



# PORTS HARBORS

Official Journal of the International Association of Ports and Harbors

## Value and service

APM Terminals gears up for the new 'normal'

## Scanning respite

Deadline eased for US box security law

## Indian infrastructure

Investment planned to support capacity

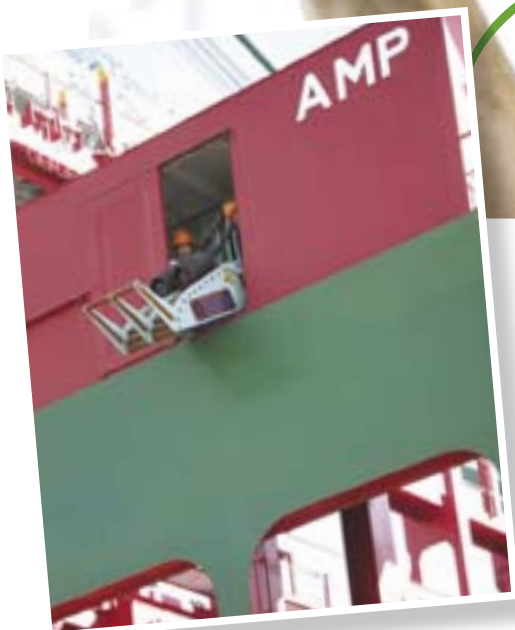
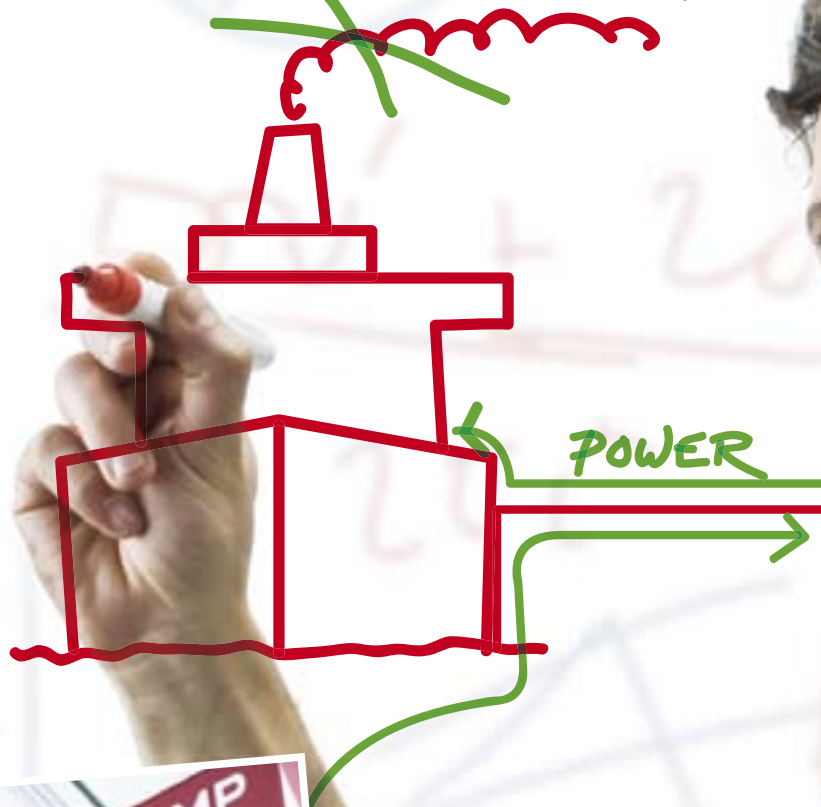


# Carbon credit

Offset future forecasted for shipping and ports at COP15

# "Fresh thinking can lead to fresh air."

ENGINES OFF  
= NO POLLUTION



*AMP can be fitted right onto the ship itself, with a single high-voltage cable, or it can be fitted inside a container that's placed on the ship, for a truly modular power source that connects to the dock or a floating barge.*

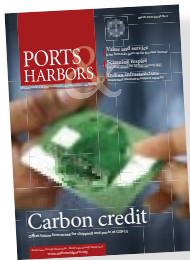
## Cavotec in Action – Shore-based power supply

We're all concerned about the shore-based environmental impact of shipping. In Los Angeles alone, experts estimate that ships emit as much air pollution as one million vehicles. That's why Cavotec developed the AMP (Alternative Maritime Power) solution. It lets vessels switch off while moored. Instead of using their diesel engines to power air conditioning and controls, they can plug in for electrical power. For more about our maritime solutions, please visit [www.cavotec.com](http://www.cavotec.com)

**Please visit us at TOC Asia Shanghai,  
China 16-18 March 2010**

 **CAVOTEC**  
Inspired Engineering





Green card... a carbon credit exchange scheme is one idea put up for debate at COP15

Photo: iStockphoto

March 2010  
ISSUE 02 VOL 55

## REGULARS

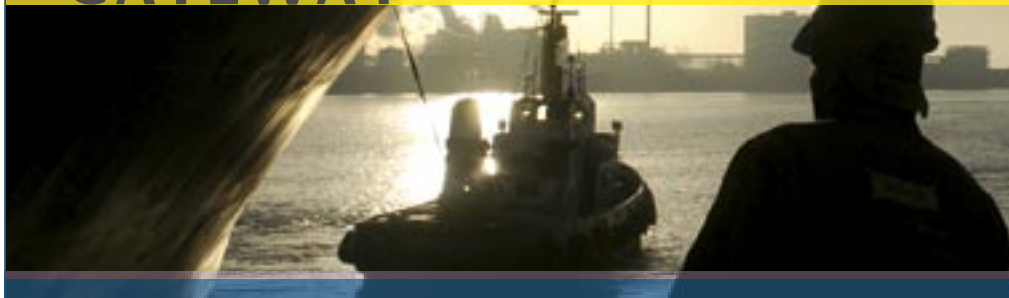
- Comment** Secretary General Naruse on a bright 2010 **3**
- News** The latest industry news, including port updates, dredging projects, people and more **4**
- Open Forum** New member APM Terminal's CEO, Kim Fejfer, believes in value and service for the customer **12**
- Cover Story** Climate change debate at Copenhagen; Stanford University study reveals ports' views on climate change; IAPH's research on onshore power take-up **24**
- Maritime Update** An accord for COP15; double hull update; IMO salutes the seafarer; piracy figures up **36**
- IAPH Info** A successful regional meeting in Bandung; 2010 membership directory; and new members **40**
- Last Word** Port Klang's assistant general manager on realigning staff to avoid redundancy in the downturn **44**

## FEATURES

- Danger from the deep?** Underwater security technology is there, but *P&H* questions the need **14**
- Scanning versus screening** International pilot projects reignite 100% container scanning debate in the US **18**
- Get cranes kitted for safety** A call for existing safety features to be fitted as standard on port equipment **20**
- Good case for cold containers** Ports are responding to the growing trend of boxing reefer tonnage **22**
- Connecting countries** Call for improvements in landside African logistics at PMAESA conference **30**
- Indian infrastructure** Government plans to foster public-private partnerships to improve logistics **32**



## THE CONTINENTAL GATEWAY



**Zeeland Seaports**  
Ports of Vlissingen and Terneuzen

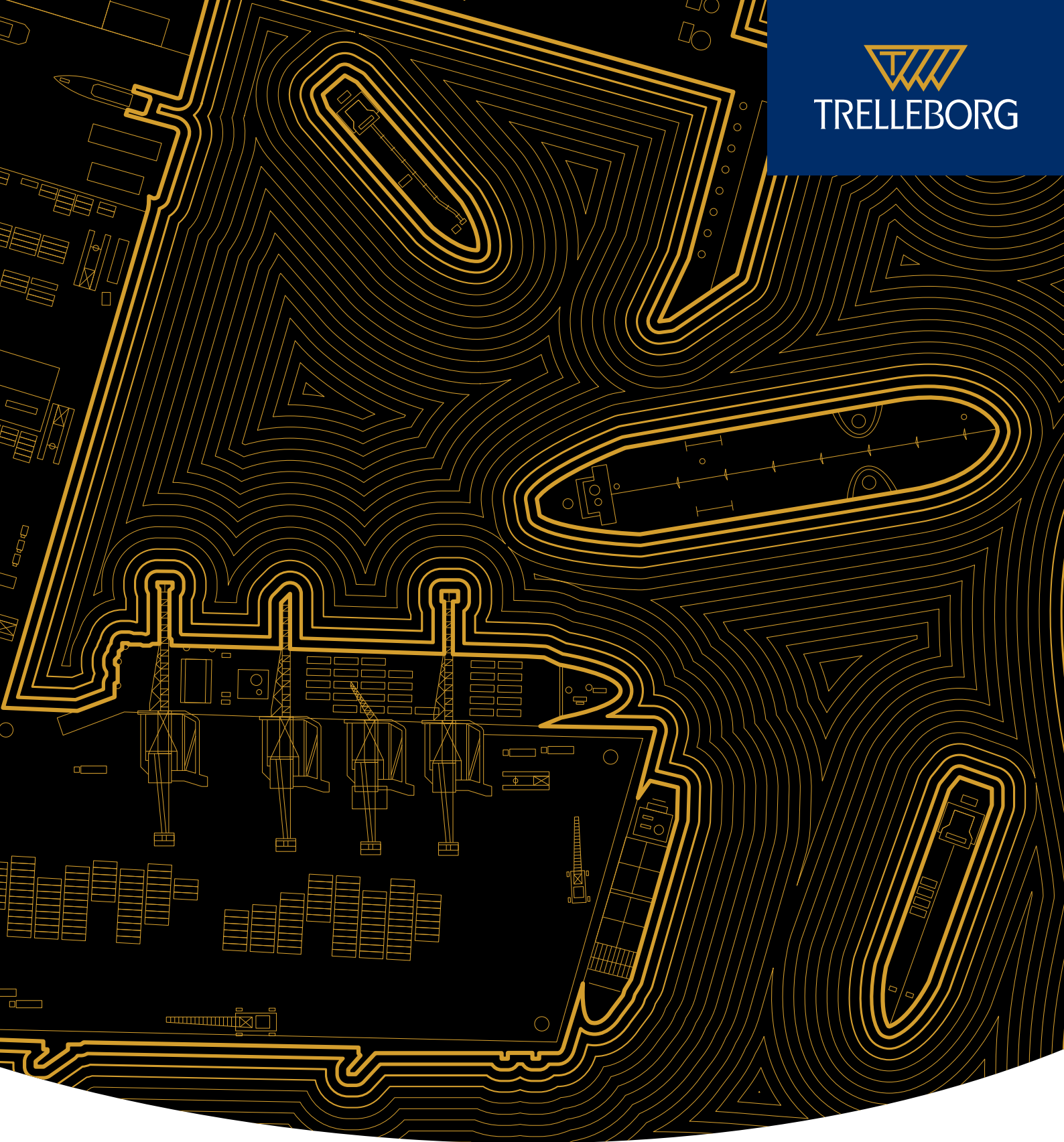
**Zeeland Seaports Port Authority**  
Schelpenpad 2 (port no. 1151)  
P.O. Box 132  
4530 AC Terneuzen  
The Netherlands  
Phone: +31 (0)115 647400  
Fax: +31 (0)115 647500

port@zeeland-seaports.com  
www.zeeland-seaports.com

500M 100158



TRELLEBORG



## A positive impact at every point

Take the pressure off with proven berthing and mooring solutions

We understand the stresses and strains of safe berthing and mooring. With vessels, cargo and people requiring constant care and control, you need to diffuse the pressure at every point. Our proven solutions are engineered for the most demanding commercial ports and terminals, so they won't let you or your customers down. From design to application, we're here to help you make a positive impact.

Port & Harbour  
Engineering  
by Adrian Jarvis



Register at  
**[takesthepressureoff.com](http://takesthepressureoff.com)**  
for your chance to win a copy



# PORTS & HARBORS

Official Journal of the International Association of Ports and Harbors

## PORTS & HARBORS

Published bi-monthly by the International Association of Ports and Harbors (IAPH), edited and produced by Lloyd's Register - Fairplay Ltd.

## PUBLISHER

**Susumu Naruse**  
Secretary General, IAPH  
info@iaphworldports.org

## EDITOR

**Penny Allen**  
penny.allen@lrfairplay.com

## SUB-EDITOR

**Stephen Spark**

## ADVERT SALES MANAGER

**Daniel Gonçalves**  
daniel.goncalves@lrfairplay.com

## DESIGN & PRODUCTION

**Phil McAllister**  
**Hannah Kidd**  
**Matt Ramsdale**  
**Luke Spalding**  
**Sarah Treacy**  
**Rebecca Bailey**  
**Victoria Strode**

## PICTURE EDITOR

**Kelly Bundy**

## EXECUTIVE EDITOR

**G. Paul Gunton**  
paul.gunton@lrfairplay.com

## EDITOR-IN-CHIEF

**Tony Slinn**  
tony.slinn@lrfairplay.com

## ASSOCIATE EDITOR

**Aya Fujinami**  
IAPH  
ph@iaphworldports.org

## EDITORIAL & PRODUCTION

**Lloyd's Register - Fairplay Ltd**  
Lombard House, 3 Princess Way  
Redhill, Surrey RH1 1UP, UK  
Tel: +44-(0)1-737-379-000  
Fax: +44-(0)1-737-379-001  
Web: www.fairplay.co.uk

## SUBSCRIPTIONS

**International Association of Ports and Harbors**  
Price Japanese ¥12,000 (US\$115 / UK£60 / €87) or per issue ¥2,000, postage included. Visa and MasterCard accepted or for Bank Transfer. You do not have to be an IAPH member to subscribe – contact the IAPH.  
7th Floor, South Tower,  
New Pier Takeshiba  
1-16-1 Kaigan, Minato-ku  
Tokyo 105-0022, Japan  
Tel: +81-3-5403-2770  
Fax: +81-3-5403-7651  
Email: ph@iaphworldports.org  
Web: www.iaphworldports.org

## COPYRIGHT

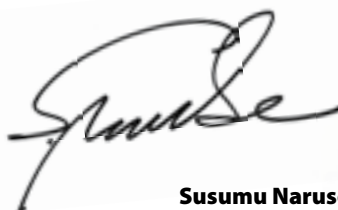
All rights reserved. No part of this publication may be transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or any other information storage retrieval system without permission in writing from IAPH and Lloyd's Register - Fairplay Ltd.  
© Copyright IAPH and IHS Inc, its subsidiary and affiliated companies, all rights reserved, 2005-10

## DISCLAIMER

Lloyd's Register-Fairplay Ltd, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'LRF Group'. The LRF Group assumes no responsibility and shall not be liable for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant LRF Group entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract. Any dispute concerning the provision of LRF's services is subject to the exclusive jurisdiction of the English courts and governed by English law.  
The opinions expressed are not necessarily those of IAPH or the LRF Group and the inclusion of an advertisement implies no endorsement of any kind by IAPH or the LRF Group of the product or service advertised.  
IAPH is unable to accept any liability for the consequences of any inaccuracies, errors or omissions in this publication.

# Positive outlook

World ports have a lot to look forward to in 2010 if economic projections prove their worth



**Susumu Naruse**  
Secretary General – The International Association of Ports and Harbors



So far, 2010 has brought favourable economic news. The World Bank has raised its projected growth rate for the global economy from 2.0% to 2.7%. A prominent consulting group has upped its estimate for growth in US GDP to 2.6%, from 2.2%. China posted spectacular growth of 10.7% for 4Q/2009, and one forecast indicates that China's GDP will expand by 9.5% in 2010. Some ports in developed countries showed robust container throughput recovery in the second half of 2009. Overall, I think we can expect a better economic environment for ports this year.

IAPH's Asia/Oceania Regional Meeting and Port Forum took place in Bandung, Indonesia, last month and was attended by more than 50 IAPH delegates and 200 local port industry representatives. Regional ports presented ambitious expansion plans that should play a key role in national development. Port representatives discussed their own administrative reforms, while others focused on the environmental challenges they are tackling. Our thanks go to the host ports of the Indonesia Port Corporation I, II, III and IV for their efforts. They ensured that the meeting was successfully managed and concluded with the unanimous decision that Port of Auckland should host the next Asia/Oceania Regional Meeting next February.

“We can expect a better economic environment in 2010”

The IAPH technical committees have been working hard to present some of their work. A database on port redevelopment projects will appear soon on the IAPH website. Work on the project on adaptation measures to climate change is almost complete – see page 26 for an overview. The Trade Facilitation & Port Community System committee is ready to start on-site surveys on port community systems. Projects that are included in the World Ports Climate Initiative (WPCI) have also been moving ahead: the Onshore Power Supply website will be launched shortly (see page 28), and a revised version of the IAPH Tool Box for Port Clean Air Programs is now available on the website.

I hope many IAPH members will gather for the board meeting on 7-9 June in the beautiful city of Savannah, where Georgia Ports Authority and the IAPH secretariat will warmly welcome you. PH

Printed by Buxton Press Limited, Palace Road, Buxton, Derbyshire, England



When you have finished with this magazine please recycle it.

## Port updates

### CAR TERMINAL OPERATION

Port of Brunswick's Colonel's Island Terminal, in Georgia, USA, received its first import of Mercedes-Benz cars in December. "We would like to thank Mercedes-Benz USA (MBUSA) for its confidence in our terminal and operations to handle not only its export but also import traffic through the Port of Brunswick," said Georgia Ports Authority's executive director Curtis Foltz.

He added: "We are pleased to welcome MBUSA's additional business to Colonel's Island Terminal and the new jobs and economic opportunities it represents."

### QUICKER TURNAROUND

Shipping company Magsaysay Maritime's domestic lines subsidiaries have deployed a new quay crane at its Manila North Harbour facility in the Philippines to improve container shipping operations. Purchased for \$2.5M from Japan, the Hitachi-made quay crane is expected to obviate the need for National Marine Container Lines and Lorenzo Shipping to employ their ships' cranes.

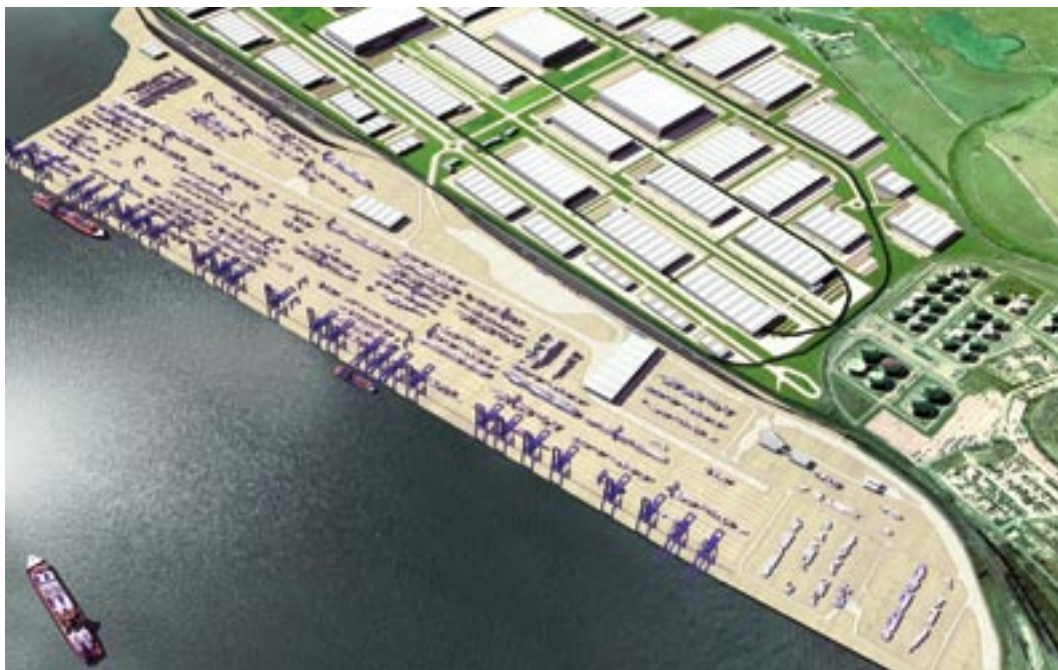
### MEETING THE BENCHMARK

Dunkerque Port achieved accreditation for its facilities for ships and inland waterway vessels at the end of December 2009 in accordance with the ISO 9001 version 2008 benchmark. This accreditation was awarded by LRQA (Lloyd's Register Quality Assurance) following audits conducted in October and November 2009. The certification is in line with the port's strategic plan and marks a new phase in its improvement drive, it said.

