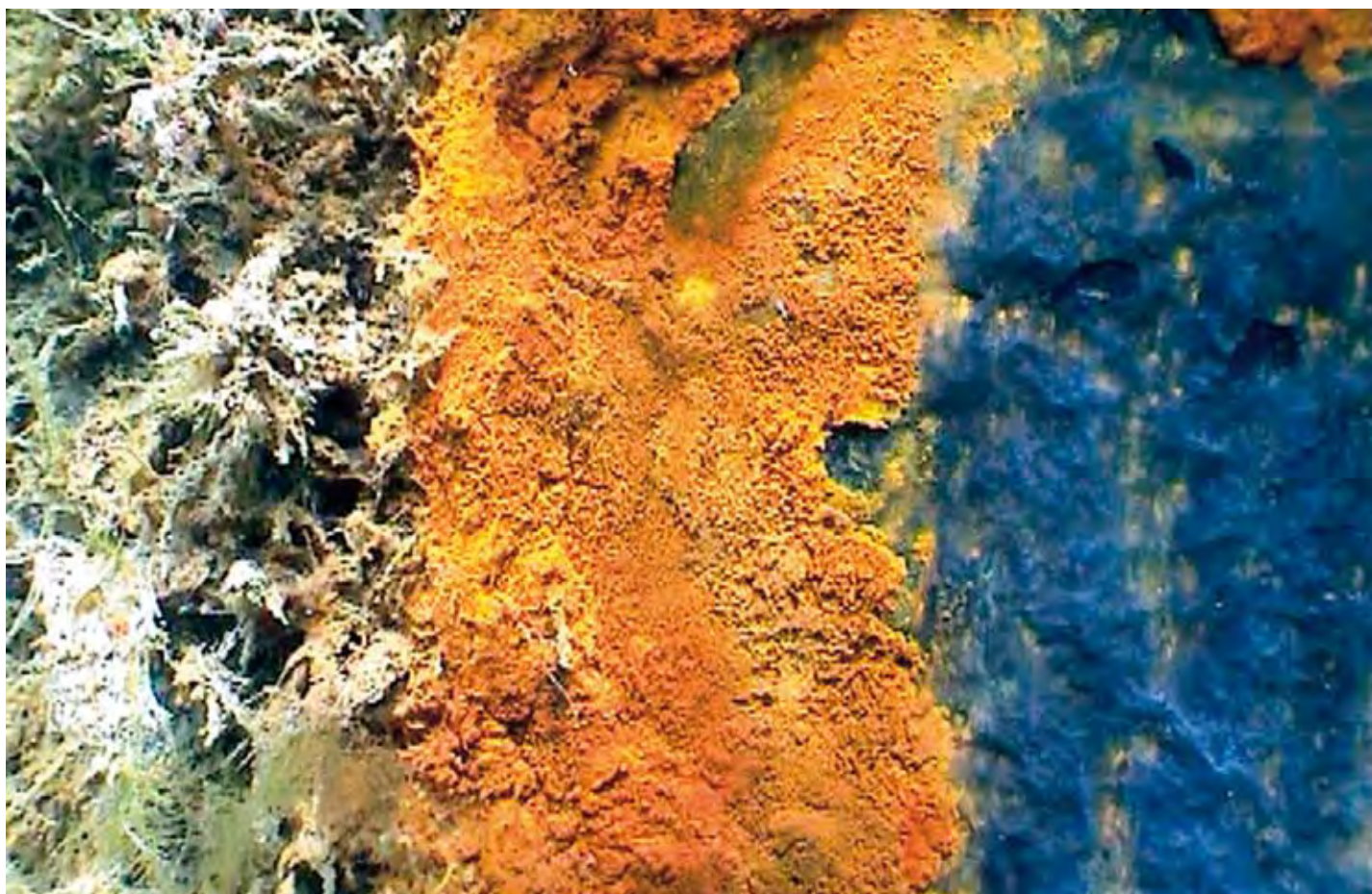


Photo: Mott MacDonald

## Fighting fast decay

New technologies are emerging to treat corrosion at low water levels, journalist **David Worwood** reports for *P&H*

**Loosely attached orange corrosion is a sign of ALWC**

**E**ngineers fighting the never-ending battle against seawater corrosion of port infrastructure may soon have better knowledge about an innovative treatment option.

Research in the UK is nearing completion into a method of pulsed electric current-applied coating, commercially known as LATreat, aimed at the problem of accelerated low water corrosion (ALWC).

A report on the findings from several trial sites around the British coast – including the ports of Aberdeen, London, Shoreham and Harwich – should be released in March 2010. The report will assess LATreat's effectiveness and longevity. The UK's Department of Business, Innovation and Skills is sponsoring the three-year research project, whose participants include engineering consultants Mott MacDonald and BAC Corrosion Control, which co-developed the process.

LATreat is a localised impressed current cathodic protection (CP) system that makes use of the electrochemical properties of seawater to clean and

sterilise the steel with hydrogen and chlorine, finally coating the metal with a protective alkaline layer of magnesium calcium carbonate. It is applied by modular mesh electrode units and treatment takes five to seven days.

Neil Henderson, senior project manager with Mott MacDonald, said the treatment process was patented in the late 1990s, after which there were small trials. He reported "promising results in terms of the application in treating ALWC areas and providing a fairly durable coating". According to the company, the process is sustainable and environmentally safe, as it employs natural salts found in seawater. The potential exists to pre-coat new structures.

ALWC is an aggressive form of low water corrosion that occurs in tidal and brackish waters on steel maritime structures. It is induced microbially, and symptoms include patches of loosely attached orange corrosion product over a black iron sulphide-rich underlayer. There is some debate over rates of decay,



## Responding to ALWC is best done on a case-by-case basis, as every harbor and its structures differ, as do corrosion rates and other factors

but these may be up to 5mm a year; normal seawater corrosion rates for unprotected steel in UK waters average 0.15mm a year.

Corrosion holes in sheet steel piling may lead to a loss of fill material, especially if tides are strong, which – in the worst cases – may cause a catastrophic collapse of a back-filled quay surface. If an underwater structure has a design life of 50–60 years, ALWC could reduce this by as much as two-thirds and the asset's value will fall correspondingly.

Just how widespread is the problem? In late 2005 the UK construction industry association CIRIA published an influential guide on ALWC entitled *Management of accelerated low water corrosion in steel maritime structures*. This revealed that around 57% of survey respondents' harbors suffered from the problem. More recent estimates suggest the prevalence is much higher and evidence exists that the problem occurs in most regions of the world.

Nevertheless, the focus on ALWC is probably less intense today compared with five or 10 years ago. Visual inspection coupled with steel thickness measurements are the only means of identifying this form of corrosion, which first came to the fore in the early 1990s. Experts believe that the microbes involved might have been spread in ships' ballast water.

"What took us all back was the rapidity of its spread and its impact on quite a number of ports almost simultaneously around the globe" one British port engineer told *P&H*. "If this corrosion is well on its way, it seems to get quicker and quicker. If you leave it for two

or three years... that could be the difference between having steel and having holes."

The condition itself may be complex, but the solutions remain relatively simple. For newbuild installations, civil engineers are advised to build corrosion protection against ALWC into their designs. For remedial work, proactive and prompt intervention is the key to saving money on repair work, because patching up advanced cases, especially holes in the steel, invariably proves far more expensive.

Responding to ALWC is best done on a case-by-case basis, as every harbor and its structures differ, as do corrosion rates and other factors. For example, since CP is only effective in the submerged zone, many experts also advocate the use of appropriate coatings. Flexcrete Technologies, for example, manufactures a 2mm thin-film anti-corrosion coating, Cemprotec E942, for concrete and for ALWC-affected steel structures.

The coating can be applied at low tide, without a primer, and is said to be environment-friendly. A bacteriocidal product such as Sanosil, which has hydrogen peroxide and silver as active ingredients, can provide additional protection, Flexcrete suggested.

Flexcrete's biggest-selling material worldwide is a waterproofing product, Cementitious Coating 851, which provides a barrier to chloride ingress. This is a perennial problem for seaports, as salt penetrates the concrete, causing spalling and corrosion of the steel reinforcement. "A coating is great so long as it's 100% – but I've yet to see a spotless pier," was one corrosion expert's view. **PH**

## Working in the dry

The caisson technique has been used in the past few months to replace bottom rails of the Port of Antwerp's four Zandvliet lock gates to minimise disruption to shipping

Construction company P Roegiers has been working on behalf of the Flemish Region's Maritime Access Department and is scheduled to complete the project on 7 December.

The technique has been used before, for example during Antwerp's 2006 repair of Kallo lock's bottom rails, and involves removing the four gates one at a time. After a cleanup, a 53m-long caisson is placed over the rails, followed by a sealing panel positioned in front of the gate recess, which is then pumped dry. Once the bottom silt has been removed from the gate recess and gate course, technicians can work inside the caisson under normal atmospheric conditions.

The project has been managed and co-ordinated by Antwerp Port Authority in a way that keeps disruption to shipping at a minimum. Vessels with a maximum draught of 9.5m can sail through the lock whatever the state of the tide. For safety reasons, however, no ships have been allowed through while people are working inside the caisson.

Replacing the rails for a single gate took about eight weeks, but the port authority anticipated working on Saturdays in October and November to ensure on-time completion in December.



Photo: Port of Antwerp

# Single window of opportunity

Although they have a way to go before becoming truly commonplace, the evolution of port community systems has helped boost efficiency, reports journalist **Tom Bailey**



Photo: Aeroview/Dirk Sellenraad

**Rotterdam is just one of the growing number of ports championing the use of PCSs**

**P**ut simply, a port community system (PCS) is a piece of port infrastructure that enables the quick and easy sharing of data between all relevant parties, including shipping companies, terminals, freight forwarders, port authorities, governmental control agencies – the list goes on. A PCS typically allows this information to be accessed via a single ‘window’, reducing time-consuming paperwork and eliminating duplication of work.

Ports around the world are citing the implementation of their PCS as the driving force that enabled them to cut costs and make port performance more efficient through the slashing of transaction and operations cycle times. Comparatively few PCSs are operating, but

those ports that have introduced such systems – from Barcelona to Busan – have reaped the benefits that such a streamlined process brings.