### CARGOTEC IN ALGERIA

Joint venture DP World Djazair has awarded Cargotec an order for 10 Kalmar DRF450 reachstackers. The machines, ordered towards the end of last year, should be delivered by the end of this month.

With increased load capacities of 45 tonnes in the first row, 30 tonnes in the second row and 15 tonnes in the third row, the reachstackers are expected to improve productivity at the Algerian terminal.



An artist's impression of the completed London Gateway project

# Weak recovery slows Gateway

DP World has committed itself to a full dredging and reclamation programme that will give the largest box ships in the world round-the-clock access to the giant £1.5Bn (\$2.3Bn) London Gateway terminal. However, the weak economic recovery has made the Dubai operator cautious about announcing a timetable for completion.

"The port's opening date will be subject to market demand. The maritime and container industries continue to go through difficult times and we don't see that changing dramatically in 2010," Gateway CEO Simon Moore told *Ports & Harbors*.

Uncertainty over global trade has been compounded by the stubborn UK recession, which has lasted longer than its European neighbours. DP World's caution over its Gateway project also reflects the recent debt crisis in the Gulf emirate.

Moore was at pains to emphasise that near-term uncertainties have not affected the long-term viability of the container terminal. Completing capital dredging now would give the terminal operator greater



Simon Moore sees little scope for improvement in the container industry this year

flexibility to respond to market demand and build berths quickly, he commented.

He said that building Europe's biggest logistics park behind the port would revolutionise the UK distribution network, as containers currently spend too much time on UK roads, which results in considerable logistical inefficiency. DP World estimates that building a container port and distribution centre within 40km of London – the centre of the UK's largest consumer market – would take 2,000 freight vehicles off the roads every day. London Gateway would

also make use of shortsea shipping routes to the rest of the UK and Europe, and 30% of containers processed by the terminal would travel by rail.

"I think DP World's commitment to start dredging in March is an important message to shipping lines and potential tenants of the logistics park that the project is starting physically," Moore said.

The dredging programme will start on 8 March and will result in the deepest container port berth in the UK, at 17m. Reclamation work will extend the frontage, located on the north bank of the Thames, well out towards the river's main channel. After dredging, the minimum depth in the channel at the lowest tide of the year will be 14.5m and in excess of 20m at high tide.

Moore said the building of London Gateway was predicated on accommodating comfortably the largest container ships being designed – super post-Panamax vessels up to 400m long with a draught of 15.5m and 22 container rows wide.

"This is the size of ship around which everything at London Gateway will be built," he said.



# Charleston wins EPA award

A local partnership to encourage environmental protection and revitalise the area around a major container terminal project in Charleston has won an award from the US Environmental Protection Agency (EPA).

In December the national Environmental Justice Achievement award was presented to the South Carolina State Ports Authority (SCSPA) and the Lowcountry Alliance for Model Communities (LAMC), which incorporates seven North Charleston neighbourhoods.

The port authority has been financing a \$4M 'community mitigation plan' to help improve the surrounding area as part of a larger \$12M initiative to offset the local impacts of the SCSPA's new container terminal. The community project includes funding for local scholarships, affordable housing, environmental monitoring, healthcare initiatives and other programmes.



Photo: Port of Charleston

## SCSPA funded a project to offset the impacts of a future terminal

The three-berth, 113ha container terminal is to be created on the site of a former US Navy base in Charleston. Work on a \$55M containment wall began in June last year. When completed, the terminal is expected to increase the port's throughput capacity by about 50%, amounting to 1.4M teu.

The SCSPA's board secretary, John Hassell, said: "This community has worked productively and collaboratively to advance their neighbourhoods and certainly deserves this award. Working

together, we are maximising the community benefits of port expansion and minimising the undesirable impacts."

The community partnership was also praised by the state's Department of Health and Environmental Control (DHEC), which said: "Collaborative problem-solving is a powerful approach." The group has held air monitoring talks with the DHEC and contributed to the design of part of the port access road that will connect the terminal to the highway.

# Great Lakes operators escape new rules

A final ruling by the US Environmental Protection Agency (EPA) in December handed concessions on sulphur dioxide emissions to shipping operators in the Great Lakes and also sanctioned alternative methods of achieving emission reductions. The decision forms part of a co-ordinated strategy encompassing Marpol Annex VI and the establishment of a joint US/Canada emissions control area (ECA).

Existing Great Lakes steamships will be exempt from all fuel sulphur requirements, and temporary relief from the stricter 2015 standard for marine diesels will be granted if operators can demonstrate "serious economic hardship".

In late September last year – before the EPA's final ruling – Canada Steamship Lines president Gerry Carter told a conference that recent ballast water and ECA legislation had "gotten to the point that it is out of control". He said the ECA encompassing the Great Lakes was originally designed to allow 1% sulphur in marine fuels in 2012 and 0.1% in 2015.

"Such a change would increase our fuel cost by \$28.8M a year, which we would inevitably charge back to our customers and, as we all know, this increase would eventually come out of the consumer's pocket." Carter also called on Canada's government to end its "archaic and punitive 25%

import duty" on foreign-built vessels, which he claimed were more state-of-the-art in terms of emission controls.

US members of the American Association of Port Authorities (AAPA) support a North American ECA for SOx, NOx and particulates under Marpol Annex VI. In October the association called for alternative emission-reduction technologies to be allowed. With regard to the EPA's final ruling, an AAPA spokesman said the association and the EPA were "pretty much in accord since the ruling appears to generally be in line with our stated positions".

Some North American ports have been proactive in reducing emissions, both diesel particulates and greenhouse gases. In 2007, Seattle, Tacoma and Vancouver launched the Northwest Ports Clean Air Strategy to encourage greener behaviour from shipping and land transport.

For lines calling at least five times a year, Seattle encourages burning of cleaner fuel by providing a \$2,250 incentive per call for ships that use 0.5% sulphur fuel in auxiliary engines while at berth.

The port also enables cruise ships to plug into shore-based electricity, and encourages emission-control retrofitting of cargo handling equipment and trucks and reducing levels of pollution from harbor tugs through cleaner fuels and engines.

## Port updates

### BIOMASS FOR ABP

Associated British Ports (ABP) announced last month that it has entered into an exclusivity agreement with DONG Energy for a site within ABP's port estate for the development of a biomass power station of up to 300MW. The power station project will include construction of a deepwater berth that will be located nearby.

The Hull Riverside Bulk Terminal (HRBT) is intended to handle the imported biomass fuel for DONG Energy, but it will also have capacity for other dry bulk customers.

The berth will be capable of handling ships up to 300m long and will cost £1M to develop.

### LERWICK GOES OFFSHORE

Diving support vessels and construction ships are a target market for Lerwick Port Authority following the extensive dredging that was part of a £12M project in 2008. Traffic figures for 2009 show that the number of larger diving support vessels and construction ships using the deepwater harbor, located in Scotland's Shetland Islands, increased by 40% to 59, with gross tonnage up 53% to 459,708gt compared with 2008.

### PROVIDING SUPPORT

Wilhelmsen Ships Service has secured a contract to provide ships' agency services to Van Oord at the Maasvlakte 2 expansion project in Rotterdam. Land reclamation in the North Sea and dredging of the port basins will expand the existing port and industrial zone on the west side of Maasvlakte with 1,000ha new of land for port activities and industry. Up to 14 Van Oord-operated vessels will support the project and Wilhelmsen will co-ordinate with relevant authorities.

### HEAVY LIFT IN ALABAMA

The Alabama State Port Authority and Barnhart Crane & Rigging will provide heavy-lift barge crane services to cargo customers at the Port of Mobile from May. The authority launched its request for proposals process in October 2009 seeking a private partner to position heavy-lift and turnkey services at the port.

## Cash and cargo

### IN THE BLACK

Four of Ukraine's Black Sea ports completed 2009 with increased profits. Port of Yuzhny, which specialises in dry and liquid bulk cargo, took the lead, earning 558M hryvnia (\$70M). Second was Odessa with UAH297.6M, Ilyichevsk – home to Ukraine's fastest-growing container traffic – with UAH285M and finally Kherson, which more than doubled its net profit for 2009 against that of 2008, earning UAH46.078M. In early 2009, most Ukrainian ports suffered a slump in their key cargoes of metals and iron ore, but trade revived in Q2/2009.

### WÄRTSILÄ CUTS COSTS

Wärtsilä plans to reduce its manufacturing capacity and move most of its propeller and auxiliary engine production from Europe to China, close to the main marine markets. The non-recurring costs related to the restructuring will be approximately €140M (\$195M). The company is looking for cost savings of approximately €80–90M. Over the course of the year, the company intends to cut 1,400 jobs globally – 570 of them in the Netherlands.

### KIEL UP ON 2008

Port of Kiel handled 4.86M tonnes of cargo in 2009 – close to its 2008 handling figure of 4.91M tonnes. The handling of bulk cargo, containers and conventional breakbulk bound for Lithuania was up, while ferry traffic to and from Scandinavia and Russia posted declining volumes, said Dirk Claus, the port's MD. The port also recorded a small increase in the passenger transport sector.

### FESCO DISMISSES

Far Eastern Shipping Co (Fesco) has been led to a buyout offer for Fesco's 50% stake in the National Container Company (NCC) by First Quantum, NCC's controlling shareholder. First Quantum has offered Fesco \$440M for its stake, but Fesco CEO Sergei Generalov has so far dismissed the offer. The situation is said to have arisen because of a deteriorating relationship between shareholders and growing financial pressures.



## Channel dredging study under way

A €5M study into better methods of treating and disposing of dredged port sediments was launched in January. The four-year European Union-funded project, involves 12 partners from France and the UK and the participation of the ports of Newhaven, Shoreham, Fowey, Poole, Plymouth, Falmouth, Le Havre, Cherbourg and Brest.

Members of the Sustainable Treatment and Reuse of Marine Sediments (Setarms) project also include the universities of Brighton, Exeter and Caen, and ESITC Caen. The lead partner is the Association Française des Ports Locaux de la Manche (APLM).

Problems posed by the disposal of contaminated dredged

sediments are well known. Two separate studies were originally mooted, one dealing with technical solutions, reuse and remediation and the other looking at dredging management practice and economic impact. The EU subsequently asked for the projects to be merged into a joint Franco-British venture.

The University of Brighton's contribution will be co-ordinated by Kevin Stone, principal lecturer in geotechnical engineering. He said the project will trial a number of new techniques, including electrokinetic stabilisation, in which electrical current is used to strip away pollutants and dewater the sediment material. A centrifuge will be used as a research tool.

### Safe ways of handling contaminated sediment are being studied in a joint UK/French project

New environmental legislation has meant it has become more difficult to dispose of dredged sediment. "The options ports have at the moment are only treatment, remediation or disposal. Disposal remains an option for material that cannot be properly treated. The issue is to look at other ways or novel techniques for treatment," Stone said.

"The more material that can be treated or reused, or even stabilised, the better – if you can lock in the contaminants with some sort of soil/cement system... and make the materials inert. Taking contaminated sediment to landfill is not viable," Stone insisted, especially given the large volume of material produced each year. Some uncontaminated material can be used in aggregates, although the finer-grained sediment requires dewatering.

The overall aim of the Setarms project is to find ways to remove contaminants safely or to stabilise or neutralise the contaminants. Project work will be divided into four packages: an overview of the current dredging situation in the English Channel; sediment characterisation; new methods to reuse sediments in civil engineering; and the results summary. Dredging company Royal Boskalis Westminster will provide the sediment samples for the study.

## Cargo certification could affect carriers

Proposed rules to regulate cargo loading could add another layer of administrative costs on to carriers. In a Federal Register notice in January, the US Coast Guard noted no certification or qualification standard exists for blocking and bracing cargo, and that specific methods are left to the discretion of the company packing the container.

According to the USCG notice "Significant damage and shifting of packages has purportedly occurred in cargo transport units in which the cargo was secured with flexible strapping." The agency contends that, without tighter oversight, certain strapping systems could be used even though they may not adequately

secure cargo even when installed properly.

USCG officials were not immediately available to comment. A former Coast Guard law specialist suggested that even if they were not directly affected by any eventual regulation, carriers could still be affected.

"What could eventually come out of this is that as part of the bill of lading there will be a certification that the container was stuffed in accordance with the ISO," Dennis Bryant, now a consultant. "And the IMO could then eventually adopt a regulation prohibiting the carrier from loading a container that lacks that certification."





## Responsible for tomorrow

Cargotec improves the efficiency of global cargo flows by offering solutions for loading and unloading goods – on land, in ports and at sea. With our three market-leading daughter brands Hiab, Kalmar and MacGregor, we provide our customers with solutions that are energy-efficient and environmentally sound, both of which are essential to our success in serving the cargo handling industry.

Cargotec's Pro Future™ as a mark of environmental excellence qualifies our 'greenest' solutions against five ecological decision-making drivers. Our recently launched EcoService – a range of economical and ecological service solutions have been awarded with the mark. MacGregor electric-drive portfolio improves overall efficiencies as well as lowers power consumption, and its bulk handling systems provides dust-free handling of dry bulk cargo. Hiab environmental waste management solutions optimize performance and costs. For future generations, we are doing our part today.

## People

### NRS APPOINTS AHERN

National Retail Systems has appointed Patrick Ahern as vice-president, international. He will be responsible for expanding the operations of SinoNRS, the US logistics company's joint venture with China's Sinotrans. Ahern, who has 18 years' experience in logistics, commented that suppliers are under pressure to gain more control of inventory flows, while in China the focus is on reducing inland logistics costs.

### DON FOR MILFORD HAVEN

Alec Don was set to become chief executive of the Milford Haven Port Authority in the UK at the start of March. Don has a background spanning corporate finance and considerable port experience – including stints with the Mersey Docks and Harbour Company, and the ports of Maputo, Mozambique, and Liverpool. Don takes over from Ted Sangster, who has been chief executive since 1998.

Milford Haven's two new LNG import facilities were commissioned last year.

### GOODSON RE-ELECTED

Florida's Canaveral Port Authority has appointed Tom Goodson to a second term as chairman. Goodson, originally elected to the port's commission in 2002, is a businessman from Rockledge. Meanwhile, attorney Joe Matheny was elected as vice-chairman and Malcolm McLouth – the port's long-serving former executive director – has become secretary treasurer.

### ATKIN FOR TEIGNMOUTH

Dave Atkins, Associated British Ports' port manager at Teignmouth and Millbay (Plymouth) in the southwest of England, has been appointed a commissioner to the Teignmouth Harbour Commission, the statutory authority that regulates the port's marine operations.

Atkins, who has been with ABP since 1979, previously worked as head of operations at the company's ports of Grimsby and Immingham. Teignmouth handles more than 700,000 tonnes of cargo a year.



Photo: Dietmar Hasenpusch

### Husky Racer's lost containers have prompted trial of a container weighing system

Harald Nijhof, representative of Maersk Line's South Europe Liner Operations Cluster, told *P&H*. "This should signal, at an early stage, whether there are any discrepancies," he said.

Maersk Line believes it is the only company trialling the system, and is confident that not only will it help avoid financial losses but also significantly enhance safety. "We believe this will go quite some way in reducing the number of incidents where undeclared weights are compromising our safety standards," said Nijhof.

The trial will run for the first quarter of the year and, depending on the results, the technology is expected to be put into service in the second quarter.

The MAIB investigation found inaccurate container weights were on the loading plan as a result of a system "shortcoming". The mistake meant the operations department failed to receive an update when the shipper provided content details to the carrier. MAIB also said the trigger for the container collapse remained unclear.

## Maersk weighs up box options

Maersk Line is testing software that provides accurate weights of containers to help reduce the risk of containers being lost overboard. The software is being introduced after an accident on 12,950dwt container vessel *Husky Racer* in October last year, when 18 containers were lost overboard in Bremerhaven.

Initially, it was thought that many of the containers were empty, but it transpired that the

top containers had contents weighing between 15 and 30 tonnes, according to a recent report by the UK's Marine Accident Investigation Branch (MAIB).

Specific details on the name and the operation of the software have not yet been released, but Maersk Line confirmed that it is testing the system. "We are trialling a feature in our booking system that validates the booked weight with a weight band for that specific commodity,"

## Scheldt dredging gets go ahead

The Netherlands has finally agreed to the Western Scheldt dredging, ensuring Antwerp will remain a leading European port. Antwerp Port Authority and Alfaport Antwerpen are "satisfied" with the decision by the Dutch Council of State that overturned a postponement of deepening work on the Dutch side of the Western Scheldt.

Flanders has already completed work on its side of the border within the agreed time limit. Until now the Netherlands has been in default, since under the

terms of the Scheldt Treaties the work should have been completed by the end of 2009.

Deepening the navigation channel will enable Antwerp to defend its position as Europe's second-largest port, in the face of competition from Rotterdam and Hamburg. It will permit tide-independent navigation by ships with a draught of up to 13.1m. Once dredging is complete, seven out of 10 ships that are currently tide-dependent will be able to reach the port without tidal constraints.

## Onshore power supply grant for APL

APL has been offered a California grant to introduce green technology to five ships at its terminal in Oakland. The container carrier company will receive \$4.8M from the state in an \$11M project to introduce onshore power to the terminal for up to five box ships.

From 2014 California will require

all large ships to use onshore power. However, said local environmental official Jack Broadbent, "APL is getting a head start to reduce emissions well before the state deadline".

APL said it will be the first carrier at the port to provide onshore power to vessels. The company

estimates that using shoreside electricity instead of diesel can eliminate 454kg of nitrogen oxides emissions, 75kg of sulphur oxides and 14kg of particulate matter in a 24-hour port call. Other west coast ports, such as Seattle, Vancouver and Tacoma, are also encouraging ships to switch to onshore power.

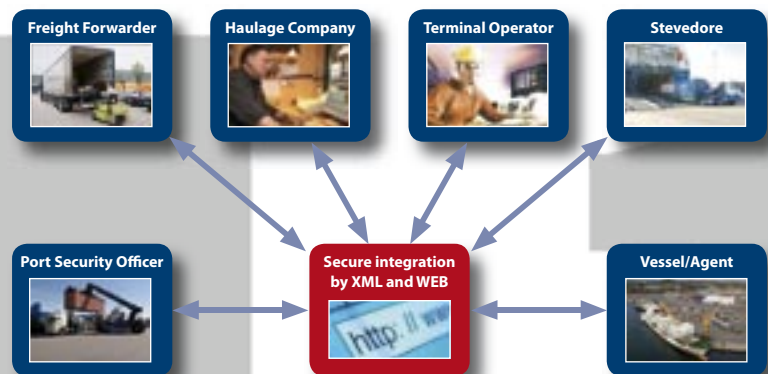


Port Security Officers and Terminal Security Officers are challenged with finding a solution that delivers integration of security systems, harmonise processes and routines, deliver value for money and does not strain the logistics efficiency and resources.

Seamless's flexible range of security services are designed to support efficient security management and collaboration across terminals and supply chains.

- **PortTools®** is vendor-independent and will work in any heterogeneous environment
- **PortTools®** is a modular platform that supports security governance, sharing of documents and secure integration.

## PortTools®



**There is a clear responsibility between PFSO, ISPS Terminal and Haulage Companies. Documents are always up to date, controlled and available for all involved parties.**

[www.1seamless.com](http://www.1seamless.com)

SEAMLESS AS • Gimlemoen 19 • 4630 Kristiansand, NORWAY • Tel: +47 464 40 500 • Email: [sales@1seamless.com](mailto:sales@1seamless.com)

**STRATEGIC LOCATION COST EFFICIENT RAPID TURNAROUND  
YEAR-ROUND OPERATION**



**Montreal Gateway  
Terminals Partnership**  
CERTIFIED ISO 14001

**THE SUPER TERMINAL™**

Box 360, Station K, Montreal, Quebec, Canada, H1N 3L3  
Tel: 514.257.3040 Fax: 514.257.3056 e-mail: [adm@mtrtml.com](mailto:adm@mtrtml.com) Web: [www.mtrtml.com](http://www.mtrtml.com)

## Dredging

### MANILA MAKES PROGRESS

After seven months' work, the Pasig River Rehabilitation Commission estimates that it is half-way through the task of dredging 2M m<sup>3</sup> of silt from Metro Manila's main waterway. Belgian firm Baggerwerken Decloedt en Zoon is engaged to remove the remaining 1.3M m<sup>3</sup> that was contracted before year-end 2009. The project was deemed urgent because frequent flooding and unpredictable weather patterns resulted in Manila residents being displaced.

### SEA ACCESS TO PEMBROKE

An approach channel to the site of a power station at Milford Haven Port, Wales, is to be dredged to enable Alstom, the company building Pembroke Power Station, to bring in its largest and heaviest items by sea rather than rail. A backhoe dredger will be deployed and the silt transported by hopper barge to a disposal area off St Ann's Head.

### DREDGING RESUMES

Dredging put on hold two years ago at Delaware Bay's Refuge Atlantic Harbor and restoration of White Point could resume by April. The County Board of Commissioners is set to approve finance and agree a contract for placement of dredged material.

### POLLUTION PROBLEM

Mud in the Indiana Harbor and Ship Canal is so polluted it could rank among the most contaminated sites in the USA, researchers have discovered. The US Army Corps of Engineers plans to dredge the canal from late 2011 to facilitate ship traffic, but there are fears that dredging will stir up contaminated silt.

### DOLPHIN DREDGING

UAE-based contracting company Abu Dhabi Land has announced the completion of dredging, reclamation and rock revetment works at Dolphin Island and coastal protection for the Marina Square at Reem Island, Abu Dhabi. The project required engineers to shape the island by constructing rock bunds and rock revetment walls to achieve the desired dolphin shape.



Cargotec Port Security's technology on a Bromma spreader

## High score for scanners

Container scanners that can be integrated into yard equipment and spreaders achieved a 99.9% accuracy rate, Cargotec Port Security announced at a press conference in January.

The scanners are designed to detect radiation and fissile materials. Various substances were hidden in containers at Oakridge National Laboratory in Tennessee, USA, in December when a number of tests were conducted. Other evaluations of the 'SafePort' technology have been made by government agencies resulting in the same levels of accuracy.

US government requirements for the scanning of 100% of incoming cargo remain unclear, with the original 2012 deadline moved to 2014 (see page 18).

Cargotec, which has privately funded the research, is confident that there will be a requirement for the technology. "Security doesn't have a price tag," said Mikael Persson, vice-president of reachstackers and empty container handlers. Troy Thompson, president of Cargotec Port Security, also observed that the US "mandate is still in existence".

Cargotec has incorporated its technology into several applications within the port, including cranes, and recently launched a range of mobile scanning equipment for use on patrol or monitoring vessels in the port. Thompson added that "ultimately the goal is not to interrupt port turnaround".

The first ship-to-shore crane was

installed at Port of Charleston in December, with a straddle carrier installed in another, as yet unnamed, US port.

The company believes that SafePort technology is "well-suited to address the significant 'security gap' issues that exist at transshipment terminals". Transshipment hubs pose an especial risk, it said, "since containers arriving by sea are normally transferred from one ship to another without going outside the terminal perimeter gates, where container scanning with portal monitors is typically performed". It added: "The security risk is enhanced by the fact that millions of containers flow through transshipment terminals, many arriving via smaller feeder vessels."

## Deltaport doubles handling capacity

The opening of a new C\$400M berth at Port Metro Vancouver's Deltaport has increased that terminal's handling capacity by 50% to 1.8M teu. Equipped with three dual-hoist quad cranes – the first of their kind in the Americas – the third berth means that the terminal can now handle the largest container vessels afloat and the even larger vessels that are on the drawing board.

The new berth also provides Deltaport with an additional 200ha of container storage space.

During the opening ceremonies the new berth was occupied by Hapag-Lloyd's 7,506teu-capacity *Shanghai Express*, with a length of 320m and width of 43m. Also docked at Deltaport were Hapag Lloyd's 6,732teu, 300m *San Francisco Express* and Evergreen Marine's *Ever Eagle*. All three

vessels regularly move containers between the Pacific Northwest and Asia.

Canada's minister of international trade and the Asia-Pacific Gateway, Stockwell Day, said that this expansion sends a signal to shippers waiting for the expansion of the Panama Canal in 2014 that Canada's Asia-Pacific Gateway and west coast ports are already open for business.



## Inland ports push for waterside space

Europe's inland ports are urging local authorities to set aside riverside land for logistics use, in a bid to boost inland waterways' share of the transport burden.

The continent's 35,000km of waterways represent an underutilised transport resource, and the Brussels-based European Federation of Inland Ports (EFIP) believes that "space along the waterway should be safeguarded for logistical purposes or other river-related uses", if necessary.

EFIP is also pushing for better co-operation between inland ports and seaports. A joint marketing initiative known as Rheinports, is allowing the ports of Basel, Mulhouse and Weil am Rhein to present a single face to seaports.

According to EFIP director Isabelle Ryckbost, taking cargo to and from inland port hubs can help reduce congestion at seaports. "It's



**Isabelle Ryckbost of EFIP:**  
**"Goods don't stop at seaports"**

a win-win situation for both inland and sea ports. Goods don't stop at the seaports, and from the inland ports' side there has to be an outlet," she said.

The federation, which has 200 members in 18 countries, wants to see more inland intermodal hubs

and the removal of remaining administrative bottlenecks, such as certain customs procedures and controls. "Only some inland ports are ISPS-compliant and in the future those that want to work with seaports will have to upgrade to this certification," she pointed out. "You need interconnections with other modes and well-developed interfaces."

Railways and inland waterways could increasingly work together if regulations were streamlined, EFIP noted in a recent newsletter. Disposal of urban waste by barge is another area of potential growth. Paris, for example, dispatches large quantities of used paper down the Seine to Rouen. Europe's transport network could also feed into the Sava river basin in Serbia, Croatia and Bosnia-Herzegovina and even link up with Russia's railways via the River Danube.

## Dredging

### CLEANER DREDGING

In a bid to reduce sulphur dioxide (SO<sub>2</sub>) emissions, Antwerp Port Authority switched its fleet of tugs and dredgers to low-sulphur gasoil in January. "The measure will cost an estimated additional 7.8%, but will avoid some 13,860kg of emissions annually," said a port official. The move is part of the port's Particulates Action Plan to reduce particulate emission levels.

### FUTURE PLANNING

Port of Seattle is applying for a 10-year permit from the US Army Corps of Engineers to dredge up to 30,000m<sup>3</sup> of sediment annually from Eagle Marine Services' Container Terminal Five. Silting and under-pier sloughing has reduced water depths in some parts of the terminal to 12.8m instead of 15.2m, causing problems for vessels heavily laden with agricultural exports.

## Kongsberg Norcontrol IT



KONGSBERG

## Maritime Domain Awareness solutions for VTS and VTM requirements

- Vessel Traffic Service (VTS) Systems
- Vessel Traffic Management (VTM) Systems
- Port Security Systems
- Automatic Identification Systems
- AIS Networks
- Port Management Information Systems
- Offshore Collision Avoidance, Safety and Security Systems
- Coastal and EEZ Surveillance Systems

Our heritage includes more than  
30 years of maritime domain  
awareness and more than  
200 system deliveries

Kongsberg Norcontrol IT

PO Box 1024 · N-3194 Horten · Norway

Tel +47 33 08 48 00

Fax +47 33 04 57 35

[www.kongsberg.com](http://www.kongsberg.com)









# Recognising the 'new normal'

**Kim Fejfer**, CEO of new IAPH associate member APM Terminals, gives a global operator's perspective on doing business after the downturn

If ever there was a time when it was necessary to have an independent organisation such as IAPH dedicated to promoting good relations between ports and harbors, it is now. A tough year for ports and harbors has come to an end, but it is uncertain how much better 2010 will be.

Economists and analysts have begun to speak with some degree of confidence about signs of economic recovery, and this is good news. For those of us in the container terminal business, however, it is not simply a case of waiting for things to return to normal. For us, it is facing the reality of what has become the 'new normal'. We need to recognise the fundamental changes in the industry in terms of expectations of growth, investment and demand. We should respond to these changes assertively and sensibly.

The APM Terminals' global network managed to weather the crisis successfully, but only by taking steps early on. It had begun to make changes in outlook and approach well before the crisis broke. It did have some insulation against the full effects of tightening credit and the resulting severe trade volume decreases. No one in this industry fully escaped, however, as these effects cascaded through the world's shipping community.

The steps taken by APM Terminals have been a key factor in emerging stronger from the crisis. Although overall throughput and revenue declined in 2009, the company remains profitable; it has even gained in market share.

Achieving this meant taking difficult and sometimes painful decisions about practices, projects and personnel. A goal of \$200M in cost savings for the company overall was set. Some new terminal development plans were delayed; others were cancelled outright.

The new reality is that such strict measures are not short-term fixes, but must now be on-going. This is something that needs to be translated into our culture, as a company, and within the industry at large. Two years ago, a

common topic at port conferences was the need for additional terminal capacity to meet the needs of projected container traffic. Terminal access was not so much sold as allocated. No longer. Steady double-digit growth rates of global containerised trade were considered normal over the past four decades. The new normal is that customer service is now a deciding factor in terminal contract negotiations. The new normal is that we must battle everyday to utilise terminal capacity in an increasingly competitive and lower container volume environment.

There can no longer be growth simply for the sake of growth in the terminal industry. APM Terminals has changed its organisational mindset from growth to providing value and service. With this in mind, it is actively evaluating and managing its portfolio of terminals. At the end of the day, all of the company's individual ports need to generate profit. Negotiations for new terminal concessions must be realistic. Ports need to look to terminal operators as partners and not as real estate speculators.

The terminal industry must be responsive when facing changes. This now includes areas which previously had little, if any, bearing on strategic company decisions. APM Terminals' goal is to remain at the forefront of sustainable

environmental terminal design and operation, not only because it is demanded by the company's corporate policies, but also because increasingly it is required by its customers.

The company target for 2010 is to reduce carbon dioxide emissions by 10%. Worldwide, there are approximately 100 environmental initiatives and ideas in play. These run in scale from the transformation of the Rotterdam terminal to wind-powered energy last year to reconfiguring yard lighting to save electricity in Xiamen, China. The new normal is container terminal operators working as proactive environmental and energy advocates.

International containerised liner trade began on the trans-Atlantic routes just over four decades ago. The centre of gravity of containerised trade gradually shifted to the trans-Pacific services as new global trading patterns evolved. This evolutionary process continues. By 2009, China had overtaken Germany and the US as the leading exporting nation, having already surpassed Germany as the third-largest economy in the world in 2007. Asia has become the new hub of global container trade. The brightest spots in the container industry are now in the economically emerging markets of southeast Asia, the Indian subcontinent, sub-Saharan Africa, Latin America and the Middle East.

Lack of port and transportation infrastructure in these regions persists. This simple fact emphasises the major role that established container terminal developers and operators will continue to play. We serve as crucial catalysts in the global economy by providing access to new markets and the benefits of international trade. Make no mistake, we are still in the game and we are playing to win.

If we seem cautious in our planning, frugal in our investments, environmentally hypersensitive and terribly selective in choosing our partnerships – please understand that this is just normal, the new normal. **PH**

*More info: [Thomas.H.Boyd@apmterminals.com](mailto:Thomas.H.Boyd@apmterminals.com)*



“Ports need to look to terminal operators as partners and not as real estate speculators”

**Kim Fejfer**, chief executive officer

Photos: APM Terminals/Stockphoto



## Assessing the risk from below

The technology to detect an underwater threat is available. The questions now are: how real is the threat, and how far should ports go to protect themselves? **Tom Bailey** reports

**Outreach... three types of coverage are used as part of Marseille Fos' SECMAR security project**

**T**he fact that the IMO's International Ship and Port Facilities Security (ISPS) Code doesn't directly define the actions required to accurately assess and deal with underwater-based security threats could be taken one of two ways. On the one hand, you could argue that if the level of potential threat from underwater attacks is not deemed significant enough to warrant direct mention in the ISPS Code then there's not a great deal to worry about – and no need for the world's ports and harbors to take action in order to prevent such attacks.

On the other hand, of course, it could be argued that with no hard-and-fast rules for protection against attacks from semi-submersible vehicles, divers or explosive devices attached to the hulls of vessels, the underwater domain could be easily exploited by terrorists aiming to attack a particular port.

"In simple terms, IEDs [improvised explosive devices] are a genuine threat to ports. Drug runners have been known to use hulls to export narcotics. If narcotics are being transported in this way then there is no reason why other substances or equipment can't be," Mark Hankey of Maritime and Underwater Security Consultants (MUSC) told *P&H*.

"However, one should not underestimate the complexity of such an operation – nor the costs of policing against it," he said.

Some terminals may choose to use cost-effective, makeshift underwater security methods including traditional camera systems and passive hydrophone equipment normally used for mammal research. But experts believe that such cameras are of little use in turbid waters, as hydrophone technology currently struggles to differentiate between targets.

Sonar-based technology is more widely recognised as more fit for purpose in identifying threats. Diver detection surveillance sonar (DDS) is one such possibility, as are multi-beam systems – which are able to create three-dimension bathymetric images of a vessel's hull.

Such equipment doesn't come cheap, and Hankey told *P&H* that there are cheaper ways of keeping waterside facilities safe. "There are numerous products on the market today which can help detect threats but these are expensive and must be kept in balance with the operational needs and constraints in place," he said. "Less expensive options could include diver searches," Hankey pointed out. He believes these alone would generate publicity that could serve as a deterrent.

Not all ports need state-of-the-art underwater surveillance equipment. "Key areas of concern could be those related to critical national infrastructure – LNG terminals, for example – or those terminals and vessels which carry high profile cargo, such as passenger or cruise ships," Hankey said.

The US Navy, for example, takes the potential threat of underwater attacks seriously, having ordered additional Sentinel Intruder Detection Sonar Systems from UK-based Sonardyne International in late 2009. This equipment complements existing equipment used in the Integrated Swimmer Detection Program at its Naval Underwater Warfare Center in Newport, Rhode Island.

"These latest contracts from the US Navy are in recognition of the programme's success and continued development, providing the potential for an affordable and efficient system to protect the nation's military and commercial maritime infrastructure," said Eric Levitt, Sonardyne's business development manager for maritime security and defence in the Americas.

The Sentinel system – a compact underwater surveillance sonar that detects, tracks and classifies subsea targets such as surface swimmers, divers and vehicles – has also been selected for permanent installation at an as-yet unnamed commercial port in the US. According to the company, the system can detect different underwater objects by using a combination of sonar equipment, processing units and software, minimising false alarms.

The sonar will be integrated into the port's new

## Security taken seriously

While the debate over the need for extensive anti-underwater threat equipment in ports will doubtless rumble on, there have been some successful implementations of such security systems at high profile events in recent years. "The 2004 Athens Olympics is a good example," Maritime and Underwater Security Consultants' Mark Hankey told *P&H*. "A layered approach was adopted, including the use of things like anti-diver nets."

Also successful was the Japanese police's decision to protect Tokyo Bay and the coast around the Tomari nuclear power plant situated in the Shakotan peninsula against underwater threats during the 2008 G8 Summit, held at Hokkaido Toyako. This was deemed necessary due to a security breach in 2007, when 21 activists were arrested after trying to land from a small boat at the G8 Summit in Heiligendamm, Germany.

The waterside security system used included several of RESON's SeaBat multibeam sonar systems. One of them was the SeaBat 7112 system, which consists of a circular array and projector and is capable of tracking a cylindrical volume of water up to 1000m across. It's designed to detect and track small targets such as divers and alert operators of their presence on a geo-referenced map of the area.

Also used at the Tokyo Bay installation was the SeaBat 7111 Diver Detection Sonar – a high-resolution, forward-looking sonar system, which can be mounted on a surface vessel or remotely deployed on the sea floor and is available in depth ratings of up to 60m. The SeaBat 7123, a triple-frequency sonar that operates at 110kHz (low frequency), 240kHz (high frequency) and/or 455kHz (very high frequency), was also selected. The high-resolution sonar is suitable for both commercial and military applications.

command and control system, which tracks data from sonar, radar and camera equipment.

Another port considering underwater threats as it overhauls its security system is Marseille-Fos. It is currently piloting the €13M SECMAR (SECurity system to protect people, goods and facilities located in a critical MARitime area) project, which Jean-Claude Terrier, chief operating officer of Port of Marseille Authority, described as "an innovative multi-sensor system including sonar, radar and electro-optic sensors for detecting asymmetric waterborne threats for a specific area, above and under water".

The system will be used alongside existing security measures in an attempt to secure the port's entire 'multimodal transport platform', which includes berths

**Right: The SECMAR project comes together in the control room**  
**Left: Alongside at Port of Fos**







**A Sentinel sonar head being deployed... it can detect and track a number of different targets**

and terminals, ships, road, river and rail facilities, and pipelines, all of which fall within the perimeter of Marseille-Fos.

SECMAR incorporates above-water radar and an underwater detection sub-system, an acoustic-base network and swimmer detection system with a remotely operated vehicle. Other systems used in the project include an electro-optic sub-system with

thermal imagers and sensors as well as high-resolution radar and Doppler radar for static and sweeping coverage respectively. *P&H* understands that it can't differentiate between terrorists or dolphins, for example, but can detect abnormal activity. This is in addition to the existing central security station, which incorporates double-ring fencing, video surveillance and patrols, as well as two commutable control stations with vessel traffic management (VTM) facilities.