Pascal Ollivier, vice-president of SOGET, a public-private partnership that operates the Port of Le Havre’s PCS, told *P&H* that the advent of these systems has had a dramatic effect on the way ports do business: “It takes about 20 transactions to import cargo. In a PCS everybody knows their role, we cut down on paper and can increase productivity.”

The journey to such an efficient system hasn’t been without its hurdles, Ollivier noted. Le Havre’s current AP+ system – a single electronic window that “automates, optimises, orchestrates and secures business



processes" between all port supply chain stakeholders – is the result of many years of technological advances. He explained: "At the end of the '70s, there were many carriers in the supply chain and many companies exchanging data. We had the idea: why don't we build a community-based system, so that we can centralise and standardise the supply chain?"

Other ports followed suit, but met stumbling blocks along the way. "The most advanced ports were using electronic data interchange, which emerged in the early '90s, but this often involved as many as 30 carriers and proved too complex for those handling resources," added Ollivier. But he's confident that Le Havre's AP+ system – also in use at Marseille, Rouen, Nantes-Saint Nazaire, Bordeaux, Pointe à Pitre and Fort de France – has been worth the wait. "It's

taken 30 years to develop data standards and create an information exchange that is a technology-based, mission-critical system," he told *P&H*.

The AP+ system has five key benefits, according to SOGET. They are:

- A reduction in transit and dwell times
- Real-time tracking of all cargo movements and status changes, ensuring a secure supply chain
- Streamlined procedures in compliance with EU and French customs regulations
- Real-time arrival/departure notifications for EU export control, enabling exports to prove the effective exit of cargo
- Reduction in environmental impacts through the suppression of needless cargo/personnel moves and a reduction in paperwork

It is a significant improvement on what came before, said Ollivier: "At the beginning of 2000, the flow of data was an issue. The concept was put forward that the constant flow of data between the various groups enables free trade – and after five or six years ports like Rotterdam started to agree."

Together with Amsterdam, Rotterdam is attempting to take the idea of port community systems one step further. Portbase, a merger between Rotterdam's Port Infolink and Amsterdam's PortNET, was established in March 2009 and is envisaged as the national port community system for the Netherlands. The people behind the system say that Portbase, which currently offers 28 services to around 1,400 clients and handles almost three million electronic messages a month, can

play a leading role in port-related logistics networks both at home and abroad. "Logistic chains do not stop at the border," said a Portbase spokesman. "International information exchange is increasingly becoming both a matter of added value and of necessity. It is therefore logical that co-operation should take place between the port community systems of the ports in various European countries in future – and Portbase would like to play a key role."

It is not just ports in the Netherlands looking to go national with their systems, as Ollivier noted: "Each country is looking to establish a PCS operator. A lot of development, hardware, infrastructure and data formats have to be established, based on a UN standard."

While years of refinement have seen PCSs develop in leaps and bounds, evolutions in technology mean that they will become yet more efficient in the future. Michael Dempsey, director of ports, marine and intermodal at Indentec, told attendees of IAPH's 26th World Ports Conference that GPS, optical character recognition and mobile computing are facilitating greater visibility of movement and affording shippers more control through integration with the transportation fleet and warehousing systems.

But for all the positive aspects of the systems, a few potential pitfalls exist. One shipping industry spokesman told *Ports & H* that some problems are inevitable: "Of all the stakeholders, on a committee or in a forum, it is the ships' agents and the freight forwarders that have most involvement with the flow of cargo. But several agents or forwarders are often involved, and one of which may have control of as much as 40% of cargo movements. As these companies are in direct competition there could be a conflict of interest in any decisions made."

Despite such worries, the implementation of port community systems seems set to become commonplace as the observed benefits reach a wider audience. Following the presentation of the results of a questionnaire on PCS at IAPH's Houston Conference in 2007, the IAPH Trade Facilitation & Port Community System Committee was tasked to undertake an in-depth analysis of selected systems – including both Le Havre and Rotterdam, along with Barcelona, Felixstowe and Port Klang, among others – to identify precise functions and their impact on port activity, along with any problems and their solutions. The resulting report is expected to be ready in March next year. **PH**

#### Le Havre's AP+ PCS took 30 years to develop



Photo: PAH / Bizien Michel

# Gateway to Ashdod

Israel Ports Company built a sophisticated gate to maximise efficiency and safety. It won the silver plaque in the IAPH IT Awards. *P&H* reports on the project so far

**P**ort of Ashdod's new container terminal gate system takes in information from all the port's players to increase security and efficiency. Israel is a target for armed attacks and has to protect its ports as far as possible. The project has a budget of \$25M, of which \$5M has been devoted to IT systems. A second gate, at the Port of Haifa, is still at the design stage.

The Ashdod gate carries out checks that can be separated into three distinct stages (see panel on next page). Stage 1 is the security gate check, which is

followed by the pre-check gate and finally the main gate. Much of the data is directed through the MAINSYS network – an IT infrastructure that receives all maritime community information through paperless electronic data interchange (EDI) processes.

According to the IT Award paper the new gate system should yield significant savings in manpower, while speeding up truck operations. Across the three gates and the exit gate – four in total – the number of workers needed per shift with the new system is 16, as opposed to 44 in the previous system. It now takes just five minutes for a truck to transit from the port entrance to exit, whereas previously it took 20 minutes. These speedier truck throughputs are said to save \$11M.

Cost savings are not the sole criterion for evaluating the project's success, believes Israel Ports, which cites improved service times for customers and better security for both incoming and outgoing cargoes as highly desirable features. Amiram Heidecker, director,

## Main gate inspections

**Driver:** Recognised by RFID tags, biometric identification and picture

**Truck:** Recognised by a licence plate recognition reader

**Container:** Recognised by optical character recognition. The expected weight and actual weight are compared. Closures are inspected. Radioactivity and X-ray examinations are conducted

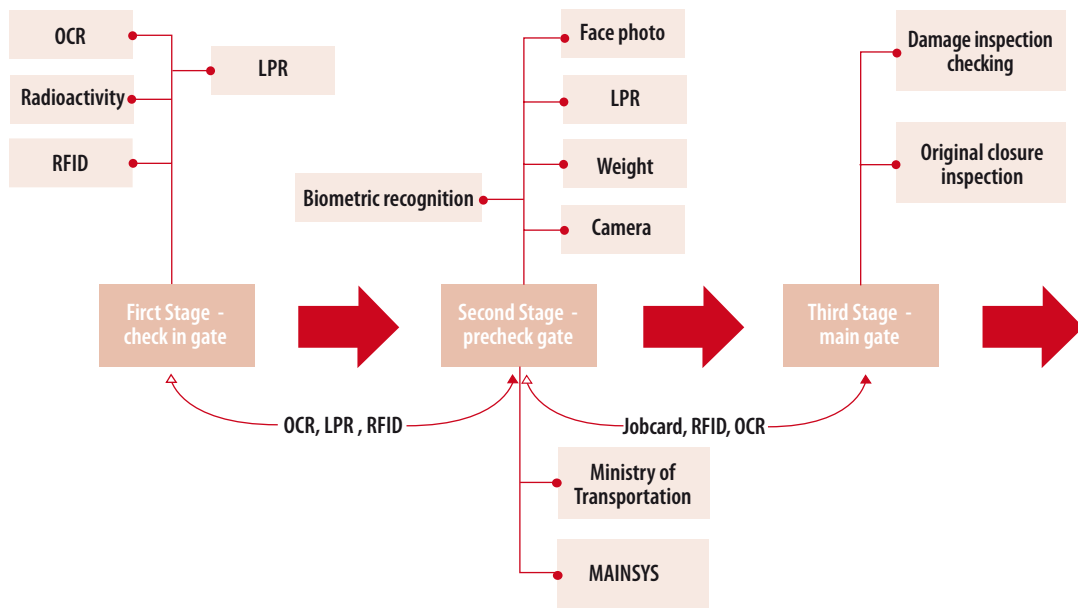
**Seafarers:** Recognised by biometric signature, document processing and picture

Photo: Israel Ports Company





## Passing through the gate



**The security gate automatically identifies the truck, driver and container numbers**

information technology at Israel Ports Company, told *P&H* that the reduced truck cycle time has cut fuel consumption within the port and consequently lowered air pollution. The safety and security benefits are noteworthy too, added Heidecker, as drivers do not need to get out of their trucks. Any problems that arise at the gate can be handled from a distance, "without the need for employees to be physically near the trucks when they pass through the gate". An extra benefit is that drivers no longer have to bring paperwork with them either to collect or to deliver goods.

Not all of the planned information systems have been fully integrated into the system yet. Israel Ports Company is adding two modules. A container damage control module will automatically take photographs of the container from all directions as it enters and exits, and compare the photographs with the appearance of a container that passes through the gate. "If there is a complaint about damages it is possible to trace the truck and compare [it] to the container photography in the gate," Heidecker explained.

The second module, Totem, is an information system developed in Israel that detects different types of radioactive material and automatically references it to a specific cargo in an existing list. This system avoids false alerts and the associated manual checking of containers, he said.

An interface with the Israeli police is also still to come, but many other interfaces are up and running.

Looking further into the future, the gate has also been designed to allow for quick adaptation to IT technology updates and changes as they arise. Heidecker explained: "Since the physical structure of the gate cannot change as quickly as technology does, the planners of the physical gate had to take into consideration possible future IT changes. Any future change may need new cables to pass through

## Three-stage security

### Stage 1 – Security gate check-in

- The driver's entrance permit is identified by his radio frequency identification (RFID) tag
- A licence plate reader (LPR) reads the truck's number and compares it to the anticipated number arriving from the exporter through the MAINSYS network
- An optical character reader (OCR) unit scans the container's picture to extract its number.

### Stage 2 – Pre-check gate

- The container's weight is compared with its expected weight by subtracting the full truck weight from its net weight. The data comes from the Ministry of Transportation and from MAINSYS (initially supplied by the exporter)
- Driver RFID tags and biometric ID are compared with the driver data received from the MAINSYS system
- The driver is photographed and the new picture is compared with the one in the database
- A job card is printed automatically and sends the driver to the correct location for loading or offloading.