The first phase of the project saw testing of the radar, optro and sonar sensors in the port environment to ensure that the equipment will bring new information to complement the data gathered by the port's existing set-up.

"They [were previously] unable to see what was going on in the underwater space as well as on the surface for little crafts," Daniel Taton, business development manager for Thales Maritime Safety & Security, the project leader for SECMAR, told *P&H*. "These tests demonstrate to the port that the new sensors will help them to make their port really safe and secure."

Phase Two of SECMAR gets under way this year and includes deployment of the new equipment. The previous VTM port operation team will be extended with operators specifically dedicated to using the new technology. The ultimate objective will be to merge the two teams, but they will remain separate for the duration of the deployment phase.

Despite the installation of this new equipment, underwater attacks are still a relatively minor worry for the port and not a priority, Taton told *P&H*. "We only use passive sonar to complement other surface dedicated sensors." This could easily be extended in the future, however. "We could add a high frequency diver detection sonar or another medium active frequency sonar," said Taton, who added that the level of threat from underwater attacks varies heavily from port to port. "Military ports are always asking for this type of equipment, while oil and gas terminals in 'hot' areas are also more likely to ask for these types of sensors." **PH**

## Commercial help for government?

UN member states agreed to work against the proliferation of weapons of mass destruction (WMD) in April 2004, when resolution 1540 was adopted. A lot of technology exists in today's ports, and other points of entry into a country, which can help governments fulfil their obligations in this respect, claims security inspection company Cotecna. Under the resolution governments are required to apply effective measures to control WMD-related items and one way of doing this is by checking ingoing and outgoing cargo.

Vice-president of business development and corporate relations, Richard Douglas, believes that governments are not utilising existing technology enough, or tapping into the expertise that can be provided by third-party commercial help. Providing that the personnel is from a "trusted" company, Douglas claims that the added value "at a nation's border crossings and ports... is indisputable, but not immediately evident".

Douglas highlights three areas where this type of assistance can be used:

- Scanning equipment used globally to inspect and scan containers and cargo vessels for revenue protection or to combat conventional smuggling, can also be used

to check for WMD. Douglas said: "In addition to careful and expert imaging, such equipment configurations and operational processes may be easily modified to include radiological and explosive detection in the work flow, in this way providing deeper layers of defence against proliferators."

- Insight drawn from a database is a valuable tool, said Douglas: "A well-managed, mature and populated database, with information about shippers, consignees, carriers, cargo, and other trade-related information, can provide substantial support for the counter-proliferation mission to responsible officials in the operating country by helping to identify actors or events of concern in the supply chain".

- Visual inspections of outgoing or incoming consignments, are also overlooked, he claims: "Today, in many nations, inspections prior to shipment or on arrival detect over-invoicing to prevent unjustified transfer of foreign exchange abroad, determine the classification and valuation of goods, and ensure the correct collection of import duties and taxes. In addition to combating capital flight and collecting extra customs duties, these inspections should also be seen as key measures to combat WMD proliferation."



**goods** *plural: n.* items transported by ship to **port** to railway or road and onto market(s); wares, merchandise, food products, chemical compounds, electronics and agricultural products.

**moffatt & nichol:** *n.* global maritime infrastructure advisors

Improving the flow of cargo worldwide.



moffatt & nichol

Creative People. Practical Solutions.™

[www.moffattnichol.com](http://www.moffattnichol.com)



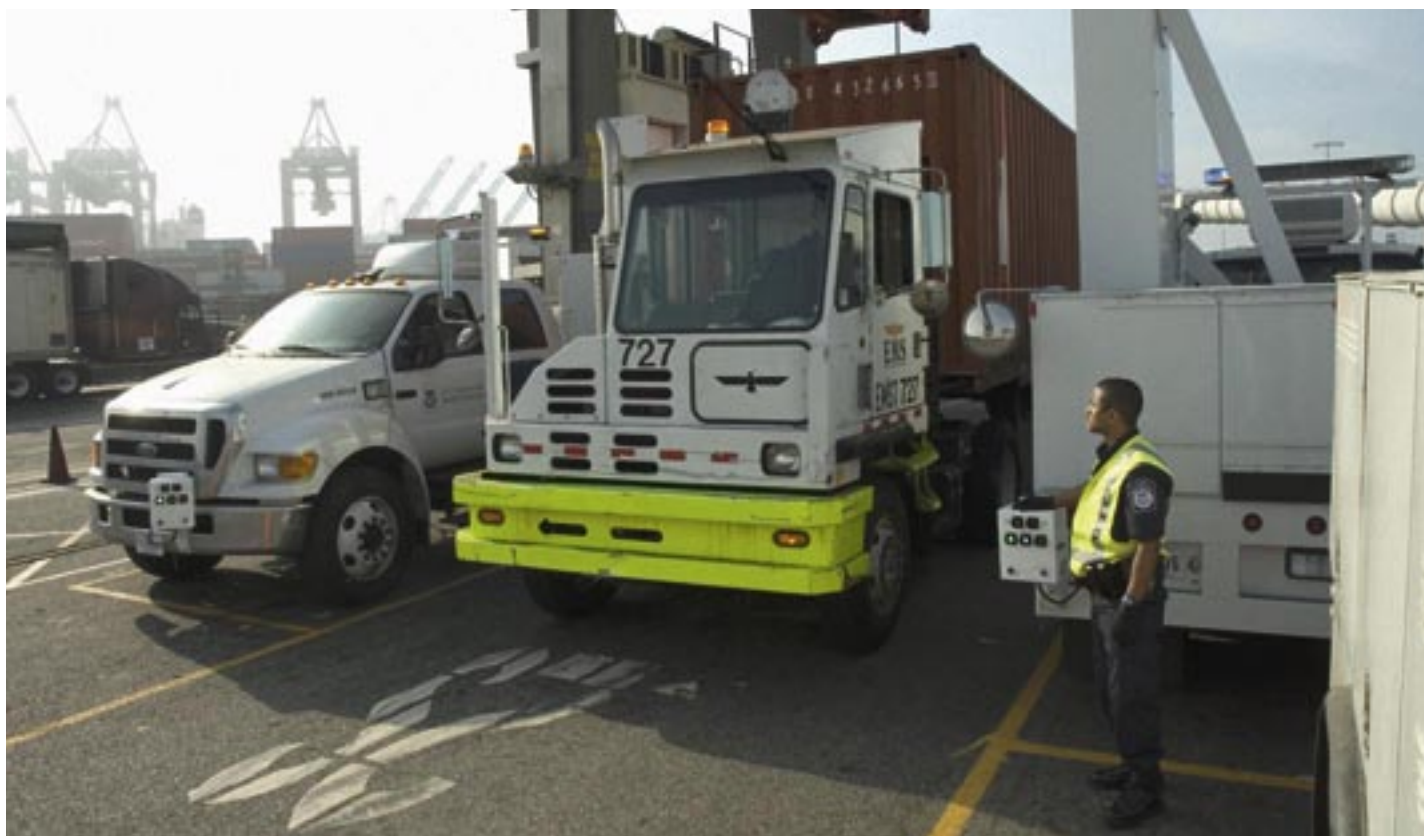


Photo: Port of LA and LB

# Reality dawns for 100% scanning

Global ports have been granted relief from an 'impossible' US security scheme. Americas editor **Greg Miller** reports on its feasibility in the future

**Global scanning pilot tests haven't come close to the 100% rate**

**A**s 2009 drew to a close, there was cause for celebration in the world's port community: a draconian US container security law had proved unenforceable. The '9/11 Commission Act of 2007' had decreed 100% scanning of US-bound boxes before loading at all foreign ports, beginning July 2012. But in December, the US Government Accountability Office (GAO) conceded that this deadline cannot be met. That revelation didn't surprise the law's vehement international critics, who have long claimed it was impossible to implement.

The US agency charged with enforcement, the Department of Homeland Security (DHS), used a loophole in the law to delay the deadline. The 9/11 Act allows ports a two-year extension if any of six conditions exist. DHS determined that several conditions apply to all ports, so it will provide a blanket global reprieve until July 2014.

The extension is essential "to allow the continued flow of commerce" because "most if not all foreign ports will not be able to meet the July 2012 target date," admitted DHS.

There is now widespread speculation that this is not just a two-year delay, because the extension loophole can be invoked repeatedly. Barring (a) major advances in scanning technology, (b) a Congressional rewrite of the law or (c) a container-based terrorism incident, it's believed that DHS will simply issue repeated extensions.

DHS opted to provide a blanket worldwide extension versus port-by-port relief due to competitive concerns. DHS pointed out that if one regional port was awarded a reprieve and another was not, shipping interests would shift cargo moves to the non-scanning port to avert loading delays linked to scanning. "We've always been opposed to setting an arbitrary deadline for 100% overseas scanning," said the American Association of Port Authorities (AAPA) spokesman Aaron Ellis. "You don't want to throw out the baby with the bathwater," he asserted, noting that 100% scanning remains in the testing phase. "The AAPA supports a layered approach – risk-based screening, scanning and searching."

"We believe that DHS needs to monitor the progress of pilot overseas scanning programmes and more fully

evaluate the effectiveness and practicalities of scanning technology before setting a deadline," he added.

So what have overseas pilot programmes shown to date? December's GAO report disclosed poor results of tests at ports participating in the Secure Freight Initiative (SFI).

Over the past two years, scanning was conducted for various lengths at five SFI ports: Hong Kong, Busan, Southampton, Qasim and Puerto Cortes. The two ports with significant volumes of US-bound boxes – Hong Kong and Busan – achieved insignificant scanning rates, 3% and 5% respectively. The three ports with minimal box flow to America – Qasim, Southampton and Puerto Cortes – had scan rates of 54-85%. No one came close to the mandatory 100% rate.

At Hong Kong and Busan, fears arose for the safety of truck drivers and port staff because of a possible radiation hazard. In those two ports, officials refused to require drivers to pass through the scanners, allowing optional participation, which hit test results.

In Southampton, a problem was found involving containers arriving by rail. Moving the boxes onto trucks to pass them through the scanners involved an extra cost. Given the added cost of \$60/container, the port ultimately halted scanning of containers arriving by rail.

In Hong Kong, truckers often raced through the scanning portal so quickly it was impossible to "obtain a clear enough image to verify the contents of the container," the GAO report said. Scanning equipment broke down due to weather issues in Southampton from rain and in Port Qasim from extreme heat.

Yet another challenge uncovered in Southampton involved transhipped containers arriving by sea. Such boxes have only a limited time window available for scanning, so scanning proved impractical. The GAO noted that a solution to scanning of transhipped boxes is being explored in Freeport, Bahamas, where radiation detection panels have been mounted on straddle carriers.

If America's 100% scanning plan is truly just delayed – and not totally abandoned – it would logically require that future test data reveals the potential for success. This would seem to hinge on global port participation in America's SFI programme. But the evidence from the GAO report is far from promising. "Some ports that initially agreed to participate in the SFI programme did so for a limited time or only on a limited basis," reported the GAO.

DHS originally reached agreements with seven

“At Hong Kong and Busan, officials refused to require drivers to pass through the scanners, allowing optional participation”

ports, not five. However, Singapore and DHS mutually decided to scuttle their agreement, due to concerns about the port-efficiency impact. Port Salalah in Oman initially agreed to participate for six months, but it never happened.

Meanwhile, Hong Kong participated in SFI for 16 months (from January 2008 until April 2009), then dropped out. The port "saw no benefit to participation in the programme in terms of its own port security and expressed concerns that equipment and infrastructure costs, as well as cost to port efficiency, would make full implementation of the SFI programme at all of its terminals unfeasible," revealed the GAO report.

Busan began its participation in March 2009 for six months at one terminal only, and has extended participation for an additional six months, but the GAO conceded that "no permanent arrangement has been reached".

In Southampton, UK customs officials withdrew in 2008 after the first six months. They concluded that assistance with SFI prevented "fulfilling their domestic responsibilities, such as detecting drugs," said the GAO. The SFI scanning operation in Southampton is manned by US customs staff working with the terminal operator.

Clearly, the global port community is not keen to embrace America's SFI programme due to understandable concerns about efficiency and the impact on costs. Indeed, there have been recent US reports questioning the long-term feasibility of the SFI programme, which has already cost American taxpayers \$100M.

All of which raises one question: if poor global SFI participation means that evidence can never be obtained to prove 100% scanning is possible, how can DHS avoid repeated deadline extensions, effectively rendering the law meaningless? **PH**

**Southampton scanning was impaired by rain damage and the impracticality of scanning boxes arriving by rail or transhipped containers arriving by sea**



Photo: DP World





# Setting the safety standard

Three organisations have come together to make safety features available as standard fittings, not optional extras. *TT Club* explains why

**Fitting safety features on quayside cranes could prevent injuries and save money in damages**

**B**uy almost any new car today, and it will normally come with seat belts, reversing lights, ABS braking system and air bags as standard features. Even 20 years ago, some of these features would have been expensive optional extras.

Safety in cars today is very much a selling point – almost as much as looks and performance. The same cannot be said of much of the equipment sold to port and terminal operators, where many safety features are still very much optional extras.

A recent analysis by the TT Club focused on accidents involving quayside cranes. Included in the statistics were over 100 insurance claims the club had received in the last two years resulting from the booms of quayside cranes hitting vessels. These collisions vary from minor impacts with the vessel bridge to one incident which caused several million dollars worth of damage to the crane boom itself and the vessel's crane – as well as major business interruption due to the wharf shore-side crane being out of service for six months.

The TT Club's analysis shows that this sort of accident is common at many terminals around the world, and that all quayside cranes are at risk, including those involved in container, bulk and general cargo operations. Consideration of cause of loss demonstrated that simple devices or techniques could prevent crane incidents that can be expensive in terms of repairs and downtime and have a high injury potential.

The analysis sparked a joint initiative between TT Club, the cargo handling association ICHCA International and the Port Equipment Manufacturers' Association (PEMA) to encourage container crane manufacturers to fit safety features as standard. As TT Club's risk management director, Peregrine Storrs-Fox, pointed out, fitting safety features as standard should not add significantly to the cost of the equipment and is a good deal cheaper than retro-fitting them later.

"Fitting sensors to crane booms for about \$10,000 per crane can save millions of dollars in damage as well as injuries, but in the competitive market crane manufacturers will seek to provide the lowest quote,

and as a consequence may provide no boom anti-collision or a cheap system that does not provide adequate protection."

John Strang, chairman of ICHCA International, concurs. "While there is a cost to such items, they are few in number and are not expensive in themselves and it is not expected that the cost of a crane will change very much."

TT Club, ICHCA International and PEMA have teamed up to achieve the greatest possible access to the crane manufacturing market, and to get the safety message across to as many manufacturers as they can. "It's a two-pronged attack, if you like," said Storrs-Fox. "On the one hand, through PEMA, we will be discussing with manufacturers the advantages of incorporating safety features into their products as standard. On the other, we have to encourage port and terminal operators to insist on certain safety features when ordering their equipment, by sharing claims analysis with them so they appreciate the long-term cost benefits in reduced accidents, claims and loss of business."

PEMA president, Ottonel Popesco, explained: "The issue that the project seeks to address is developing a benchmarked minimum standard safety specification for quayside container cranes. Besides boom anti-collision sensors, safety features may include appropriate interlocking and gate locks between the crane cabin and boom; safe stairway inclines and handrail heights; gantry drive and braking systems; storm brakes, storm pins and tie-downs. We hope that this project will make a valuable contribution to our industry and our customers by defining common guidelines for quay crane safety features."

The 'short list' of safety features will then be promoted to both manufacturers and operators. But Storrs-Fox is wary of any attempt to impose safety features, ISO-style. "It's always much better to educate than to regulate. When people appreciate the tangible benefits that can be derived from safety enhancements, you don't need regulations; it becomes part of the culture of their business. At TT Club, we take a very active role in advising our members on the safety aspects of their equipment and operations – it's part of our service."

Some may think that manufacturers will be wary of anything which will increase their costs. But Strang believes that a safety baseline for equipment can mean savings in the long-term. "Inevitably, crane procurement is price sensitive and requires significant budget. However, buyers will not always be familiar with the most effective safety technologies. Furthermore, the process of specification is complex; any quote needs to be carefully assessed against the invitation to tender, and subsequent change requests can be costly. For all these reasons, there should be a standard safe baseline provided in every tender to ensure the industry has the safest cranes possible," he said.

Safety features have to be practical – it's no use having a machine that's got so many safety features it becomes unusable. There is also plenty of anecdotal evidence in the industry for 'annoying' safety features being disabled by operators to make their lives easier. Mike Compton,

## Benchmarking minimum standards

Over the past four years TT Club has handled 450 claims around the globe concerning quay cranes specifically, with an insurance payout of US\$12.5M.

Notable incidents, not necessarily handled by the club, include:

- Southampton, UK, January 2008 – the boom of a shore-side crane collapsed onto a container vessel during an unloading operation
- Jacksonville, US, August 2008 – during a storm a shore-side crane ran and collided with another shore-side crane at berth
- Southampton, UK, July, 2009 – the boom of a shore-side crane collapsed onto a container vessel during loading

PEMA and ICHCA are gathering data on the most desirable and practical safety features for quayside cranes, focussing on:

- Boom anti-collision sensors
- Interlocking and gate locks between the crane cabin and boom
- Safe stairway inclines and handrail heights
- Gantry drive and braking systems
- Storm brakes, storm pins and tie-downs

chairman of the safety panel at ICHCA International, emphasised that safety has to be workable. "It's our job to talk to the people involved and to get information on what works and what doesn't. If there are problems with some safety features on equipment, then we need to work with the people who use them to get round the problem. That's partly why we're limiting ourselves to a shortlist of safety features which we see as both practical and effective."

All manufacturers try to reduce their costs, admitted Storrs-Fox, but "it's not necessarily about ignoring safety issues". He explained that this initiative is about identifying and sharing new technologies and features that experience and statistical data have shown to improve safety.

"The quayside crane market is global, so it is a question of sharing this information and raising standards globally." This initiative will only succeed, he said, "if all global suppliers commit to and abide by an agreement to include the nominated safety features as standard, rather than as optional extras in their quotes. We will be talking to all global container crane manufacturers."

Chinese crane manufacturer ZPMC has plans to enter discussions with TT Club's director global risk, Laurence Jones, and his team this month during TOC Asia in Shanghai. Jones commented: "We are confident that they and all the other manufacturers will see the importance of meeting these standards wherever they are in the world. They all want to be perceived as world-class and meeting the standards that their customers expect; and if they are going to sell to ports in all parts of the world, they will only do so successfully if they can meet world-class standards." PH





# Reefer containers add up

*P&H considers the reefer container's role in relation to the demands of the consumer*

Photo: John Gurton

## Reefer and regular boxes can sail together

**R**efrigerated transport of food has changed the way consumers in developed countries eat. No longer dependent on seasonal fruit and vegetables or local types of meat and fish, markets are now awash with produce from all over the world year-round. The varied diets that today's consumers enjoy are possible only because of the refrigeration technology used in reefer ships.

But some commodities are now moving from dedicated reefer ships into containerised reefer tonnage. Reefer containers offer the same versatility as general cargo containers: their transport requirements are straightforward, being easy to move from the vessel to the quayside, and from there on to lorries or trains.