### Stage 3 – Main gate

- Containers are inspected for damage
- Container closure number is checked
- Dangerous material inspection is carried out
- An empty container check is carried out.

the cement structure. Hidden within the cement and asphalt are hundreds of empty pipes, placed to allow for such possible future changes." The gate will also be expected to accommodate changes to work procedures and comply with new IT and security-related requirements. **PH**



Photo: Krispen Atkinson

## By the users, for the users

This year marks the 25th anniversary of the implementation of the Port of Felixstowe's port community system. **Alan Long** reflects

**Twenty-five years ago, Felixstowe became the first UK port to introduce a PCS. Since then, box throughput has mushroomed**

Felixstowe was the first port in the UK to introduce a port community system (PCS). The decision to develop and implement it was taken in 1981. It was a time when the port was in danger of being stifled by its own success, swamped by the paper documents, often in multiple copies, that had to be carried around the port. Yet Felixstowe handled far fewer boxes then than it does now. In 1984 – the year the PCS was introduced – total throughput was about 600,000teu; last year 3.1M teu passed through the port.

Players within a port – shipping lines and agents, forwarders and brokers, customs and other government authorities, transport operators and the ports/terminal operators – rely on information from each other to perform their functions effectively. Any activity in one sector affects other sectors.

The port recognised that if information could be passed between these sectors accurately and speedily and without paper, efficiency would improve, which would allow throughput to continue to rise through faster movement of goods.

To ensure the system's success, or at least avoid failure, the various components of the Felixstowe port community, including HM Revenue & Customs, were brought in to the design process and a project team was established. A major reason for the system's success is that it was "designed for the users, by the

users" – a philosophy that continues to apply today.

Maritime Cargo Processing was established as the community-owned company to manage and market the system. The project team was briefed to create a PCS to deal only with major operational processes. It was not to duplicate functions already being carried out by efficient systems. From the very beginning, it had to provide for the electronic exchange of data, including manifest information.

The Port of Felixstowe and many of its major customers, such as carriers and shipping lines, had invested heavily in their own systems and none of them wished to jeopardise that investment.

The first stage – direct trader input (DTI) – was implemented in January 1984 and provided freight forwarders access to the customs central declaration processing system through a single gateway, the PCS. Using direct trader input, declarations are sent by electronic data interchange (EDI) message to the customs system through the forwarders' links to the port community system. Here they are processed on a real-time, interactive, basis.

DTI alone helped improve clearance times dramatically, from four to five days to around six hours. Developments since 1984 have reduced clearance times to zero in the majority of cases – in other words, the customs system notifies the PCS of release



immediately on acceptance of the declaration. Release is delayed only those for declarations requiring further documentary or physical checks.

The second stage, comprising inventory control, was implemented 18 months later. The interval allowed the functional specifications to be completed and gave time for the contractor to develop the inventory control application and for volunteers from the port community to undertake full testing.

The basic concept of inventory control is to capture data relating to every import, export and transshipment container/consignment on every vessel, to store that data and to use it to allow the various sectors of the port to carry out their physical operations without having to resort to paper documents.

In the years since its original implementation the PCS has undergone substantial changes, additions and improvements. The concept of the system – to replace paper documentation with electronic equivalents – has not changed, however.

Almost 100% of the port's manifests are now received electronically into the PCS (see box right), predominantly using the UN/EDIFACT CUSCAR (United Nations Electronic Data Interchange for Administration, Commerce and Transport, Customs Cargo Report) message. The first manifest the port received in 1985 was electronic and replaced the seven paper copies that would have been circulated around the port. A screen input facility is available for the very few companies that do not have the capability to send data electronically.

Customs uses manifests submitted to the PCS for fiscal control, and those submitted to the system in CUSCAR format are forwarded to the central customs anti-smuggling system for profiling purposes. An extract of the manifest is sent to the port operator's own computer system and the manifest is also made available to government bodies involved in quarantine and agriculture. No paper manifests need to be produced to customs, to the port operator or to other government departments. The manifest data are stored on the PCS database and carriers can make amendments without having to obtain prior approval. Notifications of sensitive amendments are immediately given to customs.

The PCS allocates a unique reference number to each item on the manifest. This same number is also included in the associated customs declaration allowing automatic 'writing-off' to take place. As clearance messages are received from the customs declaration processing system, the PCS sends a message to the appropriate forwarding agent/broker and to the port, eliminating the paper customs release note. During discharge of the vessels, the port operator's own computer system sends messages to the PCS as each container (or, for general cargo, bill of lading) is landed. The PCS, in turn, sends messages to the carrier's in-house system and records the status on its database.

On completion of discharge, the PCS compares the data received from the port operator with that held against the original manifest. It issues 'discrepancy lists'

## Paper-free information

Port of Felixstowe's port community system has done away with many paper documents. The following represent the majority for which information is now transported electronically via the PCS:

- Manifests and associated amendments
- Customs release notes
- Ship's out-turn/discharge reports and amendments
- Bonded removal documents
- Local transshipment documentation
- Lines' commercial release
- Acceptance of rent/storage charges
- Delivery instructions to transport operators (road/rail)
- Export delivery advice
- Export arrivals
- Export load list
- Loading reports
- Export customs declarations
- Customs scanning/examination/sealing requirements
- Port health/quarantine and other government departments' activities
- Requests to out-turn in port's sheds and warehouses
- Shed/warehouse out-turn reports and amendments
- Customs declarations for exports
- Ship planning notifications and associated amendments
- Dangerous and/or hazardous goods reporting in port

to customs and the carriers detailing short and over-landed containers or general cargo items, which may need further investigation or action.

The PCS has reduced the amount of clerical work by providing a means of capturing information once and allowing controlled access by all appropriate members of the port community. It reduces duplication of data entry and storage of paper manifests. The time required to release cargoes is also reduced because the necessary information is instantly available to those who need it.

The fundamental prerequisite for such port community systems is the sense of 'community'. All the major members of the community need to agree their mutual interests and accept a common action plan, and to keep in mind that the community system must be designed by the users for the users.

The system used in Felixstowe has been updated over the years, keeping pace with new technology. By 2002, the system was processing more than 70% of the UK's containerised trade and a significant proportion of the country's general cargo. The same year, the decision was taken to undertake a complete rewrite of the system on to a modern technical platform, which began in December of that year.

After more than five years of development and testing, the replacement system, Destin8, was rolled out to around 650 customers and 3,200 users in May 2007. The system is now in operation in Felixstowe, Harwich, Ipswich, Immingham, Hull, Teesport, Tyne, Grangemouth, Aberdeen, Glasgow, Liverpool, Bristol, Thamesport, the Medway Ports and Tilbury, as well as around 70 inland container freight stations. **PH**

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# TEN-T looks to the environment

The TEN-T programme was established by the European Commission to improve the transport of cargo through inland Europe by water, road or rail, removing bottlenecks and barriers. **Steve Valentine** reports on progress

**T**he Trans-European Transport Network Executive Agency (TEN-T) is trying to improve Europe's inland transport chains and increase the amount of traffic and tonnage that can be carried. But ship operators and managers are still making seemingly bizarre choices concerning their favoured gateway port for transporting goods in to and out of the European network, mainly because the land transport system is unbalanced and the road system so congested. Take container transport for example. At the moment – and quite sensibly from an economic and logistical point of view – 76% of box ships coming from or going to southeast Asia use northern European ports rather than those in the south, adding three days to the journey.

Ports are in competition, but perhaps the message is getting through. For example, Barcelona Port Authority has recognised that the southern and Mediterranean ports have a critical role to play in a sustainable port system. It has improved its hinterland connections by investing in inland ports, near Madrid, Zaragoza and Toulouse, and last year introduced a new rail service to Lyon.

For a reaction to the TEN-T programme, *P&H* spoke to Annik Dirkx, communication manager at Antwerp Port Authority. "TEN-T is focused on improving European cohesion in the field of traffic corridors (passengers and cargo). It was felt that most of the European road/rail/inland navigation infrastructure was still nationally focused and that, in general, cross-border corridors were underdeveloped. By giving financial support to international projects, the EC wanted to improve co-operation between member states in developing such cross-border links."

Dirkx continued: "The old TEN-T consists of two schemes: a list of 30 'grand' European priority projects and another system of giving financial aid to smaller, local projects in the field of roads, railways and canals/rivers. A lot of work has been done, for instance in the creation of a European high-speed train network. But there is still a long way to go before one can truly speak of an integrated European network."

"Moreover, some rather fundamental problems arose with the old TEN-T scheme. The 30 priority projects are all independent from each other – a pan-European network consideration is missing. The same applies for the smaller, local projects. Furthermore, these projects are often in the first place based on local needs. The new TEN-T scheme, which is now under consideration by the EC [European Commission] and EP [European Parliament], is more focused on the development of this integrated, pan-European network," Dirkx explained.

The TEN-T programme has come under fire from environmentalists and Dirkx conceded that the old scheme did not focus on the environment. "A lot of TEN-T finances were used for the construction of new roads and even an airport, which led to fierce criticism from environmental groups." Nevertheless, Dirkx added: "On the other side, the improvement of barge and rail networks will inevitably lead to an intensified usage of these durable transport means."

TEN-T has also contributed to facilitating European transport flows. For instance, the introduction of the standardised European Train Control System (ETCS) should reduce costs for cross-border rail transport. This control system is a vital component of the European Railway Traffic Management System (ERTMS) that is intended to standardise train control systems across Europe based on specifications adopted in April 2008.

The ERTMS project has identified six 'priority' corridors (see map) across Europe and in these, Dirkx said, "more attention will be given to the environmental impact of the projects that apply for financing".

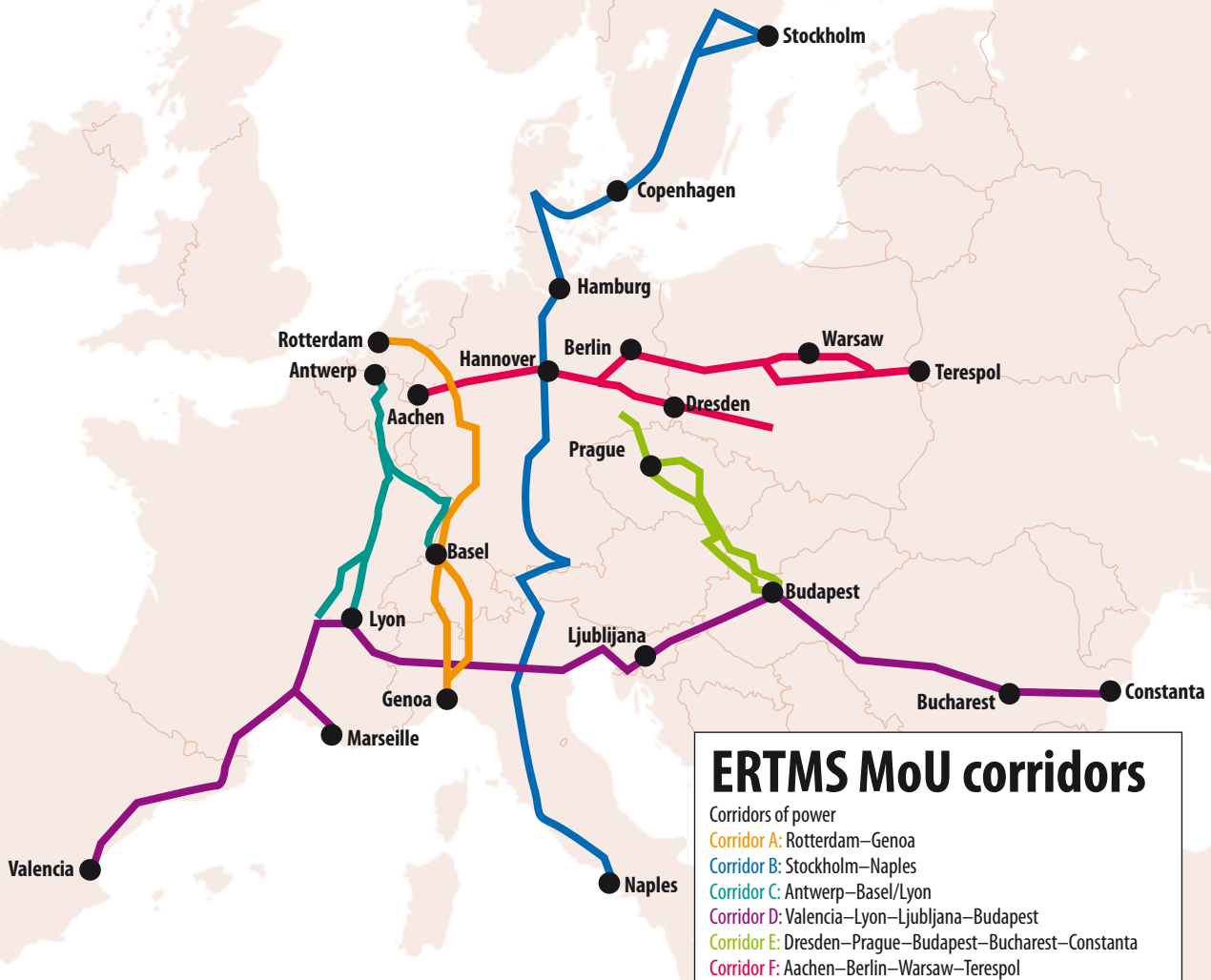
All of this should be good news for ports' logistics. The majority of improvements are expected to be in the field of rail transport, as Dirkx explained: "Antwerp is the starting point of ERTMS/ETCS-Corridor C towards France and Switzerland and the planning foresees also a link to Corridor A towards northern Italy and Corridor F towards Poland. Corridor C Antwerp–Strasbourg–Basel will be the first in Europe to be fully operational in 2014. This will greatly improve the quality of international rail freight transport to and from Antwerp and therefore probably increase the market share of rail."

Antwerp Port Authority has a particular interest in the Seine–Nord Canal/Scheldt project. France is an important hinterland for Antwerp, and the regions of Ile de France, Nord-Pas de Calais and Picardie provide the Belgian port with significant import and export volumes. "Most of the cargo is currently trucked," said Dirkx. "The development of a good waterway connection between the Seine and the Scheldt will stimulate shippers to shift cargo from the road to the waterways and will, as such, improve our modal split."

To ensure an efficient and economically sustainable connection for container barges, a free clearance of 7m in height is required along the whole route from Compiègne north to the Port of Antwerp, she explained. "In Belgium, various infrastructural improvements will be implemented to guarantee that container vessels three layers high can pass without problems. In France, however, apart from the development of the Seine–Nord Canal, no additional infrastructural works are planned up till now. Consequently, the clearance







at the waterway section north of Lille and part of the River Oise south of Compiègne will be limited to 5.25m high. We hope that VNF [Voies Navigables de France] will plan infrastructural works in order to solve these bottlenecks and to create [an efficient] waterway link between France and Antwerp Port."

Guy Bourbonnaud, inland transport development manager at Dunkirk Port Authority told *P&H* that the Seine–Nord Canal project will certainly bring benefits to all parties. "Today cargo is limited to grain, liquid bulk cargo, such as oil, container business and heavy-lift cargoes. When the Seine–Nord opens, cargoes will increase, costs will drop, everyone will be more competitive and the Paris region will be accessible. All shipment types are possible – sand and gravel for the building industry, plus steel. Container business will also increase and the shipment size will increase from 1,350 tonnes to 3,000 tonnes."

Other shortsea milestones have been passed too. On 3 August 2009, the first containers were taken from

Berlin to Hamburg via the Elbe–Spree inland waterway. The inland water vessel used, *Shir Khan*, has a capacity of 54teu and will replace around 50 truck runs a week. Studies in Hamburg have shown that ships have much better results for energy consumption, pollution, traffic safety and noise than freight trains or heavy road vehicles. The number of containers transported in the port's hinterland rose by 29%, to 119,000teu, in 2008.

Balancing the natural beauty of Europe's waterways against commercial progress and network efficiency – and the need to deepen and widen more rivers and canals – is a tough task. Industrialists and environmentalists alike need to ask questions of each other. EU activities, such as the Marco Polo programme, may help to maintain equilibrium. In particular, the Motorways of the Sea project is aimed at creating intermodal maritime-based logistics chains in Europe, so that European producers, importers and customers can reap the benefits of a range of environmentally sound transport choices. **PH**



# Compliance keeps everyone happy

Ensuring a port meets environmental regulations can save time and money, and can help win the respect of clients. **Nicola Clay** gives a UK perspective

Over recent years many industries have been subjected to both an increase in regulatory control and public demands for transparency in their operations. The current focus is on demonstrating a proactive approach to dealing with the issues of climate change. Until recently, the UK ports industry was sheltered from these requirements because its operations were permitted under statutory powers and the public had a lower level of direct interaction with ports and shipping, which kept the industry out of the spotlight.

However, under the Climate Change Act 2008 certain large ports are being required, for the first time, to report to government on the risks they face from climate change and the actions they are taking to mitigate these risks.

Fortunately, port industry bodies and individual ports generally recognise the relevance and

importance of transparency, particularly with respect to climate change and environmental stewardship, in that it feeds into a port's 'permit to operate'.

Environmental compliance means complying with environmental law and protecting the environment, and it forms part of corporate governance along with risk assessments and corporate social responsibility. As any other industry, the ports industry must comply with the law, so environmental compliance is an integral part of its operations.

Separately, many ports recognise that demonstrating good environmental stewardship in their operations can enhance their reputation with both customers and regulators. This non-statutory form of environmental compliance can take the form of simple measures such as initiating an environmental policy and codes of conduct through to programmes that are subject to external audit such as environmental management systems (EMS) or the ports' industry-specific Port Environment Review Scheme (PERS).

The marine and estuarine environment in the UK is heavily regulated by both national laws and European directives. For basic environmental compliance to be successful, therefore, a port manager needs to be aware of the large amount of complex and overlapping legislation that may affect their port's operations or proposed developments.

A port development that crosses the land/sea interface could be required to gain consent under at least six separate pieces of national legislation and will have to comply with the requirements of several European directives. In addition, when





Photo: Belfast Harbour

**The Port of Belfast has achieved carbon-neutral accreditation – just one of a number of environmental initiatives in the UK for ports**

undertaking their day-to-day functions and duties, all harbor authorities must comply with the general environmental responsibilities set out in the Harbours Act, the requirements of the Countryside and Rights of Way Act 2000 and the Habitats, Birds and Water Framework Directive. Recent climate change legislation is likely to place added emphasis on reducing emissions from shipping and adapting port areas to, for example, cope with the increased risks of flooding and use renewable energy sources.

In practice, this means that port managers must take the natural environment into account in all that they do and pay specific regard to any potential effects and impacts on designated conservation sites and the ecological or chemical status of estuarine and coastal waters. The increasing importance of sustainable energy usage means that port managers must also aim to reduce the carbon footprint of both their day-to-day operations and any future developments. UK ports are closely engaged with government in this developing policy area and in some locations are leading the rest of the industry. For example, the Port of Belfast has already achieved carbon neutral accreditation.

Where port managers are informed and act responsibly, they build up positive relationships based on trust with the agencies and bodies responsible for environmental protection. Such relationships pay dividends since the agencies are often willing to offer advice and guidance on which ports can draw to inform more significant development plans. Conversely, should a port be thought to be disregarding the environment, local agencies may be reluctant to engage. Conservation agencies and regulators tend to highlight examples of this kind of poor practice as bringing the wider ports industry into disrepute.

Ports industry trade groups both in the UK and at European level have recognised the need to improve the general perception of the industry among regulators, advisers and the public. As early as 2003, the European Sea Ports Organisation (ESPO) developed a set of environmental management principles – known informally as the ‘Ten Commandments’ – in an attempt to encourage ports to improve the public’s perception of the industry. More recently, Ecoports has developed the PERS as a toolkit to allow ports to identify, monitor and regulate their impacts on the environment. Depending on their business areas, some ports also find that their clients now require them to achieve compliance with an EMS, for example ISO 14001.