The only additional requirement for reefer containers is that they need to be connected to an electrical supply while in port – many ports and terminals are now equipped with 'plug-ins' on the quayside for this purpose.

As consumer demand increases, this mode of transport for perishable goods will become increasingly popular. Drewry Shipping Consultants

notes in its *Reefer Shipping Market Annual Review and Forecast 2009/10*: "The future looks precarious for specialised reefers as container fleets continue to erode their markets."

Vincent Sullivan, midwest sales manager at Port of Tacoma, explained to *P&H* that "people are buying smaller amounts and a greater variety of products. This will steadily increase as time goes on." This view is shared by Jari Pirhonen, manager of terminal development at Cargotec. He explained to *P&H* that global trends show that as economic wealth grows and spreads to developing countries, these new consumers will require more imported goods, including food.

Port of Bilbao has not only noticed an increase in its reefer container tonnage overall, but has also seen particular increases in pre-cooked products going through its terminals. It predicts that it has not seen the last of the changes, for two reasons. First, shipping lines have been adapting their services to enable them to transport a wider variety of products. Second, the shipping lines' clients (the shippers) want to provide their clients (the consumers and buyers)



with the highest standard of produce possible, which includes presentation of the goods. The implications of this will affect shipping lines eventually, said Inma Ugarteche, managing director of Uniport Bilbao.

An example can be found with German shortsea container line OPDR Hamburg which is making further inroads into the European north to south perishables trade, as fruit and vegetable exporters shift from road to sea. Three months ago it launched a 'reefer flex' service from Motril in southern Spain to north Europe. Take-up from local growers has gained momentum and has grown from 50 to 60 bookings per week for 40ft high-cube reefer containers, OPDR managing director Thomas Bruegmann told *P&H*. Strict schedule integrity and a direct service without transshipment have been key for the early success of this new service, Bruegmann pointed out. "We are sailing like a bus service on the high seas, so our clients can make reliable plans," he said.

Importers have also found that there are logistical advantages in using containers instead of road trailers because of greater unloading flexibility. While lorries require immediate discharging upon arrival, "customers can leave the containers at the port and call them in for unloading just when they need them," Bruegmann explained.

European and North American ports have invested significant amounts of money to upgrade equipment in response to the growing requirement for refrigerated containers, Pietro Sonza, marketing and product manager for transport temperature control manufacturer Thermo King, told *P&H*. Other regions rely heavily on the use of generators in order to meet the increasing demands of reefer containers, he said. They "provide an ideal solution for ports where there is no or limited power supply".

Bilbao is ready for an increase in reefer containers going through its ports. "Right now, the Port of Bilbao facilities have more than enough capacity to double traffic," Ugarteche told *P&H*. She also commented that it is important that shoreside operations remain as "agile" as possible. For example, one of its terminals, operated by Abra Terminales Maritimas, built facilities for cross-docking – when the cargo is not held in the port but is forwarded immediately. "This means a better service provided to Bilbao seaport clients, with lower costs," she said, adding that, "In seaports it is a reliable truth" that time turns into money". **PH**

## Reefer responsibility

Reefer container technology found on the quayside is well proven, stated Port of Tacoma's midwest sales manager, Vincent Sullivan, who added that it has developed greatly over the past 20 years. "Cargo has an extremely high dollar-value, therefore ocean carriers are very focused on making sure that no claims arise."

While it is in port, responsibility for the reefer container is governed by the bill of lading, which places the onus on the ocean carrier. The latter therefore effectively employs the terminal operator to take responsibility for the cargo. Technology enables this to be a fairly straightforward process, as terminal personnel ensure the reefer is plugged in and set to the correct temperature and humidity.

The possibilities in reefer container technology go beyond simply keeping the cargo fresh, however. A new concept from Johnson Controls Denmark, myREEFER, employs telematics for data transfer and long-distance communication and tracking.

Ten RMM+ (Reefer Monitoring Modem Plus) units – on which the concept is based – have been trialled on existing and newbuild Hamburg Süd reefer containers in Hamburg and China. The company claims that the RMM+ enables the containers to communicate with existing reefer container monitoring systems, and also to send alerts, such as alarms and power on/off events, via the worldwide GSM (Global System for Mobile communications) network when a local monitoring system is not available. Other information, such as setpoint, humidity, O<sub>2</sub> and CO<sub>2</sub> readings, are also stored on an internet-accessible database server. The equipment has been well-received, according to the manufacturer.

Handling 'exceptional' containers is an important issue in automated terminals, said Jari Pirhonen, manager of Terminal Development at Cargotec. He added that the overall design should incorporate safe access to the reefers stacks.

In both manual and automated terminals, reefer containers are grouped or stacked together and plugged in to an electric supply. Reefer racks and walkways should be separated from the automated areas, Pirhonen said. "To my knowledge, in all existing automatic stacking crane (ASC) terminals, reefers are handled with ASCs in dedicated reefers areas and with racks," to allow mechanics safe access to the reefers. Local safety rules may require additional safety features, he said, such as overhead protection on top of the reefer area, as used at ECT in Rotterdam.

At the Fisherman's Island facility in Brisbane, reefers are handled by Kalmar automated straddle carriers. There, the reefer area is separate from the normal container area and divided into segments that can be sectioned off so that personnel can obtain safe access to an area.

**Uniport Bilbao aims to keep its terminal operations as agile as possible**



Photo: Uniport Bilbao



# Slow start for offsetting

Carbon trading schemes and energy efficiency design indices were discussed at COP15. Either way, ports and shipping need to do things differently, reports **Hal Brown** for *P&H*

**P**orts must change their behaviour, a European representative told the United Nations (UN) climate conference in Copenhagen in December (COP15). Pollution from maritime transport and ports is contributing to the €6Bn (\$8.6Bn) worth of economic damage faced by EU coastal areas, according to Martin Fernandez Diez-Picazo, director general of EU maritime policy. This occurs because there is less land due to sea level rises caused by pollution, including pollution from ships and ports, he said.

"If we act, adapt and alter our maritime transport behaviour and improve ports, the cost of the damage could be reduced to about €1Bn a year," Diez-Picazo told *P&H*. He didn't say how ports should adapt or how much it will cost them, but it is known that the EU favours technological measures and an emissions trading scheme.

A large sum of money has been allocated by the EU for climate change research in maritime transport to help ports and shipping adapt to environmental requirements. Maritime transport has been given a budget of €4.16Bn, Wolfram Schimpf, the European Commission's deputy head of risks, said at COP15.

Leading the shipping delegation, IMO put forward its carbon reduction proposal to the UN, which included an international fund that shipping nations would pay into and from which developing nations would be helped to adapt to climate change. The UN installed Danish environment minister Connie Hedegaard as the conference's president – Denmark backs this fund because it relies on established schemes such as port state control to monitor it. 'We can't risk failure. No-one here can carry that responsibility,' said Hedegaard in her opening speech at COP15.

The organisation also proposed an energy efficiency design index for new ships – interim guidelines were



circulated after MEPC 59 last July and will be reviewed at MEPC 60 this month – as well as a carbon emission trading scheme. The trading scheme means companies are given credits based on how much carbon they emit, and they can buy or sell credits. But these sales do not raise money for any international fund; they just offset ships' carbon. Many supporters believe this to be the best option as trade from shipping and ports will grow, creating more carbon, making it necessary to offset.

But no legally binding agreement on carbon emissions for all industries was reached in Copenhagen. The IMO's head of air pollution prevention, Eivind Vågslid, told *P&H* that the IMO did all it could to put shipping high on the UN's agenda in the face of difficult negotiations on an overall emissions agreement involving the US and China. "Those factors determined the outcome of Copenhagen [for shipping], not the IMO's performance," he explained to *P&H*.

The organisation also reported the outcome of MEPC

Photo: Getty Images. Illustration: iStockphoto





59 in relation to greenhouse gas (GHG) matters. It submitted its second GHG study, which provides estimates of present and future emissions from shipping and identified a potential for a 25-75% reduction of GHGs through technical and

operational measures. The reports notes that an estimated 1046M tonnes of CO<sub>2</sub> was produced in 2007.

An accord was published by the UN and IMO secretary-general, Efthimios Mitropoulos, commented that it was "a step in the right direction" towards a legally binding agreement, which offered "hope" that a consensus on action needed to be taken will be reached at the next UN conference in Mexico at the end of 2010. How to progress the creation of a legally binding agreement will also be discussed at the 32nd UNFCCC convention in Bonn, Germany, in May.

IMO will seek some progress in areas such as market-based instruments at this month's MEPC 60, based on the outcomes of COP15.

IMO made clear that the concept of 'common but differentiated responsibilities' (CBDR, which recognises differences in contributions of developed and developing states to global environmental problems) should not apply to shipping. Certain groups at Copenhagen felt that following CBDR would bring about equality between developed and developing nations and argued that adapting to climate change regulations would be an unfair burden on developing nations, but would benefit

the entire industry.

The energy efficiency design index for new ships put forward by the IMO was criticised as being costly to implement and ineffective. The index is voluntary so "it won't force people to do the right thing", said John Maggs, shipping and EU policy officer for the European association Seas at Risk. Ships can already implement a 20% reduction in emissions at no extra cost, mainly by slowing speed, other critics of the index pointed out.

Norway's classification society, DNV, said that even more carbon could be cut and it presented a study that suggested that ships' carbon emissions could be slashed by 30% by 2030, without cost to the industry. This in turn would benefit ports by reducing the financial burden of the shipping industry, especially off the back of the economic downturn.

Reductions would come, said DNV, if shipping applied the available cost-efficient technologies immediately. "By doing this we can go a long way in meeting some of the tough requirements already set," said Tor Svensen, operations chief at DNV Maritime.

DNV's positive message was matched by more criticism of IMO's technical, operational and market-based measures to reduce carbon. There were concerns that costs would filter down to consumers but the IMO representatives and members were initially quick to stress that the industry will pick up all costs, not individual flag-states. "Whatever instrument is being developed it will be the industry which will pay," said Christian Breinholt, director of the Danish Maritime Authority (DMA). But when pressed on the issue, he backtracked, admitting: "Over the long-term, the bill will end up with the consumer."

"Shipping is facing a massive cost burden," said Peter Hinchliffe, ICS marine director, and stressed that "ramping up" the fuel costs is a "real concern". Burdensome costs for an already beleaguered industry cover four main areas, he said: ballast water treatment to comply with the ballast water convention; SOx technologies; NOx, which reduces engine efficiency; and the state of the global economy, which in turn are areas of concern for ports too.

A 20% carbon reduction target for shipping, proposed by IMO, lacks real meaning because trade will eventually grow. "We will still have a problem because there will be a capacity increase," said Hinchliffe, adding that this situation – which can also be viewed as positive because it means an upturn for shipping and ports dealing with the extra trade – reinforces the idea that market-based instruments, such as emissions trading, are necessary to offset carbon.

IMO stressed to COP15 delegates that it should be the body to regulate shipping, and urged its members to back it up. Karin Sjölin-Frudd, the IMO's senior adviser of marine environment, said that energy efficiency for shipping can only be implemented at international level.

IMO is confident that in the weeks after the conference it will be allowed to regulate all international shipping in the oceans and ports. P&H was told by an IMO representative that mandatory regulation will be discussed at MEPC 60. **PH**



# Ready whatever the weather

IAPH, Stanford University and AAPA conducted a survey on ports' responses to climate change. **Austin Becker** gives an overview

**W**ith today's increasing awareness of global warming, most port professionals understand the importance of reducing CO<sub>2</sub> emissions and minimising their port's impact on climate change. However, there is another side to the story. Ports do impact climate change, but climate change also will impact ports. The nature of a seaport's business requires it to be located in one of the most vulnerable areas to climate change impacts – on the coast. Here it is susceptible to rising sea levels, storms and, if at the mouth of a river, susceptible to flooding.

Scientific projections on how much sea levels will rise by 2100 range from nearly a metre to two metres. Climate scientists also predict an overall shift toward meteorological instability. Possible consequences of climate change include: increased ocean storm frequency, more powerful ocean storms and more severe rain falls in certain areas. These types of events create interruptions and bottlenecks in the flow of cargo through ports and, as demonstrated by Hurricane Katrina in the US, can devastate a regional economy for months or even years after an event.

Through efforts such as the World Ports Climate Initiative (WPCI), the seaport community is taking steps to reduce its own carbon footprint and reduce the sector's contribution to global warming. To remain efficient and resilient, however, seaport decision makers must also anticipate future impacts of climate change and proactively prepare for the associated sea level rise, increased flooding and more extreme

storm events. But before solutions and strategies can be found, decision makers must first understand the nature of the problem on the frontline.

As a first step toward understanding how port administrators consider climate change risks and vulnerabilities, IAPH collaborated with researchers at Stanford University and the American Association of Port Authorities (AAPA) to conduct a survey of 346 member ports. The survey asked port authorities from around the world how they think climate change might impact their operations, how sea level change could create operational problems and how they plan to adapt to new environmental conditions. A total of 93 ports representing 36 different countries responded to the web-based survey.

Port directors and members of the port environmental departments constituted nearly half of the respondents, with planners, engineers, and operations staff also completing the survey. Most respondents had significant experience, with over half having spent at least 16 years working in maritime industries.

Results show that ports are rapidly expanding but, on the whole, administrators are not accounting for the impacts in years to come, with 68% of respondents indicating that their ports plan ten or fewer years ahead; 58% will implement new infrastructure within the next five years. Many, however, do not have policies in place that specifically address climate change adaptation.

More than half of the responding ports – 58%



– plan for the historic 100-year storm period. But this preparation will not be effective if the 100-year return period becomes a new 30-year return period due to climate change. With typical port infrastructure designed to last for 50 years or more, new infrastructure put in place today should be built with this in mind.

And yet no precedent for climate change planning exists. Impacts that will occur decades from now seldom make it into the criteria for good design. Infrastructure often outlasts its design life and costs of repair easily outweigh the expense of anticipating climate change through good design at an earlier stage.

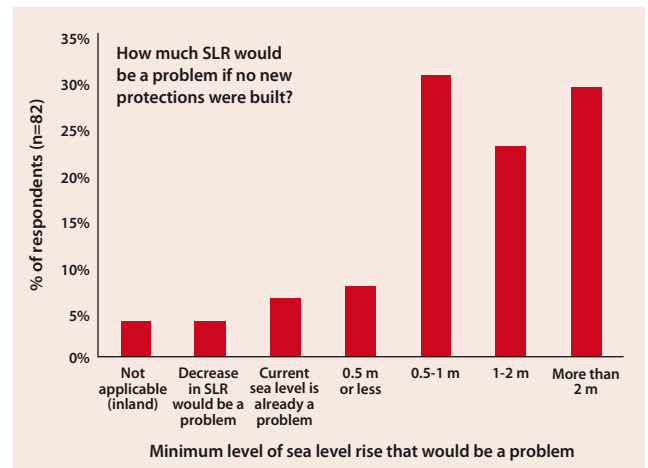
Mitigation through reducing port emissions, and adaptation by preparing for the impacts of climate change on ports, require very different initiatives. Survey results show that ports working to address one initiative also tend to be the same ports working to address the other. Overall, however, respondents placed more importance on mitigation issues over adaptation. This may be a result of anticipated regulations, global attention to CO<sub>2</sub> issues and efforts such as WPCI. There are still uncertainties in the scientific models of sea level rise and future storm trends and it is therefore unsurprising that ports are not yet fully focused on the potential impacts on their operations.

Nearly half – 48% – of respondents believe that climate change will have direct negative consequences for their port operations in the coming decades and 86% felt that the port community should address the issues. However, 66% did not feel well informed about how climate change might directly impact their port.

The survey revealed that 38% expected a sea level rise of 0.5-1m by 2100 and 15% expected 1m or more. Respondents were asked what the minimum level of sea rise would be before it became a problem (see graph). These two sets of results (expected sea level rise and minimum rise before it becomes a problem) were compared to reveal that 78% felt their port would be able to handle the rise expected at their port without building additional protections.

Less than half of respondents – 44% – felt policy at their port addressed climate change in one form or another. These policies included, insurance coverage (16%), funded in the budget (8%), or design guidelines (28%). Most listed storm impacts and sea level rise as their main concerns.

Good business practice dictates that ports protect their infrastructure and



operations. The insurance industry will cover some of this risk but with 93% of respondents being either public or public/private owned and operated, public policy will also play a part. Costs of proactively adapting to climate change are thought to be far lower than the costs of a reactive response, but will still require significant investment.

As the World Bank recently reported, adaptation costs to developing countries alone are estimated at between \$75Bn and \$100Bn a year from 2010 to 2050, even if global warming is limited to around 2°C. In the likely event more natural disasters such as Hurricane Katrina occur in different parts of the world, developing and implementing good adaptation strategies proactively is an imperative.

Rather than working on their own with limited information, ports should and could work with each other and with the scientific community to share their valued experiences and information and develop appropriate adaptation programmes. Results of this survey serve as a clear call for the world ports community and the scientific community to engage more deeply to ensure that seaport decision makers have the best climate-change information available when planning for maintenance, expansion, and investment strategies at their ports. **PH**

*Austin Becker is a PhD Student in the Emmett Interdisciplinary Program for Environment and Resources at Stanford University. He holds a USCG masters licence for up to 500gt ocean-going vessels. More info: [austinb@stanford.edu](mailto:austinb@stanford.edu)*

Photo: iStockphoto

**An unlikely scenario... Port of Seattle is actively addressing the possibility of flooding**



# Powered up from ship-to-shore

A recent WPCI onshore power supply survey revealed a serious interest in its capabilities. **Susann Dutt** reports on the questionnaire's findings

**F**eedback from a questionnaire on ports' attitudes to onshore power supply (OPS) revealed that more than half are either in the process of, or have already, carried out a feasibility study into the suitability of the technology for use in their ports.

The questionnaire was carried out as part of the World Ports Climate Initiative (WPCI) by the OPS project port – Port of Gothenburg – under the auspices of IAPH (see *P&H*, September 2009, p36). Gothenburg took on this role to help speed the introduction of OPS in ports globally, and it is financially supported by the ports of Hamburg, Amsterdam and Antwerp.

The OPS working group prepared an electronic questionnaire in early 2009 to ascertain the current status of OPS in ports and to understand their plans regarding the technology. It was also considered a way to obtain input for the working group's research and to act as reference point when evaluating the project at a later stage. The questionnaire was sent out in mid-2009 to the 55 WPCI member ports.

Responses from the wider port community were also sought via ESPO, GreenPort, the WPCI website, Port of Gothenburg's website and different port associations' publications, including *Ports & Harbors*. All responses were treated anonymously and in confidence.

Fifty-three ports responded, representing a good global cross-section: 41 were European ports, four were ports in North America, three in Asia, three in Australia/Oceania and two in Africa. Of these 53 ports, 24 were WPCI members: 14 from Europe; four in North America; and three in both Asia and Australia/Oceania.

Perhaps unsurprisingly WPCI members showed a higher level of interest in OPS technology than others: 55% have already carried out a feasibility study, 23% are undertaking one and just 22% of WPCI members are not actively engaged in a feasibility study. However, 96% of the WPCI member ports are considering introducing or expanding the use of OPS at their quays in the next 5–10 years. The survey found 38% of overall respondents have carried out a feasibility study to introduce or increase the use of the technology, with 13% reporting that they have a study in progress; 49%, however, have yet to implement a study.

Seventeen respondents are offering OPS in their ports today, representing about one-third of the total responses. OPS is widely regarded as a cleaner alternative to powering ships at berth and the survey reflected this standpoint – 94% of ports revealed that the main reason for investing in this technology is the associated environmental benefits. Attracting

## Onshore power survey highlights

- Of the 53 respondents, 85% is planning to introduce OPS technology or expand upon existing quayside facilities in the next five to 10 years.
- 85% cite environmental benefits as one of the main reasons for implementing OPS; 63% believe that there societal benefits to be gained; 20% believe in the economical benefits
- The survey findings will be used to inform a web-based application that will offer practical guidance to all ports



and keeping customers was cited by 70%, while 59% believe the technology enhances their reputation and shows goodwill. Only 20% considered the economic benefits of OPS to be paramount.

When considering the environmental impact of different pollutants, more than 80% considered nitrogen oxide, carbon dioxide and sulphur to be the most significant.

The survey showed that two groups – those ports already offering OPS, and WPCI members – were environmentally proactive in other ways, because 58% and 70% of these ports respectively are considering additional measures to improve the environmental performance of ships at berth. Those measures include environmentally differentiated harbor dues to promote clean shipping; Advanced Maritime Emissions Control System to capture and treat ships' exhaust fumes; waste collection facilities; introduction of the Environmental Ship Indexing System; and exhaust scrubbers.

Of the 53 ports that responded to the survey, a majority (86%) said they were only interested in employing high-voltage OPS in their ports, with 14% prepared to invest in the low-voltage version. All the WPCI member ports are planning to invest in the high-voltage technology, the survey revealed.

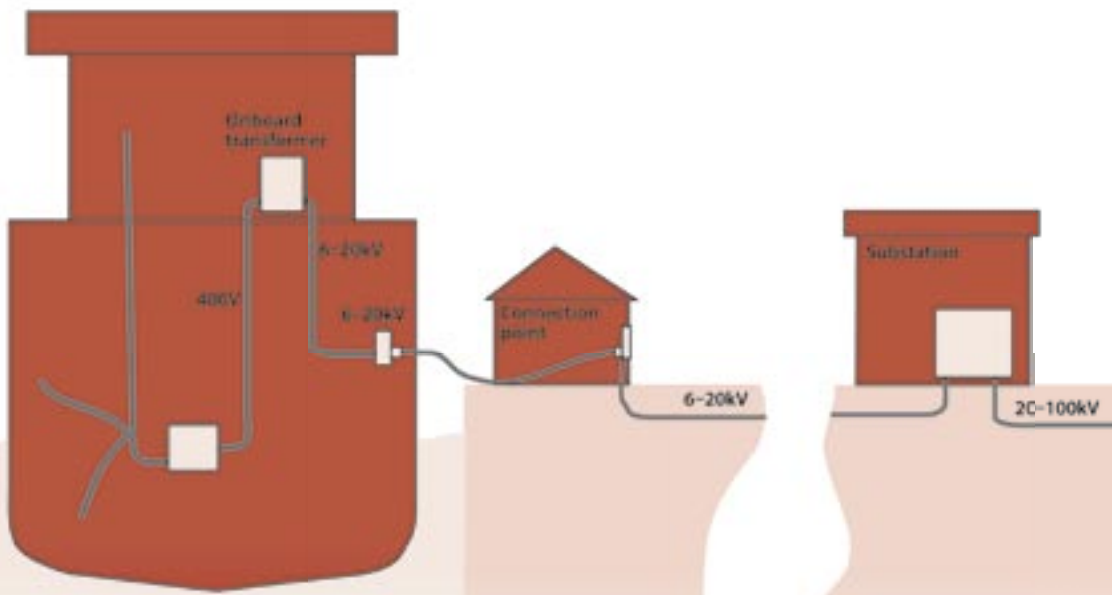
The demands placed upon OPS are considerable, as it provides energy to run lighting, heating, hot water

and engines. In the past, vessels have used shoreside electricity supplies with low voltage, but to run all of the units on board requires several heavy cables. This method is complex and time-consuming and the necessary equipment takes up a great deal of space both in the port and on the vessel.

Most systems introduced today are high-voltage. Only one or two cables are required and are passed to the ship using a cable reel. One of these cables provides approximately 25 times the output of a standard 400V cable. This makes it easier and faster to connect the ship to shoreside electricity.

The majority of respondents (93%) are happy to let private operators pay for the use of OPS when the infrastructure is in place. But ports seem to be displaying genuine interest, with all but one port requesting more information about WPCI's activities. The WPCI Onshore Power Supply Project intends to stimulate further use of OPS by designing and building a web-based application that offers practical guidance for all ports. The input from this questionnaire has been valuable in the development of this website. **PH**

*Susann Dutt is co-ordinator of the OPS project within the World Ports Climate Initiative, and is environmental controller at Port of Gothenburg – the project (lead) port*  
More info: [susann.dutt@portgot.se](mailto:susann.dutt@portgot.se)  
[www.iaphworldports.org](http://www.iaphworldports.org); [www.onshorepowersupply.org](http://www.onshorepowersupply.org)



## Gaining momentum

Onshore power supply (OPS) enables ships alongside to be powered by shoreside electrical power. There must be sufficient electrical power for lighting, heating, fans, pumps and so on. This power replaces that normally supplied by the ship's auxiliary engine. The engine can be shut down during its time at berth, reducing its emissions and noise pollution.

This technology is also known as shoreside electricity, alternative maritime power (AMP) and cold ironing. Several high-voltage projects are under way in Europe and North America. The ports of Gothenburg, Piteå, Lübeck, Zeebrügge and Kotka are pursuing OPS for ferry and ro-ro vessels, Juneau and Seattle for cruise vessels and Ports of Los Angeles and Long Beach for container vessels.

Three professional bodies – IEC, ISO and more recently the IEEE – have come together to prepare a standard for high-voltage shore connection systems required for OPS. A preliminary version was published last June. It is hoped that the final industry standard will be available in March 2011, said IAPH's managing director Fer van de Laar.



# Connectivity is key

Sub-Saharan Africa's rail and road infrastructure needs investment to meet future demand, reports *P&H's* Africa correspondent **Terry Hutson**



**P**oor landside logistics coupled with a sometimes overbearing bureaucracy remains a burden on the cost of doing business in sub-Saharan Africa. This was an issue highlighted at the Port Management Association of Eastern and Southern Africa (PMAESA) conference held in Durban in December.

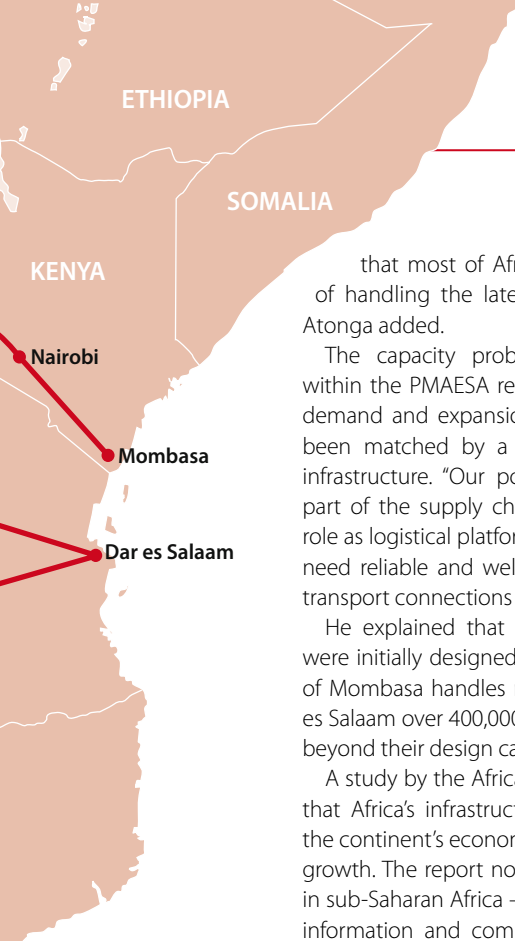
There are exceptions, notably in southern Africa where considerable investment has been made aimed at improving the capability of ports and landside operators to cater for greater volumes. Nevertheless, many of the continent's ports are still experiencing congestion despite the economic downturn.

This situation certainly applies at the east African ports of Mombasa and Dar es Salaam, where connectivity between the ports, on the one hand, and road and rail links, on the other, has broken down, leaving large amounts of cargo to clog the port

facilities while throttling off cost-effective trade with landlocked neighbours Uganda, southern Sudan, the eastern Democratic Republic of Congo (DRC), Rwanda and Burundi.

In West Africa, too, connectivity is proving inadequate. According to the World Bank, of the 24 significant ports between Mauritania and Angola, many are in areas difficult to dredge to the requirements of modern deep-draught ships. Others, such as the Lagos ports, are too close to urban areas and therefore unsuited to the needs of modern shipping.

According to Joseph Atonga, chief operations manager at Kenya Ports Authority, many African ports have remained unprepared for the dramatic changes that have occurred within the shipping industry. He identified poor equipment and low productivity levels as particular problems. Inadequate draught means



— Passenger railways

**Much of the North–South corridor follows these routes**

**Port of Mombasa container terminal – suffering chronic congestion**

**Travelling to Malawi on the Nacala Corridor**

that most of Africa's main ports are incapable of handling the latest-generation container ships, Atonga added.

The capacity problems that characterise ports within the PMAESA region has meant that increased demand and expansion of cargo volumes have not been matched by a growth in capacity and port infrastructure. "Our ports have become an integral part of the supply chain and have to play a crucial role as logistical platforms for international trade. They need reliable and well-developed feeder and inland transport connections and services," said Atonga.

He explained that Mombasa and Dar es Salaam were initially designed for 250,000teu, but today Port of Mombasa handles more than 600,000teu and Dar es Salaam over 400,000teu, so both are operating well beyond their design capacities.

A study by the African Union Commission revealed that Africa's infrastructure shortcomings are costing the continent's economies about 2% of their potential growth. The report noted: "The state of infrastructure in sub-Saharan Africa – its electricity, roads, water and information and communication technology – also reduces business productivity by as much as 40%."

Also speaking at the Durban conference was Greg Mills, strategic adviser to the Rwandan presidency and head of Johannesburg's economic think-tank organisation, who highlighted the poor maintenance of existing roads and railways and unsatisfactory connections with ports. The railway networks, in particular, were performing inadequately – in most African countries, Mills asserted, there had been no improvements to the railways since colonial days.

As a consequence, emphasis is being placed on improving the continent's landside logistics, with rail and road refurbishment at last beginning to receive attention. The development of corridors linking specific ports with appropriate inland markets is gaining momentum and is experiencing some success, particularly the Maputo Corridor, which links the Port of Maputo with industrial South Africa, and the Walvis Bay corridors leading to southern and central Africa.

In east and west Africa, Kenya, Tanzania and Nigeria have turned to the possibility of rebuilding entire railway networks based on the European standard gauge (rails 1,435mm apart) as opposed to the metre-gauge used in east Africa and the Cape gauge (1,067mm) in Nigeria and across much of the remainder

of Africa. The World Bank and the African Development Bank (AfDB) have reportedly expressed some interest in helping fund this mammoth project.

In the 19th and early 20th centuries, Africa's railways were mostly constructed to Cape gauge, as it was cheaper to build and operate than standard gauge. Even in the 1970s, Cape gauge was adopted for the Chinese-built Tazara Railway connecting Zambia with the Port of Dar es Salaam, so as to link to other railways in southern Africa without the need for transshipment.

In this growing emphasis on transport corridors, road transport has not been overlooked. The North–South Corridor project promoted by New Partnership for Africa's Development (NEPAD) carries a mandate to promote intra-Africa trade and regional integration. It comprises two priority NEPAD corridors: the Dar es Salaam Corridor connecting the Port of Dar es Salaam with the central African Copperbelt (the Zambian copper mining region) via road highways and Tazara Railway, and the North–South Corridor linking the Copperbelt to the southern ports of South Africa.

With associated spurs, the two corridors will service eight countries: Tanzania, Zambia, Malawi, Botswana, DRC, Zimbabwe, Mozambique and South Africa. While the rail element is important, road transport is expected to play the more prominent role. Already several one-stop border crossings have been installed on the North–South Corridor as pilot projects in order to lessen delays.

The North–South Corridor is the busiest in sub-Saharan Africa, both in terms of value and volume of freight carried, but NEPAD has pointed out that unless remedial action is taken, infrastructure on the corridor will collapse. Projects being undertaken include the upgrading of 4,000km of road and the rehabilitation of 600km of railway. Energy supply to the immediate region is also being increased.

The project looks at faster border crossings and improved railways and highways to enable importers and exporters, especially in landlocked countries, to transport their goods quickly and to gain easier access to regional and international markets, stimulating economic growth and inward investment.

Studies indicate that, if implemented correctly, the corridor could result in transport cost savings to African-based businesses alone of around \$50M a year. This could be done mainly by improving the time taken to move cargo around the continent. **PH**



Photo: Kenya Ports Authority, CDN



# Looking inward for India's growth

Expanded facilities and improved logistics infrastructure is needed to support the growing needs of India's ports, reveals *P&H's* South Asia editor, **Ramadas Rao**

**R**ecession has had little effect on India's ports, because facilities are struggling to cope with even slackened demand. The country's annual economic growth is projected to be in the region of 6-7% and to exceed that once the US and Europe recover from the slump. Capacity is tight for both container and dry bulk though the government stressed in January that only Mumbai, Mormugao, Visakhapatnam and Chennai are operating beyond their available space (see table opposite).

India is stepping up its box-handling capacity in anticipation of a surge in cargo movement from the industrial centres in the north and west. Both Mumbai and Chennai have plans to add container capacity, with Chennai set to call for bids for a new terminal.

Located near Mumbai, Jawaharlal Nehru Port (JNP), India's biggest container port, handles more than half of the country's total box container throughput of nearly 7M teu and is adding more berths. The clutch of projects sanctioned by the government in January includes one for a mega container terminal here – the fourth at the port – estimated to cost more than \$1Bn. Bids will be invited soon.

Total capacity of the terminal will be close to 5M teu, with the first phase targeted for completion within three years of signing the concession agreement. Phase II construction will begin when (or before) the annual throughput of the terminal reaches 1M teu. Jawaharlal Nehru Port Trust (JNPT) is also building another container berth, with a quay length of 330m, that will be able to handle at least 800,000teu a year.

"Increase in physical capacity and improvement in efficiency of JNPT would be for the benefit of the nation in terms of development, progress and boost export-import trade," India's cabinet committee on infrastructure noted. The government has assured potential international investors that the bidding process will be transparent.

It will also take steps to ensure that the latest high-tech and automated equipment is installed. India's older ports of Mumbai, Chennai and Kolkata are saddled with antiquated equipment that has not been replaced for want of funds. Investment has been flowing either into newer greenfield ports such as JNP, Pipavav or Mundra in Gujarat state, or in new berths within the older ports.

The established port of Chennai, in the southeast, for example, was successful in attracting Singapore's PSA International to invest in its new container berth and it became operational in late 2009. Suresh Amirapu,

general manager of Chennai International Terminals – a joint-venture between PSA and domestic logistics player Sical – said that the terminal is equipped to accept the larger, deep-draught vessels. It can handle 1.5M teu a year.

As India's second-biggest container port after Jawaharlal Nehru Port, Chennai has ambitions to become the country's east coast container hub. One aim is to check the flow of boxes to Colombo, Sri Lanka, which skims off a sizeable number of transshipment containers from Indian ports.

Chennai's hinterland is of growing importance, having witnessed a surge in the manufacturing of automobiles, pharmaceuticals, textiles, chemicals, light engineering and leather goods. Approval was also given in January this year for a mega container terminal with a total annual capacity of 5M teu. DP World, which operates a different terminal in Chennai, has bolstered equipment and has claimed that average vessel turnaround time has been cut to 22 hours. The DP World-operated facilities in Chennai handled a record 1.1M teu in the financial year 2008/09 (ending 31 March 2009). The company is also active in Mundra and Jawaharlal Nehru Port.

Container handling facilities will also be expanded at Mumbai and New Mangalore, both on the west coast.

But India's ports are still facing major challenges, particularly in the form of delays to new developments. A new coal berth at Paradip, in the eastern state of Orissa, for example, went ahead only after a court ruled that the project be awarded to Essar Shipping, Port & Logistics. In a more recent hold-up, the international container terminal at Vallarpadam, in Kochi, Kerala state, which was to have opened last November, is still waiting for its railway connection to be completed. This facility will be operated by DP World.

Hinterland logistics are struggling to cope with expanded port facilities that have brought in larger ships and more cargo. Road and railway networks have not kept pace with port development, but the government has assigned top priority to expansion of the national highways that connect to ports.

"You can create a superb port facility, but without attendant infrastructure it would not serve the purpose of facilitating trade," said Chennai Port Trust chairman Subhash Kumar. "You can either call it a challenge or a huge headache," commented the senior official of a logistics player in the auto sector.

Chennai, where growth is constrained by clogged



## Investment in figures

Work completed:	47 projects, worth Rs55Bn (\$1.19Bn)
Work in progress:	71 projects, worth Rs16.5Bn (\$357M)
Approved but work yet to be awarded:	15 projects, worth Rs26Bn (\$562M)
Firmed up and awaiting approval:	33 projects, worth Rs123Bn (\$2.66Bn)
At preliminary planning stage:	88 projects, worth Rs227Bn (\$4.9Bn)
Dropped:	21 projects, worth Rs31Bn (\$672M)

## Capacity and throughput

Capacity and traffic actually handled (in M tonnes)

Port	Capacity	Traffic in 2008/09	Traffic as % of capacity
Kolkata	15.76	12.43	79%
Haldia	46.70	41.79	89.5%
Paradip	71.00	46.41	65%
Visakhapatnam	62.23	63.91	103%
Ennore	16.00	11.50	72%
Chennai	55.75	57.49	103%
Tuticorin	22.81	22.01	96.5%
Kochi	28.37	15.23	54%
New Mangalore	44.20	36.69	83%
Mormugao	33.05	41.68	126%
Mumbai	43.70	51.88	119%
Jawaharlal Nehru	57.96	57.29	99%
Kandla	77.24	72.22	93.5%
<b>Total</b>	<b>574.77</b>	<b>530.53</b>	<b>92%</b>

Source: Ministry of Shipping, Government of India



roads because of its location in the heart of the southern metropolis, has lined up a series of highway improvements. These include what is said to be the country's longest elevated expressway, 19km long, to allow heavy traffic to bypass congested areas.

A dedicated rail freight corridor from inland depots in the north to Jawaharlal Nehru Port – a distance of 1,500km – is planned. To complement this, feeder shipping services will be offered from JNP to Mundra and Pipavav ports in Gujarat state.

The cabinet has also approved construction of a 70km highway to connect the ports of Gandhidham (Kandla) and Mundra. Targeted to be completed in 30 months, the project is estimated to cost Rs9.5Bn (\$204M) and is expected to cut transit time and carriage costs of goods.