Many ports have taken up PERS, with some using it as a stepping stone to a formal EMS. Nevertheless, there remain plenty of generally smaller ports that do not have either a driving factor forcing them to implement PERS/EMS or the resources to justify implementation for the sake of demonstrating improved environmental stewardship.

Complying with environmental legislation for ongoing activities can be resource-intensive and expensive and this is a recognised problem for smaller ports, harbors and recreational sites such as marinas. The ports industry has worked closely with government and agencies to develop innovative

approaches to compliance with European directives. One example is the development of the Maintenance Dredging Protocol (MDP) as a compliance tool for the Habitats Directive. The MDP allows ports in the vicinity of a designated European site to come together and develop a baseline document that addresses the cumulative effects of ongoing maintenance dredging operations.

This report, once it has been approved by nature-conservation body Natural England, is submitted with repeat applications for dredging and disposal operations and forms the basis of the regulator’s consideration of effects on European sites. The underlying principles include the point that in many cases maintenance dredging had been ongoing at the time that the site was designated and thus could be considered to be part of the background sedimentary regime, while also allowing a mechanism for assessment where significant effects are observed.

“Port managers must take the natural environment into account in all that they do”

This partnership approach removes the potential need for the regulators to undertake an appropriate assessment on a maintenance dredging licence application each time it is renewed and avoids the considerable burden on resources such a process would place on regulators, statutory advisers and the ports industry.

To date, the ports industry has been rather slow in preparing the baseline documents, which perhaps reflects the continuing need to balance resources, legal compliance and reputation.

In summary, many parts of the UK ports industry have made considerable efforts to achieve environmental compliance both to meet their legal obligations and to enhance their reputation through demonstrable environmental stewardship. Climate change is one more factor in the continually increasing scrutiny of port activities and brings yet more challenges for port managers.

National- and European-level tools have been developed in partnership with regulators and conservation agencies to provide individual ports with transparent mechanisms for compliance. However, in an industry where resources, and thus effort, are generally concentrated in the larger ports, to achieve full environmental compliance it is likely that a significant ‘forcing factor’ – in the form of legislative requirement or client demand – is needed. **PH**

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# Climate change – “all in it together”

The IMO made climate change the theme of this year's World Maritime Day, which was celebrated on 24 September. *Climate Change: a challenge for IMO too!* was the focus of the speech by Secretary-General Efthimios Mitropoulos, as he told the maritime community that this is the time to make tough decisions to address climate change and to act with total and undivided commitment.

“At IMO, we are heavily and consistently engaged in the fight to protect and preserve our environment – both marine and atmospheric. Having, in 2008, achieved a breakthrough in our efforts to reduce air pollution from ships, we are now energetically pursuing the limitation and reduction of greenhouse gas emissions from shipping operation,” he said, adding that the topic of the environment had received unanimous support from within the organisation.

He noted that there is “genuine concern” for the environment from IMO member states and this has driven the organisation's work. So too has concern from “industry organisations that help us make balanced decisions in the pursuit of the organisation's objectives – not to mention those entrusted to us under the United Nations Framework Convention on Climate Change [UNFCCC] and its

Kyoto Protocol, which specifically provide that the limitation or reduction of emissions of greenhouse gases (GHGs) from ships should be pursued through IMO,” Mitropoulos said.

He highlighted the work that has been done at IMO to address GHG emissions in particular, including the development of an Energy Efficiency Design Index for new ships and a Ship Energy Management Plan for all ships and an Energy Efficiency Operational Indicator, which helps to determine the fuel efficiency of a ship.

IMO will report on the development of these measures to the UNFCCC Conference in Copenhagen, which takes place in December. He also drew attention to the technical advances made by the industry to address energy efficiency.

“Climate change will, of course, affect everybody,” Mitropoulos said. “No one can be immune to it. By the same token, responsibility for finding the solution cannot, realistically, be laid at the door of any particular country or group of countries, nor of any particular region or continent – neither should it be pursued through only one or a few human activities. We are, perhaps as never before,

all in this together.”

“To achieve the desired goals in the fight against climate change, the solutions we will opt for need to be realistic, pragmatic, workable, cost-effective and, above all, well-balanced, implemented through mechanisms that are clear, practical, transparent, fraud-free and easy to administer,” he said. Mitropoulos added that the solutions “must be universally applied – and, for this to be achieved, there is a need for global involvement and endorsement by consensus”.



photo:istockphoto

## Japanese ports come through Melor

Japanese shipping companies and ports escaped lightly in early October when Typhoon Melor, the largest storm to come ashore in a decade, blew across the islands. Ports on the Pacific coast were closed to traffic for 24 hours, causing delays in cargo operations, but there were no reports of damage to vessels or infrastructure.

“There have been delays, sometimes for a day or two, but we did not sustain any damage to our installations,” said

Maiko Nagashima, a spokeswoman for the Yokohama Port Authority. The typhoon made landfall near the city of Nagoya, the largest port in the country in terms of total cargo throughput, at 05.00 on 8 October.

A port authority spokesman reported flooding and blocked roads, but no damage to cargo ships. A spokesman for K Line said that the biggest concern was delays, which would “be extensive for all ports in western Japan, from

Osaka and Kobe all the way up through Nagoya to Yokohama and Tokyo Bay”.

The typhoon moved at a speed of 50kph and sustained wind speeds of 144kph near its centre. Gusts of as much as 198kph were recorded while the typhoon was at its strongest. Damage on land is said to have been extensive to infrastructure, with buildings destroyed and rail and airport traffic severely disrupted.



# Coast Guard reviews access

Seafarer affected by shore access fees at US ports since the September 2001 terrorist attacks may be about to receive some kind of relief. After the US Coast Guard looked again at its legal obligations, it has determined it has the authority to require the 3,200 terminals regulated by the Maritime Transportation Security Act to provide reasonable access to crews at US ports.

The USCG is considering whether it should draft a rule addressing how far it can go in requiring access and in curbing what seafarer advocates claim are excessive fees charged at some terminals. "We've found there's more the Coast Guard could be doing, but at this point we don't know what that will look like," Lt Cmdr Dan Somma told *P&H*. "An overriding obligation is to ensure access for mariners. We don't want to compromise security, but we also have quite a few international obligations to mariners."

Shore leave, and the fees charged to provide it, have been a major concern for seafarer advocacy groups such as the Seamen's Church Institute (SCI) of New York and New Jersey. The SCI surveyed seafarer centres at 20 US ports during the week of 17–23 May and found that of 301 ships visited, 73 ships had at least one seafarer who was not allowed to take shore leave. Of 814 seafarers denied shore leave, a majority lacked a valid US visa.

Others were effectively confined to their ships by exorbitant escort fees. Those fees typically range from \$350 to \$500 but could be as high as \$1,200 to \$1,400 per trip. SCI policy director Doug Stevenson told *P&H*: "The potential outcome of this Coast Guard review I think is to eventually eliminate these fees that are creating obstacles to transiting the terminals."

Stevenson also asserted that overly restricting access in the name of security not only affects health and wellbeing, but also makes it harder for shipowners to recruit and retain crews. "And if

seafarers feel they're perceived as a security risk, they're not going to be your eyes and ears when you're looking for the real security threats," Stevenson pointed out.

An obstacle to progress on the fee issue is the lack of a legal definition of "exorbitant", said Somma. "Requiring a \$400 [escort] when a mariner with a visa could have gone through a facility at a much lower cost – I'm not sure that's considered 'exorbitant', but it might be 'excessive'. Unfortunately, for economic reasons we're not in a position to undertake figuring out the difference."

More likely, said Coast Guard Commander Dave Murk, who works closely with seafarers on the issue, is that the Coast Guard will make terminals do more to co-ordinate seafarer access by including tighter language in the five-year security plan review required by MTSA and currently under way.

"We're considering a regulation, but we're not there yet," Murk told *P&H*. "At this point we want to use the review process as the avenue to get seafarer access addressed."

While the USCG has been trying to ensure that foreign seafarers can gain reasonable access to port facilities it has also been removing administrative bottlenecks that are causing delays in US seafarers receiving their ID cards. That process has been impeded in part by attempts to ensure the security of port access. In recent months there has been a major backlog in the processing of applications for the Merchant Mariner Credential (MMC) – the passport-style documentation that provides evidence of a US mariner's qualifications. Ironically, the mid-April compliance date for the

Transportation Worker Identification Credential (TWIC), a new biometric ID card intended to ensure the security of access to terminal areas, contributed significantly to the backlog. US seafarers must have at least applied for their TWIC before the USCG will accept their MMC application.

According to testimony on Capitol Hill on 7 October, aggressive action by the US Coast Guard had decreased the processing time for MMCs from 55 days to 26 days by the end of September and the backlog of 6,800 applications had been eliminated at the end of July. Rear Admiral Kevin Cook, director of the Coast Guard's Prevention Policy for Marine Safety, Security, and Stewardship, also testified that more than 16,000 mariners had received their MMCs since July.

Part of the backlog was ascribed to the Coast Guard's scrutiny of seafarer health after *Cosco Busan* collided with the Bay Bridge in San Francisco in November 2007. The medical records of the then-pilot, John Cota, became the focus of the accident based on his prescription drug history. Cook said the Coast Guard is working to develop a mariner credential "trusted agent" programme.

**Doug Stevenson: "They're not going to be your eyes and ears when you're looking for the real security threats"**



## IMO clarifies bunker certificates

IMO's Legal Committee sought to clarify aspects of the implementation of the Bunkers Convention, when it met for its 96th session, from 5–9 October. It approved a draft Assembly resolution on the issuing of bunker certificates of insurance to bareboat-registered vessels.

This draft resolution should clarify differing interpretations on the issuing of bunker certificates to ships in a bareboat registry – in other words, those vessels temporarily permitted to fly another country's flag while ownership continues to be registered in the underlying registry. The draft proposes that while all states' parties recognise that bunker certificates should be issued by the flag state if it is a party to the convention, "all State Parties should request only one bunker certificate from any ship, including ships bareboat-registered in a State Party, and should accept bunker certificates issued by such a State Party". This is intended to assist shipowners, managers and operators in avoiding unnecessary delays, detentions of ships, and administrative burdens.