Maersk India has opened a container freight station at Ponneri, near Ennore Port, just north of Chennai. This region will also benefit from better national road links under the highway project. It has 3,000m<sup>2</sup> of warehousing space and more than 6,000m<sup>2</sup> of dedicated trailer parking, and will provide storage and stripping of laden import containers and consolidation of export cargo.

"As we identify further value propositions together with our customers we expect to expand further in the coming years," stated Hans-Henrik Hansen, cluster manager, South Asia Container Inland Services, for Maersk India. Hansen pointed out that Maersk India now operates four container freight stations in the country covering a total of 230,000m<sup>2</sup> – Ponneri, two in Nhava Sheva near Jawaharlal Nehru Port, which were both expanded last year, and one at Dadra, near Delhi.

Another major player, GAC India, is seeking opportunities triggered by the Indian automotive boom where international car-makers have lined up to set up manufacturing facilities. "India's automotive industry has passed a critical point," said Gracias Thevar, country manager for Logistics Services at GAC India. Many ports including Mumbai, Chennai and Mundra have been establishing facilities to anticipate the demands in this industry, Thevar pointed out.

Global companies are also looking to develop world-class terminals. In August, MOL signed a memorandum of understanding (MoU) with Sical Logistics to operate a vehicle yard in Ennore. MOL's Indian car logistics unit has signed a contract with Japanese manufacturer Nissan to transport vehicles to the Ennore depot where the cars will be stored and prepared for loading before export.

MOL said: "MOL and Sical each bring unique strengths to the partnership. MOL has accumulated decades of know-how in Asia's automobile logistics market, while Sical has a proven track record in port and harbor operations in southeast India."

India's export of cars and trucks rose more than 100,000 units to touch 335,739 units in FY2008/09. Thevar expects India's 'golden quadrilateral' policy of adding 5,800km of highways connecting 19 big cities to "drastically improve" the road haulage of cars.

NYK Line (India) has also responded to the growth seen in the automotive industry and signed an MoU with Container Corporation of India (CONCOR) to establish a joint venture to transport road vehicles by rail. "Since 2004, NYK has provided an automobile transportation service that makes use of trucks, and in order to meet swelling demand, [it] has decided to expand into railway transport," the company said. NYK hopes that this will fulfill its transportation requirements in an environment-friendly way.

Trial services will be focused on the Delhi-Chennai route, but plans envisage widening the network in the future. To begin with, cars will be loaded into containers, but the intention is to carry them by train on 'auto racks'. "One container can accommodate five to six small cars or four medium-size cars, and up to 45 containers can be hauled at a time," the company stated.

GAC also anticipates a demand for warehousing space following the implementation of the goods and services tax from April 2010. "India is going to witness a warehousing boom, promising more efficient warehouses being set up across the region," predicted Thevar. He expects strategically placed, well-designed warehouses to play a major part in improving overall supply chain management. **PH**

## BOT or BOOT?

India's government admits that it cannot fund the projects required to build up port and supporting infrastructure on its own. It has therefore adopted the public-private partnership (PPP) model as a way of attracting private investment.

The central government has also kept under its jurisdiction 12 ports, categorising them as 'major' ports. They include Jawaharlal Nehru Port, Mumbai and Chennai, which along with others are busy implementing expansion projects.

The build-operate-transfer (BOT) model, has been preferred for the proposed container facilities in New Mangalore and for a multi-purpose berth at Paradip. It is a simple model, with the government providing the land and the chosen bidder investing in facilities and equipment and operating them for the concession period, which is usually

30 years. The practice is to give the bidder at least two years after signing the concession agreement to start operations.

The government prefers to keep a handle on tariffs charged to ensure that exporters are not overburdened with port costs. This may help explain why investors are more attracted to the smaller ports, which are the responsibility of their respective state governments. Pipavav and Mundra in Gujarat, Gangavaram in Andhra Pradesh, Jaigarh and the scheduled Dighi ports in Maharashtra are among those that have attracted substantial investment because of the flexibility in setting tariffs under the build-own-operate-transfer (BOOT) model.

For BOOT, the concession period is longer and may stretch up to 50 years. The port operator is the virtual owner, which

is not the case with the BOT model, but these are usually gateway ports generating substantially larger volumes.

Another interesting model for investing in new facilities at major ports is design-build-finance-operate-transfer, or DBFOT, which places greater financial and planning responsibilities on the investor. The new container terminal in Jawaharlal Nehru Port has been proposed under this model. Under this stipulation, the first phase should be completed and commissioned within three years from the date of signing of the concession agreement. Phase two should be completed in two years and should begin on or before the throughput touches 1M teu annually. In any case, Phase II should be commissioned within a period of eight years from the date of signing of the agreement.

IADC presents 34th international

# SEMINAR

ON DREDGING AND RECLAMATION

19 - 23 April 2010  
Singapore



## FOR WHOM?

For decision makers and their advisors in government, port and harbour authorities, off-shore companies and other organisations that have to execute dredging projects, the International Association of Dredging Companies organises the International Seminar on Dredging and Reclamation.

## HIGHLIGHTS OF THE PROGRAMME

Highlights of the programme are:

- Day 1 Why Dredging? The Need for Dredging/Project Phasing
- Day 2 What is Dredging? Dredging Equipment
- Day 3 Production (includes a Site Visit)
- Day 4 Preparation of a Dredging Contract, Cost Pricing
- Day 5 Dredging Projects, Contracts

## COSTS

The cost of the seminar will be € 2.950,-; this fee includes all tuition, VAT, seminar proceedings and workshops and a special participants dinner during the week but is exclusive of travel costs and accommodation. Assistance with finding accommodation can be given.

See dredging equipment in action!



**PRE-REGISTER now at:**  
[info@iadc-dredging.com](mailto:info@iadc-dredging.com)

For more information:  
IADC Secretariat  
Mr. Frans-Herman Cammel  
PO Box 80521  
2508 GM The Hague  
The Netherlands  
Phone: + 31 (0)70 352 33 34  
Fax: + 31 (0)70 351 26 54

# RUSSIA

## St. Petersburg

October 5 - 7  
2010

# TRANSTEC

## THE SECOND INTERNATIONAL CONFERENCE

*“FUTURE OF RUSSIAN PORTS”*

## AND EXHIBITION

*“PORTS, TRANSPORT  
AND INTERNATIONAL  
TRANSIT”*

*with the official support of*

Association of Sea Commercial Ports	Maritime Council of the City of St. Petersburg	Euro-Asian Transport Union
Association of Inland Waterways, River-Sea Ports and Shipowners	Institute of Transport Issues of the Russian Academy of Science	

*Contact Dolphin Exhibitions:*  
Tel: + 44 1449 741801 • Fax: + 44 1449 741628  
Email: [info@dolphin-exhibitions.co.uk](mailto:info@dolphin-exhibitions.co.uk)

# www.transtec-neva.com

## Few hiding places for single-hulls

China's blanket ban on single-hull tankers from the start of this year has further limited global options for owners of ageing product carriers. The European Union has also adopted the 2010 International Maritime Organization deadline on Category 2 and 3 oil tankers that were delivered in 1984 or later. Recent estimates talk of some 800 single-hull vessels still in operation.

Japan is also implementing the 2010 deadline. In percentage terms, Japan has reduced its use of single-hull vessels the most, followed by China. South Korea still imports about a quarter of its crude oil on single-hull tankers, but its government has set a target of only 15% single-hull deliveries in 2010 and a complete ban on their use is expected by 2011.

The ban was imposed in reaction to a disastrous accident off the west coast of South Korea in October 2007, when more than 66,000 barrels of crude oil was spilled. The government indicated that it would reduce the usage of single-hull tonnage and ban single-hull vessels from 2011, or 2015 with permission from flag and port states. Other Asian countries have followed suit: the Philippines, for example, banned single-hull vessels from April 2008.

IMO member states can avoid the ban for five more years beyond 2010 by outlining their intentions in a letter to the organisation. An IMO spokesman was unable to say how many have sought such extensions. However, it is known that India has asked the IMO for an extension. The government has started phasing out single-hull tankers this year, but has granted special exemption to existing Indian-flag tankers until 2015.

Any single-skins registered in India after 31 December 2009 will be banned from trading in Indian coastal waters. This government decision followed representations from Indian shipping companies, which claimed foreign owners and managers had been trying to dump single-hull tankers in India to take advantage of the relaxation of IMO regulations. India has around 70 single-hull tankers, all of which need to be phased out in any case by 2015.



Global convention... Prime Minister of Denmark, Lars Løkke Rasmussen, took centre stage at the COP15 opening ceremony

Photo: Getty Images

## Climate accord 'not binding'

COP15 last December failed to deliver the legally binding agreement that many delegates and commentators had hoped for. Although such an agreement was the criterion by which many were judging the success or failure of the event, heads of state and governments did agree on an 'accord', which sets out the principles that underlay the Copenhagen conference.

The accord recognises that "climate change is one of the greatest challenges of our time" and emphasises the governments' "strong political will to urgently combat climate change". It calls for governments to do this mindful of common, but differentiated, responsibilities and respective capabilities. As a consequence, developing countries should expect to receive financial support, technology assistance and advice from richer countries to help with adaptation measures, and ways to prevent deforestation. It is expected that developed countries will provide their poorer counterparts with \$100Bn a year by 2020. It aims to stabilise "greenhouse gas concentration in the atmosphere at a level that would prevent dangerous

anthropogenic interference with the climate system".

It also places weight on the rise in global emissions reduction with the aim of keeping global temperature to below 2°C. Annex 1 Parties agreed to set emissions targets for 2020, which were scheduled to be delivered by 31 January 2010. Non-Annex 1 parties,

Emissions from Deforestation and Forest Degradation in Developing Countries), as a useful framework to provide incentives to reduce deforestation. According to the REDD website, cutting down forests contributes almost 20% of greenhouse gases.

A Copenhagen Green Climate Fund is being set up to co-ordinate a significant amount of this funding and to support greenhouse gas mitigation projects in developing countries. A high-level panel – accountable to the Conference of the Parties – will also be established to ascertain where this money should be allocated.

The success of the accord's implementation will be established in 2015, and "would include consideration of strengthening the long-term goal referencing various matters presented by the science, including in relation to temperature rises of 1.5 degrees".

Environmental activists criticised the conference's lack of agreement on firm emission reduction targets. Ultimately, though, the degree to which this is achieved is dependent on the political will of the participating countries.

“Strong political will [is needed] to urgently combat climate change”

it was agreed, will implement mitigating actions, which also were to be submitted in January.

"Deep cuts in global emissions are required according to science," the accord states. Nevertheless, the text recognised that poorer countries would take longer to turn their emissions around.

Attention is given the UN REDD (United Nations Collaborative Programme on Reducing



## New piracy posts at IMO

The IMO has created four new counter-piracy positions. The posts, which have yet to be filled, will enforce the Djibouti Code of Conduct established last year in response to ship hijackings in the Gulf of Aden and the western Indian Ocean.

Signatories to the code are required to review their national legislation to ensure that piracy and armed robbery against ships are subject to criminal sanction and to share piracy information via centres to be established in Sana'a, Yemen; Mombasa, Kenya; and Dar es Salaam, Tanzania.

The new posts will be funded by the \$13.8M Djibouti Code trust fund, which has received "generous and much-appreciated financial support" from Japan, the Netherlands, Norway and South Korea, an IMO representative told *Ports & Harbors*.

The IMO also plans to establish a training centre in Djibouti.

## IMO dedicates the year to seafarers

IMO has launched its 2010 'Year of the Seafarer' with one eye on the outcome of June's conference in Manila, where the Standards of Training, Certification and Watchkeeping (STCW) convention will be updated. The maritime organisation's secretary-general, Efthimios Mitropoulos, said international regulators wished to reassure the world's 1.5M seafarers that they understood the "extreme pressures" that crews face. The theme is designed to pay tribute to seafarers and to acknowledge the vital part they play in global trade. There will be a renewed push to boost recruitment for shipping, which has seen a worrying slump in officer-level entrants. According to Andrew Linington, campaign chief of the Anglo-Dutch seafarers' union Nautilus International, the idea of the Year of the Seafarer should not be seen merely "as a great slogan".

"We are determined to turn it into a year of achievement and to campaign for a number of key objectives, such as improving seafarers' conditions, particularly their hours of work and rest," he said in early January. "The crux of the issue is whether national governments are prepared to commit money to training."

Another Nautilus priority seeks to ensure the IMO's Maritime Labour Convention is adopted and "properly enforced", which should make it feasible to carry out shorter port state control ship inspections, Linington declared. IMO plans to hold a number of activities to celebrate the Year of the Seafarer, including this year's World Maritime Day, due to run from 20 to 24 September (the day varies in different countries) with a celebration on 23 September at IMO's London headquarters. Recruitment will be targeted through



**At the ceremony (l-r): ITF's Jon Whitlow; chairman of IMO's STCW sub-committee, Peter Brady; IMO secretary general Mitropoulos; and ISF president Spyros Polemis**

'Go to Sea!' campaign activities; seafarer welfare and training will be promoted during IMO missions and visits; seminars will highlight the important role of seafarers.

International Seafarer Welfare awards will be held in various countries under the aegis of the International Committee on Seafarers' Welfare (ICSW). A photographic documentary on the lives of seafarers around the world is also planned.

Former secretary-general of the International Maritime Employers' Committee David Dearsley will chair several ICSW-sponsored projects to promote seafarers' health and shore- and sea-based welfare, and there will also be an "online toolkit for seafarers".

## Flag states tardy on labour rules

Flag and port states are unprepared for the pending ratification of the International Labour Organization's Maritime Labour Convention (MLC), according to the International Maritime Employers' Committee (IMEC). The MLC is likely to be ratified by late 2010 and would become law 12 months later but IMEC secretary-general Giles Heimann has warned that many stakeholders have underestimated the impact of the regulations.

"One of the larger, well-respected open registers has admitted it is nowhere near prepared for MLC implementation because it hasn't managed to get a single word down on paper as far as national legislation is concerned," he told *P&H*.

The confusion stretches from the flags, which must get the regulations adopted into national

law, to recognised organisations (usually class societies) tasked with performing fleet audits, to the training and suitability of port state control inspectors.

"Flag states are interpreting the MLC in different ways so recognised organisations are confused. The other issue that worries me is inspections. There is absolutely no way you can take a standard port state control officer who is used to inspecting on safety and technical issues and suddenly expect them to become an MLC inspector," he added.

PSC inspectors – likely to be former engineers or deck officers – might be well versed in safety legislation, but expecting them to understand the complexities of crew contracts was unrealistic, he said. "My honest belief is that administrations need to be acting right now to make sure inspectors

are either trained effectively or be looking for a completely new breed of inspectors with the right background and qualifications."

The ultimate sanction for non-compliance with the MLC will lie with the ILO, which has not issued guidance on enforcement. Once adopted, however, the convention will apply to all flags equally, leaving port states to manage local enforcement, he added.

**Giles Heimann, of IMEC:**  
"Administrations need to be acting right now"

Photo: IMEC



## SuperGreen promotes sustainable corridors

A new European Union (EU) project – Supporting EU's Freight Transport Logistics Action Plan on Green Corridors Issues – which will be known as 'SuperGreen', was launched in Athens in early February with the backing of 22 partners from 13 European countries. The project is committed to mobilising more than €3M over the next three years, with the European Commission (EC) contributing in the order of €2.6M.

It aims to assist the EC in defining the 'Green Corridor' concept and encouraging its development. Its brief is also to develop sustainable transport networks, taking into consideration environmental, technical, economic, social and spatial planning aspects.

SuperGreen will evaluate a selection of 10 to 15 European main freight transport corridors – possibly covering the TEN-T (Trans-European Transport Network) – with "good greening potential", according to an EC statement. The project will "develop a methodology for the benchmarking of Green Corridors". It also hopes to identify areas of improvement, including innovative technologies, define more efficient ways to use information and communication technology flows, create recommendations for future research and analyse the implications for related EU policies.

SuperGreen is co-funded by the EC in the context of the 7th Framework Programme for Research and Technological Development. It will be coordinated by the National Technical University of Athens, with Professor Harilaos Psaraftis acting as manager of the project.

The 22 partners include transport, logistics and infrastructure operators, shippers, environmental organisations and authorities, consultants, academia and research and development. The project's first open workshop will be held in Helsinki in June, when the results of a preliminary evaluation of some freight corridors will be presented.



## EPA adopts tough emissions standards

Photo: Roger Paice Associates

**EPA's new strategy should reduce annual NOx emissions from US-flagged ships to 1.2M tonnes**

The Environmental Protection Agency (EPA) has agreed tough engine and fuel standards for large US-flagged ships. It is seen as a major milestone in its efforts to slash harmful marine emissions. The regulation harmonises with international standards and is expected to lead to significant improvements in air quality.

"Port communities have identified diesel emissions as one of the greatest health threats facing their people – especially their children. These new rules mark a step forward in cutting dangerous pollution in the air we breathe and reducing the harm to our health, our environment and our economy," said EPA administrator Lisa Jackson.

By 2030, the EPA's domestic and international strategy is expected to reduce annual emissions of nitrogen oxides (NOx) from large marine diesel engines by 1.2M tonnes and particulate matter (PM) emissions by 143,000 tonnes. When fully implemented, this strategy will reduce NOx emissions from ships by 80% and emissions of particulates by 85% compared with current levels.

These standards complement a key piece of EPA's strategy to designate an emissions control area (ECA) for thousands of miles of US and Canadian coasts. The International Maritime Organization is set to vote on the adoption of the joint US-Canada ECA, which would result in

stringent standards for large foreign-flagged and domestic ships operating within the designated area.

By harmonising its emissions regulations to the most stringent of international marine pollution standards, the EPA is also acknowledging calls from both industry and public interest commentators that the same standards should be applied to all large (category 3) vessels in US waters. At the same time, the final regulations contain certain reporting and technical operating requirements that will be applicable only to US-flagged vessels or to manufacturers of vessels destined for the US or for US-flagged vessels.

## Four-year rise on piracy figures

A total of 406 incidents of piracy and armed robbery were reported in the 2009 annual piracy report issued by the ICC International Maritime Bureau's Piracy Reporting Centre. The last time piracy figures broke the 400 barrier was in 2003.

However, incidents have been steadily growing in the three previous years, with 239, 263 and 293 incidents reported in 2006, 2007 and 2008 respectively. The total number of incidents attributed to Somali pirates in 2009 stands at 217, with 47 vessels hijacked and 867 crew members taken hostage. Somalia accounts for more than half of the

2009 figures, with the attacks continuing to remain opportunistic in nature. While the number of 2009 incidents in Somalia has almost doubled, the number of successful hijackings is proportionately less.

The report states that, worldwide in 2009, 153 vessels were boarded, 49 vessels were hijacked, 84 attempted attacks launched and 120 vessels fired upon, as against 46 ships fired upon in 2008. A total of 1,052 crew were taken hostage. Sixty-eight seafarers were injured in the various incidents and eight crew members killed. The level of violence towards crew has increased, as has the number of crew injuries.



## US improves data analysis

The US Department of Homeland Security published its fifth audit on the Automated Targeting System (ATS) in January, which analyses data related to container cargo entering the US.

The department said that Customs and Border Protection (CBP) could improve its record-retention processes supporting decisions made to inspect or postpone inspection of high-risk shipments. At present, CBP officers use their own discretion and inconsistent processes to examine cargo, so may fail to detect dangerous goods and substances.