Further recommendations stipulate: "State Parties should avoid burdening shipowners with unnecessary bureaucracy; and State Parties which allow ships to be registered as bareboat chartered should co-operate to find viable solutions in a spirit of understanding and co-operation."

The draft resolution will be submitted to the 26th session of the IMO Assembly, which will meet from 23 November to 4 December, for adoption.

The committee also agreed that financial security for abandonment and personal injury or death of seafarers should be made mandatory.

They reviewed and agreed with a report from the ninth session of the joint IMO/International Labour

Organization (ILO) Ad Hoc Expert Working Group, to make mandatory financial security in case of abandonment of seafarers and in respect of contractual claims for personal injury to or death of seafarers.

## Low sulphur fuel requires assessment

Intertanko and the Oil Companies International Marine Forum (OCIMF) have expressed concern over the entry-into-force date of certain aspects of the EU Sulphur Directive (Directive 2005/33/EC). The directive requires that, as from 1 January 2010, ships at berth or anchor for longer than two hours should burn fuel with a sulphur content of less than 0.1%. They have pointed out in a variety of papers and reports that current onboard equipment – designed to run on residual oils with regular sulphur content – may need to be adjusted or upgraded.

The two industry bodies have recommended that “manufacturers perform risk assessments and provide safe solutions, as and if appropriate”. They pointed out that such evaluations and upgrades take time and have asked for a phase-in period up to 1 January 2011.

In a joint paper they wrote: “Until these provisions are aligned, vessels of all types will be required to carry three grades of fuel oil onboard which many vessels cannot cope with as they cannot segregate sufficient quantities of each fuel type (ie they do not have three separate tanks). This is especially true of tankers which generally have fewer fuel oil tanks than other types of vessel.”

A meeting of the European Maritime Safety Agency (EMSA) meeting on 15 October provided an opportunity for shipowners, class and engine and boiler manufacturers to discuss these concerns. Presentations from boiler manufacturer Aalborg and the International Association of Class Societies suggested that there is a need for evaluations and that the process would extend beyond the deadline of 1 January 2010. They also highlighted the lack of a standard to define, and thus to check against, “marine fuel with a maximum 0.1% sulphur content”.

According to the Intertanko website: “EMSA and DG TREN [Directorate General for Energy and Transport] representatives will prepare a report to the EU Commission, noting the facts as presented and the discussions during this meeting. It will be up to the Commission to assess and eventually suggest any follow-up action.”



Photo: Dietmar Hasenpusch

**At lay-up... shipowners are advised to check contracts with legal advisers before laying up vessels**

## Lay-up liability warning

The International Transport Intermediaries Club (ITIC) has urged its ship manager members to seek legal advice before entering into any contracts with owners relating to the lay-up of vessels.

ITIC reported a recent sharp increase in the number of lay-up contracts that it has been asked to review. Some of these agreements are based on amended ship management contracts, where the manager acts as agent for and on behalf of the owner. Other agreements involve the manager offering lay-

up services to the owner as a principal rather than as agent.

The club pointed out: “Where the manager offers these services as an agent of the owner, it will arrange for the appropriate anchorage to be sourced and also arrange for the maintenance and repair of the vessel. If the manager contracts to actually undertake the maintenance and repair of the vessel itself, the contractual relationship between the owner and the manager changes completely. In those circumstances, the manager is taking on the role of a contractor and therefore may

require ship repairers’ liability insurance in the event of damage being caused to the ship by anybody who is actively engaged in its maintenance and repair on behalf of the shipmanager.

“Such maintenance and repair insurance is available, but it may be substantially more expensive than existing professional indemnity insurance. As such, ship managers should have any lay-up contracts reviewed by their legal advisers prior to making any decisions about the insurance cover they are likely to need,” the ITIC said in a statement.

## Unlimited liability should be written in

Unlimited liability should be written into many IMO conventions. That was the view expressed by Professor Peter Wetterstein of Finland’s Abo Akademi University at the MARLAW seminar in September.

Wetterstein proposed that conventions such as the Civil Liability, Bunker & Hazardous & Noxious Substances (not yet ratified) should mirror the unlimited ‘polluter pays’ principle contained in many other environmental regulations, such as the European Union’s waste and environment directives. “We have two systems in the EU and that can’t last”, said Wetterstein, who chaired the event in Ibiza. He

warned that the EU will be reviewing its Environmental Directive in 2013 and will consider whether to continue allowing exclusions for pollution covered by IMO conventions.

Wetterstein’s views received little support, however. His co-chair, Professor Aleka Sheppard of the London Shipping Law Centre, said there would not be enough insurance cover available, for example. “If there were unlimited liability, shipping would die,” she argued. She called for a vote, in which only three of about 30 lawyers and other shipping professionals supported Wetterstein’s proposal.



# Rotterdam Rules – open for signatures and ratification

Twenty states have now agreed to start the ratification process of the Rotterdam Rules. The first signatures were appended in late September and represented the first step towards triggering the long-awaited harmonisation of laws covering the carriage of goods by sea.

The Rotterdam Rules – known as the UNCITRAL proposals – are intended to achieve a globally binding convention following the Hague Rules (1924), Hague-Visby (1968), Hamburg (1978) and the unloved and unadopted Multi-Modal Convention of 1980.

The Rotterdam Rules are broadly recognised as an attempt to bring order to the chaos and to modernise the process, by recognising the existence of the container, electronic bills of lading and non-negotiable transport documents and making provision for multimodal contracts, which are almost the norm in containerised trades today.

"The key message is global harmonisation, as more than 80%

of sea trade is international," said Frans van Zoelen, director of the Legal Department at the Port of Rotterdam and chair of the IAPH Legal Committee, to *P&H*. He does not believe that regional approaches are a good solution: "A judge in Japan and in Denmark should consider the issues on the basis of the same principles and that is what the Rules try to achieve," he said.

However, no country is obliged to bind itself or its vessels to any set of rules relating to the carriage of goods by sea. In the opening chapter of *A New Convention for the Carriage of Goods by Sea – The Rotterdam Rules*, a book published to coincide with the signing, Professor Michael Sturley of the Texas School of Law noted that the Rotterdam Rules represent an evolution of the existing regimes rather than a revolution that completely overturns them.

The overriding characteristic of the new rules is pragmatism, from the process by which they were

negotiated to the goals they were designed to accomplish. As a result, Sturley wrote, countries with one or other of the current transport liability regimes have little to fear from the introduction of the Rotterdam regime.

"Those countries that have already adopted a national law incorporating major Hague-Visby and Hamburg elements are therefore less likely to see significant changes in their legal systems under the new regime (although from the very nature of the compromise, every country can expect some changes to be made). On the other hand, those countries that still adhere to the Hague Rules are likely to see greater changes."

Currently, the US has its own law that almost equates to the Hague Rules, most European and Asian countries prefer the Hague-Visby version, while many countries in Africa and elsewhere have opted for the Hamburg Rules.

But that is only half the picture, for the law – whichever one applies – usually only affects common carrier (liner) contracts by default, leaving owners of ships operating under voyage charters free to negotiate their own terms with charterers. Complications can arise under purely national laws, as one set of rules may apply to the export port but different rules at the discharge end. If a third jurisdiction has been opted for in

the contract, the potential for conflict expands enormously.

While most carriers' organisations have declared themselves in favour of the new rules, some shippers' organisations have raised objections on the grounds that they contain faults. Among these supposed failings is the level of freedom of contract that the rules seem to grant to volume shipments – where a specified quantity of goods is carried in more than one shipment over a period of time. Shippers worry that this freedom of contract could lead to a perceived bias in favour of carriers.

There are connotations for terminal operators, as under the new rules they could be held liable for damaged cargo by the interested party, as *P&H* reported in March. But overall, commented Van Zoelen, "Worldwide uniform rules drive growth in international trade," and this is an obvious benefit to ports. "A more detailed point is that the new rules oblige shippers to pick up their cargo rapidly after arrival at the terminals – this will prevent congestion in ports."



Photo: iStockphoto



Signatories of the Rules, who met on 23 September in Rotterdam

## IMDG update on dangerous goods at IMO

IMO's Sub-Committee on Dangerous Goods, Solid Cargoes and Containers (DSC) met over 21–25 September for its 14th session. The sub-committee continued its regular review of the International Maritime Dangerous Goods (IMDG) Code and agreed draft amendments for submission to MSC 87 for adoption (amendment 35-10).

The amendments include revisions to carriage provisions for specific goods as well as changes to provisions for dangerous goods packed in limited and excepted quantities. These amendments are to include a new excepted quantities mark, and amendments to provisions relating to intermediate bulk containers (IBCs), large packagings,

portable tanks, multiple-element gas containers (MEGCs) and road tank vehicles.

It is also worth noting that amendments to the marine pollutants provisions (amendment 34-08 to the IMDG Code) entered into force on a voluntary basis from in January 2009 and will be mandatory from 1 January 2010 onwards.

## LRIT meets scepticism

The International Mobile Satellite Organisation (IMSO) has asked its member states and SOLAS-contracting governments for proposals for the permanent LRIT International Data Exchange (IDE). The industry, however, still has major concerns about the system.

LRIT allows a flag state to track its vessels and a port state to receive information that should help it decide whether or not a vessel that, in the IMO's words, "not being in the right place/not going about normal business" within 1,000nm of its coast, poses a security threat. It can take action that includes asking the flag state responsible for the vessel concerned to investigate.

To be LRIT-compliant, a ship needs equipment that can transmit an automatic position report (APR) to a shore-based data centre in response to a polling signal. The APR contains the terminal ID, the GNSS position of the ship in the form of its longitude and latitude and the date and time.

All governments that agreed to implement LRIT had to have their infrastructure in place by the end of June, but many have not yet been deployed. The US operates the interim IDE.

At a seminar on LRIT implementation in London in early September, *P&H* heard that shipowners were still concerned about test-failure rates and costs. Saurabh Sachdeva of the UK Chamber of Shipping said its members were particularly worried that the testing process is so haphazard and the failure rate so high. Of the member vessels that failed testing, 47% failed on their second attempt and 41% on the third. Captain Dwain Hutchison, deputy director of the Bahamas Maritime Authority, said that annual transmission costs of inter-governmental LRIT communications were high, at just under \$0.5M. The idea that LRIT should be at no cost to the seafarer was flawed, because existing equipment that was incompatible or faulty would still have to be paid for to ensure the service worked, Hutchison added.

Consideration of proposals for the running of the International Data Exchange was scheduled for IMO's Maritime Safety Committee meeting in May 2010.



NYK's Super Eco Ship... a presentation was made at CEFAC

## CEFACT Forum first for Japan

The UN/CEFACT (United Nations Centre for Trade Facilitation and Electronic Business) Forum held its 15th meeting in Sapporo in late September. This was the first time the forum had convened in Japan and it was attended by 185 experts, representing 30 countries, aiming to enhance its activities and extend the organisation's constituency in Japan.

Four of the forum's five permanent groups met in parallel, with 13 of the International Trade & Business Process Group (TBG) working groups meeting throughout the week-long event. Of most interest to *P&H* readers, the Transport & Logistics working group (TBG3) discussed a range of work under the chairmanship of Dominique Vankemmel from France, along with vice-chair Yoshio Kito from Japan and secretary Henk van Maare from the Netherlands. The 31 participants came from France, Japan, Korea, Netherlands, Spain, Switzerland,

the UK, the US and Taiwan.

The working group finalised and submitted four project proposals for individual transport multimodal processes based on the overall business requirement specification (BRS) for IFTM (International Forwarding Transport). The projects proposed are Transport Status Reporting, Transport Instructions, Dangerous Goods Declaration and Waybills (including Maritime Bill of Lading).

The Monohakobi Transport Institute (an NYK subsidiary company) made two presentations on its radio frequency identification (RFID) pilot test and Super Eco-Ship. The group is also preparing Version 3 of the International Transport Implementation Guidelines Group (ITIGG) worldwide implementation guidelines for UN EDIFACT (United Nations Directories for Electronic Data Interchange for Administration, Commerce and Transport) and XML (Extensible

Markup Language). It is concerned with general recommendations, principles and rules, business processes and message sets, relating to the guidelines.

This group also conducted joint meetings with other groups. It discussed IMO's marine security requirements for freight and transportation of dangerous goods with the Customs working group, and participated in data model presentations.

Kenji Itoh from Japan also reported on the 35th IMO Facilitation (FAL) Committee, especially its EDI (Electronic Means for the Clearance of Ships) Working Group. This working group is currently updating the FAL Compendium, 2001 Edition based on the revised Annex to the FAL Convention.

The next forum will be held in Kuala Lumpur, Malaysia, in April, 2010 and an interim Trade & Logistics meeting was due to be held this month in Geneva.

## Emergency Inmarsat

A safety service for mariners – dubbed 505 Emergency Calling – was launched in October and will be available to all users of FleetBroadband services. As the name (chosen for its visual similarity to 'SOS') suggests, the service is available by dialling the short code 505.

Voice calls will be connected via Inmarsat directly to one of the selected 24-hour operational coast guard rescue co-ordination centres around the globe,

which are manned 365 days a year.

"This applies to all vessels equipped with Fleet Broadband, not just the larger commercial vessels," Chris Wortham, manager of maritime safety engineering, Inmarsat, told *P&H*. "Of course for any larger SOLAS vessels the GMDSS equipment must be used as a primary means of communication, but having a FleetBroadband and the 505 Emergency Calling facility is added insurance."



# Fond farewell from Secretary General Inoue

Dear IAPH members: I am leaving the IAPH Secretariat at the end of November.

I would like to take this opportunity to express my sincere appreciation to all members for the unchanged trust and co-operation you have extended to me over the past 10 years. I am especially grateful to the presidents, vice-presidents, board members and committee chairs who have encouraged me and offered guidance and support throughout my time in office.

To be honest, I have a mixture of feelings as I step down as secretary general after serving the association since 1999 – sad, relieved and proud. Sad because I can no longer enjoy and join in with your discussions; relieved because IAPH has sustained its financial health during a period of uncertainty; and proud because I have been part of the world port community, actively addressing a wide range of challenges.

Incidentally, it was exactly this month 54 years ago that IAPH was established. The term 'globalisation' did not exist then and yet, surprisingly, our founders did foresee the world becoming as small as it is today. Their view is well signified in the IAPH motto: "World Peace through World Trade, World Trade through World Ports".

Today we are enjoying the prosperity that globalisation affords, but we are also facing the threats it has brought about, such as international security and global warming. World peace can

certainly be achieved with furtherance of world trade made possible through ports. This is possible, however, only if trading is secure and does not contribute to climate change.

IAPH must hold its motto high, but it must also move ahead with a much-widened scope of activity and responsibility in this new era of globalisation. Its role, and that of its individual members, will be ever more critical and significant. I am fully convinced that IAPH will meet this challenge to make the future sustainable and even brighter. I am very fortunate indeed to be leaving with numerous fond memories. Please be assured that my successor, Mr Susumu Naruse, will work closely with you for the betterment of the world port community and the association.

I wish you all great success in the years to come. I hope I will meet you again somewhere in the world before too long.

With my warmest regards and 'sayonara'.

**Dr Satoshi Inoue**




## Membership notes

The IAPH secretariat is pleased to announce that the following new members joined the association recently

### Associate members

#### Hassan Mousa Al Qemzi

Address: Mousa Industrial Company (MINCO),  
PO Box 47190, Abu Dhabi, UAE

Telephone: +971-2-665580/6664227

Fax: +971-2-6664100/6668581

Email: mousatdg@emirates.net.ae

Website: www.minco-uae.com

Representative: Hassan Mousa Al Qemzi, chairman and CEO

Nature of business activities: Trading and electromechanical works  
(building service)

#### Fast Global Logistics

Address: Complexe Borj L Yacou, Imm A 2eme Etage, Ang Av Lalla  
Yacout & Rahal El Maskini, 20 000, Casablanca, Morocco

Telephone: +212-522-317-890

Fax: +212-522-319-141

Email: elamri@fglog.com

Website: www.fglog.com

Representative: Ali Elamri, managing director

Nature of business activities: Logistics and vessel services provider

## Hamburg hosts regional meeting

Hamburg Port Authority – the host of this month's IAPH Africa/Europe Regional Meeting – has created a relevant and interesting programme for attending delegates. Subjects for discussion include sister port relationships, hinterland railway traffic and safety and security policies in Europe.

Delegates from a variety of organisations and companies will be speaking on these topics, including Jens Meier, managing director of Hamburg Port Authority, Santiago Garcia Mila, IAPH third VP and deputy general manager at Port of Barcelona and Jerome Ntibarekerwa, secretary general of the Port Management Association of East and Southern Africa.

Your president, Gichiri Nduu, will also be present to deliver a keynote speech.

The IAPH Secretariat hopes to see as many members as possible at what promises to be an informative and instructive event. There will be an opening reception at Hamburg's Rathaus (town hall) on the evening of 16 November, followed by the two-day meeting, culminating in a tour of the port's impressive facilities.

The three-day event will be held from 16 to 18 November. IAPH is dedicating one of these days to updating its members on the activities of the World Ports Climate Initiative (WPCI) as it continues its efforts to reduce green house gas emissions and improve air quality.

WPCI member ports that volunteered to be 'project ports' are taking the opportunity to showcase their work as 'Projects in Progress'.

The focus will be on four of the six Projects in Progress. Delegates will hear about the following:

- Carbon footprinting, presented by Port of Los Angeles
- Environmental Ship Index, presented by Port of Rotterdam
- Onshore Power Supply, presented by Port of Gothenburg (Göteborg)
- Intermodal Transport, presented by Port of Amsterdam.

Go to [www.iaphworldports.org](http://www.iaphworldports.org) for more information.

## Goodbye Kondoh-san

Rinnosuke Kondoh, former IAPH deputy secretary general (1987–2003), succumbed to cancer in a Tokyo hospital on 25 August. He was 73 years old.

He is survived by his wife, Hiromi, two sons and two grandchildren.

He started working for the IAPH secretariat back in 1970 and was promoted to deputy secretary general at the Seoul conference, Korea, in 1987.

During his service to IAPH over more than 30 years he ably supported the next four secretary generals, including the current incumbent, Dr Satoshi Inoue.

In recognition of his dedicated

and devoted service to the association, Rinnosuke Kondoh was elected an IAPH honorary member at the Durban conference in 2003.

In 2002 he was honoured with a testimonial commending him as a distinguished contributor to Japanese ports by the Japan Port and Harbour Association at its 80th anniversary celebration ceremony.

Since the announcement of his death through the IAPH Online Newsletter, the Secretariat has received many heartfelt messages of consolation.

Secretary General Inoue would like to take this opportunity to



**Rinnosuke Kondoh at the 2001 Montreal IAPH conference**

express his sincere thanks for these warm thoughts and expressions of condolence.

## SG speaks on sustainable logistics

A seminar on *Sustainable logistics and climate change – Towards sustainable logistics in the European transport hub* was held in Tokyo on 1 October. It was organised by the Dutch Ministry of Transport's Public Works and Water Management, along with the Netherlands' Embassy in Tokyo. Some 200 representatives from the logistics industry from both Japan and the Netherlands attended.

His Excellency Camiel Eurlings, minister of transport, delivered an opening address that celebrated the 400-year-old trade relationship between Japan and the Netherlands. He stressed the importance of all-out efforts to make sustainable logistics work. He also emphasised that this challenge was not a threat but rather an opportunity for the logistics industry, as well as the whole economy, and will be more effectively secured through further co-operation between the two countries.

Following the minister's address, Secretary General Dr Inoue made a keynote speech, focusing on the ways in which the world ports community is addressing climate change. He reviewed the recent actions of IAPH members, highlighting the creation of the World Ports Climate Initiative (WPCI), giving an overview of the Tool Box for Port Clean Air

Programs and the organisation's work on onshore power supply.

Dr Inoue called for ports to take an integrated, sustainable and innovative approach to the critical issue of climate change. But, he added that some ports focus on a single emissions source. "Our first task," he said, "is to identify and measure all emissions of port activity. You cannot control what is not measured. We then work out a best mix of tools to effectively reduce target emissions."

He reminded ports that climate action does not work against their activities, but instead it should be seen as a "social responsibility" that could go hand in hand with their business. "For instance, to ease traffic congestion in and around the port brings efficiency and profits to port business while producing much less emissions from cargo transportation at the same time."

"Remember," he said, "our climate action is not a one-time show-off but it must continue in the long term. As such, wherever practical, climate action needs to [be] run in a business-oriented way rather than by regulations and penalties". Altogether seven presentations were made, outlining a wide range of activities currently taking place in the Netherlands, geared towards sustainable logistics.

## Members' comments count

A recent *P&H* survey carried out by Lloyd's Register-Fairplay (LRF) produced some insightful and useful material that will be used to guide the magazine's direction in forthcoming issues. Readers and members were given the chance fill in a questionnaire to tell IAPH

and LRF how they view the magazine. Their comments drew attention to sections of the magazine that members found interesting and content that needs to be realigned to suit their needs more precisely.

Returned questionnaires were

entered into a prize draw to win an iPod Classic. The winner was Soka Kikuchi, president of marine business consultancy company MBC International, in Japan. LRF and IAPH would like to thank all those who took part in the survey, which closed on 1 October.



## Spanish terminology on IAPH website

The Spanish version of *Basic Terminology used in Trade Facilitation and Port Community System* is available online. It has been translated by the Inter-American Committee on Ports – Organization of American States (CIP-OAS), a friendly organisation of IAPH.

Carlos Gallegos, the executive secretary of CIP-OAS, said: "I hope this [will] be useful for [the] Hispanic-speaking community of the IAPH members." He also thanked the "chair of the IAPH Trade Facilitation and Port Community System for elaborating the original English version of this important document".

To see the document, please visit [www.iaphworldports.org](http://www.iaphworldports.org).

## IAPH aids good practice

IAPH managing director Fer van de Laar delivered an erudite and well-pitched address at the launch of the Nautical Institute's new guide to *Mooring and Anchoring Ships* on 14 October in London. Van de Laar highlighted the IAPH survey, carried out with the International Harbour Masters' Association, that "drew attention to the unfortunate situation that actually nobody seemed to be responsible for the provision of safe equipment and proper procedures in mooring operations."

"Fortunately, however, as we learned from Captain Singhota,

this has been put right by the IMO," he told delegates.

Van de Laar commented on the intricacies of mooring, which connects two entities that are so "widely and wildly different; the one designed not to move at all and the other designed for exactly the opposite, to be as freely movable as possible."

He said: "The authors have succeeded in providing the necessary background information to ensure that the underlying principles of mechanics, engineering and ship handling can be really understood."



## ICHCA visits IAPH

John Strang, chairman of the International Cargo Handling Association (ICHCA) – a friendly organisation of IAPH – visited the IAPH Secretariat in Tokyo on 28 September. The purpose of his visit was to strengthen the partnership between the two organisations and promote their activities in Tokyo in association with ICHCA Japan.

**L-r: Yoshiharu Yoshida, secretary general of ICHCA Japan; Warren Reed, commentator; Hajime Tsuchida, chairman of ICHCA Japan; John Strang, chairman of ICHCA; Secretary General Satoshi Inoue**

## Dates for your diary

A selection of forthcoming maritime courses and conferences

### November

- 3–6:** Europort – Rotterdam, the Netherlands  
[www.europort.nl](http://www.europort.nl)
- 9–11:** TOC Americas – Buenos Aires, Argentina  
[www.tocevents-americas.com](http://www.tocevents-americas.com)
- 12–14:** Port International India 2009 – Mumbai, India  
[www.portinternationalindia.com](http://www.portinternationalindia.com)
- 16–18:** IAPH Africa/Europe Regional Meeting – Hamburg, Germany  
[www.iaphworldports.org](http://www.iaphworldports.org)

- 16–20:** 33rd IADC International Seminar on Dredging and Reclamation – Singapore  
[www.iadc-dredging.com](http://www.iadc-dredging.com)
- 23:** Diploma in Terminal Management – distance learning  
[www.ibcglobalacademy.com](http://www.ibcglobalacademy.com)
- 24–25:** 5th Trans Middle East – Bahrain  
[www.transportevents.com](http://www.transportevents.com)

### December

- 1–4:** Marintec China – Shanghai, China  
[www.marintecchina.com](http://www.marintecchina.com)
- 3–4:** The 2nd International Ports & the Environment Conference 2009 – Amsterdam, the Netherlands  
[www.millenniumconferences.com](http://www.millenniumconferences.com)
- 3:** Diploma in Port Management – distance learning  
[www.ibcglobalacademy.com](http://www.ibcglobalacademy.com)
- 7–8:** 1st Annual Asia-Europe Container Shipping Conference – Hamburg, Germany  
[www.joc.com/asiaeurope](http://www.joc.com/asiaeurope)
- 7–18:** Seminar on Harbor Management – Antwerp, Belgium  
[www.portofantwerp.be/apec/](http://www.portofantwerp.be/apec/)
- 9–11:** China (Shenzhen) International Logistics and Transportation Fair – Shenzhen, China  
[www.scmfair.com/en/index1.asp](http://www.scmfair.com/en/index1.asp)
- 10–11:** African Port & Maritime Conference – Durban, South Africa  
[www.pmaesa.org](http://www.pmaesa.org)

### January

- 27–29:** Pacific 2010 International Maritime Conference – Sydney, Australia  
[www.pacific2010imc.com](http://www.pacific2010imc.com)
- 28–29:** 4th Intermodal Asia 2010 – Sydney Australia  
[www.transportevents.com](http://www.transportevents.com)

### February

- 3–5:** IAPH Asia/Oceania Regional Meeting – Bandung, Indonesia  
[www.iaphworldports.org](http://www.iaphworldports.org)



# Together we stand

**Le Cong Minh**, chairman and general director of Saigon Port, Vietnam, and recently elected IAPH Executive Committee member, believes that the port community can make a difference

“ Port dimensions and shipping patterns keep on changing in keeping with economies of scale ”

Asia is regarded as the emerging region with highest economic growth rate and potential for business and trade worldwide. Ports such as Singapore, Hong Kong, Shanghai and Busan, have occupied the highest positions for decades in terms of container volume throughput. They have also expanded internationally, with many affiliated terminals around the world. Other ports in the region have also been trying to position themselves as international and regional hub ports.

In Asia, ports are playing a leading and catalytic role in fostering economic development in the region. With the large markets of China, India and Japan and a market of half a billion people in ASEAN countries alone, the region has been governing trends in shipping, port development and operations.

Port dimensions and shipping patterns keep on changing in keeping with economies of scale. Other changes follow – some positive opportunities, but also some worrying economic and

social consequences such as problems associated with labour, resources planning, pollution, environmental, safety, security and piracy. Most of these issues have regional and international connotations.

Ports cannot be expected to tackle these matters individually, but port communities can. IAPH, with its regional groupings, has made a positive contribution to addressing the issues common to all ports. The organisation, with collaboration from a larger community of consultants and service providers, has helped identify the issues and assess the causes and consequences, and has found viable solutions and recommendations.

Governments and ports individually have benefited from the work IAPH has done to tackle issues and implement solutions to the common problems we are facing. In this regard alone, IAPH is doing a very good job and laying a foundation for further sustainable growth for all stakeholders. **RH**





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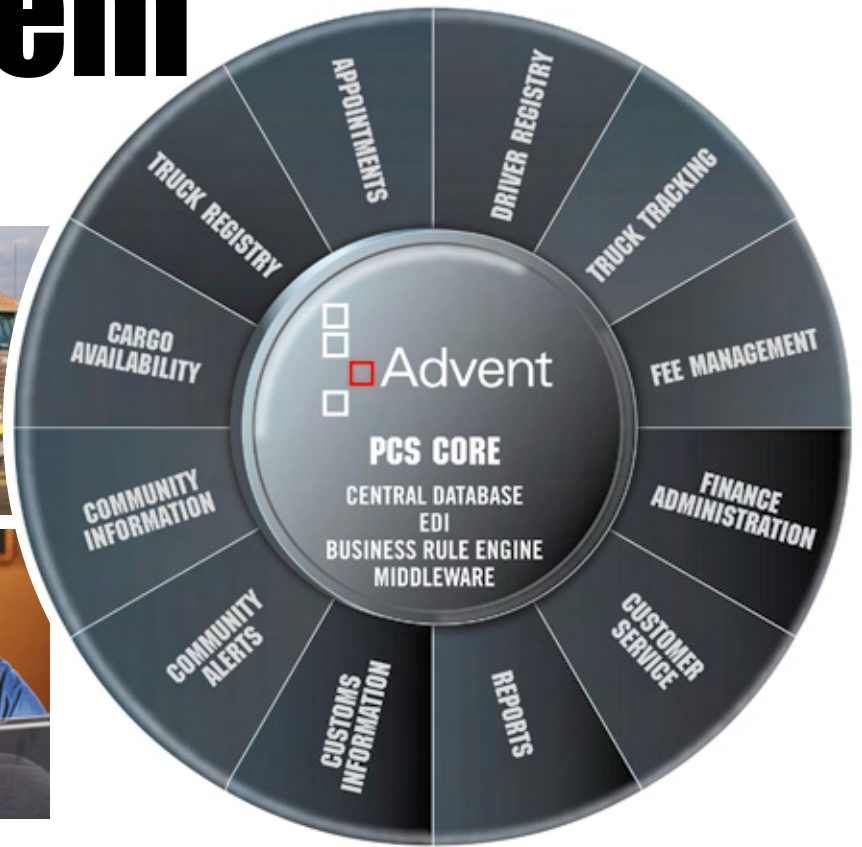
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