The department made four recommendations, which CBP is now in the process of implementing. First, it requires port directors to maintain either the hard copy or electronic documentation produced when conducting examinations, or postponing examinations of high-risk containers long enough to

allow for independent review.

It is to update and implement examination guidelines specifically to address terrorism threats and outline minimum procedures for its officers to follow when performing anti-terrorism examinations, including specific procedures for inspecting for chemical, biological, nuclear, and radiological threats.

CBP must periodically assess the examination process to ensure that its officers are properly performing and accurately recording examinations in the ATS.

Finally, CBP is required to enhance current efforts to ensure that each stage of the process for analysing and developing ATS rules is properly documented. Included within that are the rationale for making changes, definitions of terms used, and details on the tools employed to improve application consistency and rule change standardisation.

## US announces enhanced screening for import cargo

The US announced on 27 January that it has tightened its screening measures for cargo arriving at the country's seaports. Department of Homeland Security (DHS) secretary Janet Napolitano said that Customs and Border Protection (CBP) has begun enforcement of the Importer Security Filing and Additional Carrier Requirements interim final rule, significantly increasing the scope and accuracy of information gathered on shipments of cargo arriving by sea.

The new requirements for US importers will enhance the DHS's layered enforcement strategy against terrorism and other crimes at US ports of entry. Failure to comply with this new rule will result in monetary penalties, increased inspections and delay of cargo. "Effective homeland security requires strengthening our capabilities to detect and deter potential acts of terrorism at our land, air and seaports," said Secretary Napolitano. "Collecting detailed information about cargo shipped to the US before it arrives will enhance the effectiveness of our screening operations at seaports around the nation."

The Importer Security Filing and Additional Carrier Requirements – commonly known as '10+2' in reference to the data required under the rule – are a result of the SAFE Port Act of 2006, which mandated the development of a regulation to require additional data before a vessel arrives at a US port of entry.

In early February, the DHS also announced a two-year delay in its plans to enforce 100% scanning of US-bound boxes before loading at all foreign ports, beginning in July 2012. The 9/11 Act allows a two-year extension for ports where any of six mitigating conditions exist. The DHS determined that several of these conditions apply to all ports, so it will provide a blanket global reprieve until July 2014. [See page 18]

## Bimco revises stowaways clause

Bimco has released a revised clause for time charter parties, in a bid to clarify the allocation of responsibility for stowaways.

In the past, disputes have arisen between shipowners and charterers over the exact method that a stowaway used to gain access to the ship, such as via the cargo or by some other means.

If the stowaway was concealed in the cargo – in a container, for example – the P&I club would normally make a claim against the charterer. However, on some occasions the individual may have hidden in a grab or obtained access at another stage of the loading operation.

As well as proving difficult to ascertain how a stowaway got on board the vessel, it may even be difficult to establish the nationality of the offender.

"It's just a big problem for shipowners and their P&I clubs to sort out," the head of Bimco's documentary department, Grant

Hunter, told *Ports & Harbors*. "What we've attempted to do is to make the wording clearer than it was before," Hunter explained.

Hunter added the purpose of

the revised clause is to avoid further disputes while identifying the clearly defined liabilities, responsibilities and obligations of the parties concerned.

"When it comes to allocating costs, you can just rely on that clause. Obviously facts come first, but once you have established some facts the clause is of particular value to P&I clubs in resolving very difficult matters."

Owners are covered by their P&I club for costs tied to stowaways, but the revised clause gives the club recourse to a claim against the charterer. The clause now includes stowaways gaining access to the vessel via the cargo equipment during operation, while previously the charterer's responsibility was limited to those gaining access by concealing themselves in the cargo.

The organisation is hoping to see a widespread take-up of the revised clause and anticipates that it will be incorporated as standard wording for new time-charter parties.

The clause is also available to download free from Bimco's website, [www.bimco.org](http://www.bimco.org).



**Damaged boxes reveal that stowaways have been on board. Bimco has reviewed its clause on stowaways**

Photo: Modern Terminals





# Beating the economy in Bandung

Members attending the Asia/Oceania region meeting in Indonesia discussed better productivity and emerging markets. IAPH secretary general **Susumu Naruse** and under-secretary **Hiro Nagai** report

"IAPH has a vital role in overcoming current issues that linger in the world – economic downturn, climate change, de-bureaucracy," said the managing director of Indonesia Port Corporation II, R J Lino. He welcomed members to the 10th IAPH Asia/Oceania Regional Meeting and Port Forum, held in Bandung from 3 to 5 February.

An impressive 280 participants from 13 countries were keen to hear how ports in the region were addressing these and other issues, and the meeting's venue – the Merdeka Building – set the scene for a range of stimulating presentations. In April 1955, the same building hosted a historic gathering of representatives from

29 newly independent Asian and African countries.

Delegates were welcomed by the governor of West Java, Ahmad Heryawan. There followed a keynote address from Indonesia's director general of sea transportation, S H Sunaryo, who focused on port reform processes aimed at improving productivity and efficiency.

Sydney Ports chief executive and IAPH second vice-president for the Asia/Oceania region Grant Gilfillan highlighted the need to "take the opposite view of the current world economic downturn and invest for the future".

Sunaryo kicked off the first port forum with a presentation on regulatory framework change in

Indonesia. He pointed out that while Indonesian ports remain typical 'service ports', regulated and operated by four public port corporations, the government was aiming to enhance efficiency by changing the regulatory framework by splitting the roles of regulator and operator.

Meanwhile, Vietnam and Sri Lanka are rapidly expanding their port infrastructure. Deepsea port facilities are being developed in Vietnam, particularly in the south of the country, most of which are to be leased out to private operators, remarked Ho Kim Lan from Saigon Port. Almost all the world's major terminal operators will be involved in the projects, said Lan. In Sri Lanka a huge

development plan at Colombo Port is being implemented by means of a \$300M loan from the Asian Development Bank. Priyath Wickrama, chairman of Sri Lanka Ports Authority, explained that eventually there will be three terminals each with four berths (16m or 17m deep), giving a total capacity of 10M teu.

Indonesia has found a way to reduce maintenance dredging. The Port of Banjarmasin, a river port in central Kalimantan, used to suffer from severe siltation at the river mouth. After intensive studies, the alignment of one of the approach channels was changed, reducing the cost of dredging. It is now managed by a private company, which maintains it with tolls collected from users. The success means the system will be applied to other ports such as Surabaya, reported Husein Latief from Indonesia Ports Corporation III.

Lino emphasised that ports



should strive to contribute to "the objective of a multimodal seamless integrated worldwide cargo conveyance system". To achieve this, he felt that "productivity for everyone" was indispensable.

Indonesia Port Corporation I's Bambang Eka Cahyana looked at voluntary pilotage in the 900km-long Straits of Malacca and Singapore. Pilotage is important, he asserted, given the heavy traffic density, frequent accidents, limited visibility caused by fog and heat haze, and the presence of fishing boats and small craft that lack radio communication. But he reminded delegates that pilotage is a complementary service only.

Masahiko Furuichi, director of special research at Japan's Port and Airport Research Institute, gave an overview of how the world economy had shrunk over the past year and considered the way ports had performed in this environment. He compared the OECD's composite leading indicator (CLI) against container throughput at major IAPH member ports. He predicted that "most of the Asia and Oceania region's major ports are expected to reverse their monthly container throughput trend to increase to a sooner or later extent", because their CLIs had already improved.

World GDP growth has tripled global container demand over the past 30 years, asserted Tamizi Amir, from shipping company PT Samudera and representing the Indonesian National Shipowners' Association. Shipping companies should become cost-conscious to stay competitive, he said, and should look to bigger ship sizes and rationalised port calls. He acknowledged that the number of Indonesian-flagged ships is likely to increase significantly and

therefore Indonesian ports should be better prepared.

Sydney Ports Corporation's A\$1Bn expansion of Port Botany provided an interesting case study. Tony Navaratne, manager of port planning, explained how the port is using precast concrete structures in the development. Each unit is constructed, assembled, transported and installed on site, Navaratne explained, adding that low-profile cranes have to be deployed to avoid interfering with flights into Sydney Airport.

Hiromi Kado of Japan's Ministry of Land, Infrastructure, Transport and Tourism, gave an overview of the country's efforts to reduce CO<sub>2</sub> emissions by 20% by 2020, compared with those of 1990. Japanese ports' efforts to reduce emissions include: modal shift, such as transporting containers by barge in Tokyo Bay; switching from truck to ferry transport; cutting traffic congestion; and replacing diesel engines with hybrid-powered equipment. Electric power could be adopted for cargo handling equipment, observed Kado, while onshore power could be supplied to ships at berth, renewable sources of energy introduced and green areas (carbon offset) initiated.

The commercial director of PT Rukindo (Persero) in Indonesia, Lukman Priyadi, revealed 2010–2011 plans for a series of projects for capital dredging and maintenance, instigated by the port authority. He also expects multi-million dollar dredging projects to be generated from Indonesia's private sector.

Sydney Ports' environment manager, Shane Hobday, told the Bandung meeting that a national ballast water management system



**L-r: Alfred Natsir, MD, Indonesia Port Corporation (IPC) IV; Djarwo Surjanto, MD, IPC III; Wawan Ridwan, assistant economic and development, Government of Province of West Java; R J Lino, MD, IPC II; S H Sunaryo, DG, Sea Transportation; Harry Sutanto, MD, IPC I Grant Gilfillan, IAPH 2nd VP; Secretary General Naruse**

is crucial for Australia. He made reference to IMO's International Convention for the Control and Management of Ships' Ballast Water and Sediments providing standards for treatment of ballast water. The convention has been signed by Australia, pending ratification.

The Megaports Initiative (MI) was outlined by Hiroshi Horikawa, the executive director of the Japan Port and Harbour Association, as part of his presentation on the country's ship and port security arrangements. A pilot project has been running since January 2009 at Minami-Honmoku container terminal in Yokohama, where detection and monitoring devices are installed to identify any radioactive or nuclear materials that may be hidden in containers.

A more reliable security system can be created, he said, if there is a

shift from maritime security to total supply chain security.

A sobering climate change scenario was raised by Abdul Razak Manan, commissioner of Indonesia Port Corporation I. Citing a simulation carried out by consultants in 2007, he predicted that sea level rise may cause ports in Jakarta to disappear by 2050. A similar forecast was made for the ports of Banjarmasin and Bali.

"We cannot expect that sea level rise linearly, but perhaps exponentially," he warned IAPH's members. Research, co-operation between ports and special attention to future harbor planning will be vital, he added. **PH**

**Work and play: members enjoyed an active social programme presented by Indonesia Port Corporation**





## Tools of the trade to reduce GHGs

IAPH's recently overhauled Tool Box for Port Clean Air Programs is easy to find on the IAPH website – simply go to [www.iaphworldports.org](http://www.iaphworldports.org) – and now includes additional material on greenhouse gas mitigation. The toolbox offers background on the international fight against climate change as well as ideas and suggestions to reduce your carbon emissions.

It also gives a comprehensive breakdown of how to develop a climate protection plan, and provides a forum to share your experiences with other ports. The toolbox forms part of the World Ports Climate Initiative. As project port, Los Angeles has been fundamental in bringing together this volume of work for members and non-members.

If you would like your port to get involved in a project please go to the the IAPH website for more information.



From left to right, Korean delegates Hong Ji Young, Yun So Yeon and Yoo Ji Hye on the far right, with IAPH assistant under secretary Hiro Nagai and Former Secretary General Inoue

## Korean students go global

The IAPH secretariat welcomed three delegates from Kyung Hee university in Korea to the Tokyo office on 12 January.

Former Secretary General Satoshi Inoue gave them a brief

explanation of the current topics and issues affecting world ports today. Their visit is a part of a Korean Ministry of Education-sponsored overseas programme – Pride & Honor.

The aim of the government programme is to provide Korea's leaders of tomorrow with an opportunity to research and get to know outstanding institutes across the world.

## Membership notes

The IAPH secretariat is pleased to announce the following new members

### Associate members

#### APM Terminals

Address: Anna van Saksenlaan 71, 2593 HW The Hague, Netherlands  
 Telephone: +31 70 304 3100  
 Fax: +31 70 304 3199  
 E-mail: [Thomas.H.Boyd@apmterminals.com](mailto:Thomas.H.Boyd@apmterminals.com)  
 Website: [www.apmterminals.com](http://www.apmterminals.com)  
 Representative: Kim Fejfer, CEO  
 Nature of business activities: Terminal operator

#### SAM Electronics

Address: 120 Behringstr., D-22763, Hamburg, Germany  
 Telephone: +49-40-8825-0  
 Fax: +49-40-8825-4000  
 E-mail: [info@sam-electronics.de](mailto:info@sam-electronics.de)  
 Website: [www.sam-electronics.de](http://www.sam-electronics.de)  
 Representative: Ulrich Weinreuter, president  
 Nature of business activities: Maritime electrical and electronic systems

#### Sea & Tec Co

Address: #201-25, Dongsam-dong, Youngdo-gu Busan, Korea  
 Telephone: +82-51-403-5062  
 Fax: +82-51-403-5064  
 E-mail: [choiyygg@seantec.com](mailto:choiyygg@seantec.com)  
 Website: [www.seantec.com](http://www.seantec.com)  
 Representative: Byung-Wan Gwak, CEO  
 Contact: Choi Yeong-Geun, chief of sales team and company director  
 Nature of business activities: Manufacturing pneumatic fenders for marine use

### Regular member

#### Brunsbüttel Ports

Address: Elbehafen, D-25541 Brunsbüttel, Germany  
 Telephone: +49-4852-88435  
 Fax: +49-4852-88426  
 E-mail: [f.schnabel@schrammgroup.de](mailto:f.schnabel@schrammgroup.de)  
 Website: [www.schrammgroup.de](http://www.schrammgroup.de)  
 Representative: Frank Schnabel, managing director



## 2010 membership directory now available

The 2010 edition of the IAPH Membership Directory has been published and was sent to members in early February. The IAPH secretariat in Tokyo has passed on its thanks to all members who helped to keep the contents up to date. It is also grateful to the sponsors who supported the publication by placing advertisements.

The directory is available exclusively to members as a benefit of their IAPH membership and it is not on sale to non-members. It is only available in hard copy, not electronically. For additional copies or any enquiries, please contact the IAPH secretariat at [directory@iaphworldports.org](mailto:directory@iaphworldports.org).



## Proceedings published



Proceedings of the 26th IAPH World Ports Conference, held in Genoa, Italy, last year have now been published and copies have been sent out to IAPH members. This has been arranged by the host of the event, Port Authority of Genoa.

A digital version of the proceedings and presentations of working sessions have now been posted on the members' area of the IAPH website.

More info: [www.iaphworldports.org](http://www.iaphworldports.org).

## Patrick Falvey remembered

Former IAPH legal counsel and honorary member Patrick J Falvey passed away on 23 December 2009, after a long illness. He was 82.

Falvey began his IAPH career as a legal counsel in 1972, when he was General Counsel at the Port Authority of New York and New Jersey, US. In 1997, he was appointed as chair of the IAPH council of legal advisers. He was a central and indispensable figure in IAPH, guiding the association on critical legal matters.

He was responsible for processing key issues placed before the Resolutions and Bills Committee into recommendations and bills for plenary sessions.

Falvey was elected as an honorary member of IAPH in 1995 to mark his contribution to the association. He attended numerous IAPH conferences throughout the years with his wife, Eileen – the Montreal meeting in 2001 was his last. He is survived by his wife and son, Patrick Jr.



## Dates for your diary

A selection of forthcoming maritime courses and conferences

### March

- 16–18:** TOC Asia 2010, Shanghai, China  
[www.tocevents-asia.com](http://www.tocevents-asia.com)
- 21–27:** 17th IALA-AISM Conference, Cape Town, South Africa  
[www.iala2010.co.za](http://www.iala2010.co.za)
- 22–23** AAPA Spring Conference, Washington DC, US  
[www.aapa-ports.org](http://www.aapa-ports.org)
- 24–26** Asia Pacific Maritime 2010, Singapore  
[www.apamaritime.com](http://www.apamaritime.com)
- 25–26:** The 4th Indian Ports and Logistics 2010, Mauritius  
[www.transportevents.com](http://www.transportevents.com)
- 29–30:** Terminal Management and Planning, London, UK  
[www.lloydsmaritimeacademy.com](http://www.lloydsmaritimeacademy.com)

### April

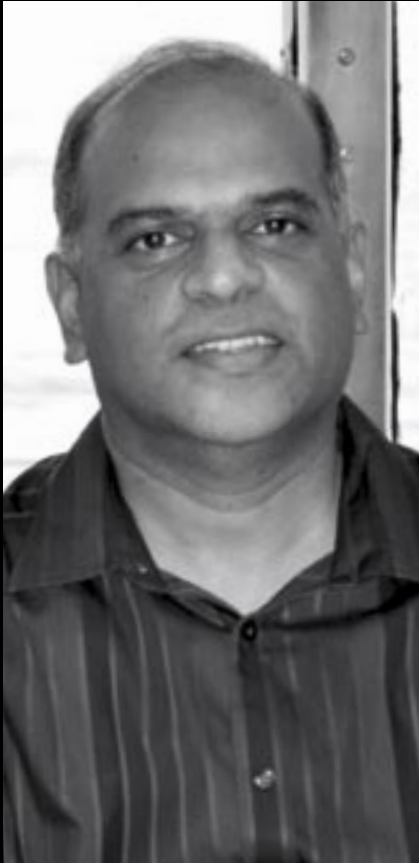
- 14–17:** Infrastructure Asia 2010, Jakarta, Indonesia  
[www.infrastructureasia.com](http://www.infrastructureasia.com)
- 19–22:** Global Port and Marine Operations 2010 – The 7th International IHMA Congress, Perth, Australia  
[www.globalportoperations.com](http://www.globalportoperations.com)
- 25–30:** Singapore Maritime Week 2010, Singapore  
[www.smw.sg](http://www.smw.sg)

### May

- 4–6:** Harbors, Navigation and Environment Seminar and GreenPort Americas 2010, Charleston, SC., US  
[www.aapa-ports.org](http://www.aapa-ports.org)
- 10–14:** PIANC MMX Congress, Liverpool, UK  
[www.piancmmx.org.uk](http://www.piancmmx.org.uk)
- 17–28:** IT & EDI in Port Business, Antwerp, Belgium  
[www.portofantwerp.com/APEC](http://www.portofantwerp.com/APEC)
- 19–20:** Marine Pollution 2010, London, UK  
[www.lloydsmaritimeacademy.com](http://www.lloydsmaritimeacademy.com)
- 19–20:** Coastal Engineering and Management Asia, Singapore  
[www.coastalengineeringasia.com](http://www.coastalengineeringasia.com)
- 20–21:** 8th ASEAN Ports and Shipping 2010, Ho Chi Minh, Vietnam  
[www.transportevents.com](http://www.transportevents.com)
- 27–28:** ESPO 2010, Helsinki, Finland  
[www.espo-conference.com](http://www.espo-conference.com)
- 27–28:** 2nd Annual China Port Expansion and Efficiency Summit 2010, Qingdao, China  
[www.noppen.com.cn/events/2nd\\_port/2nd\\_port.asp](http://www.noppen.com.cn/events/2nd_port/2nd_port.asp)

### June

- 7–9:** IAPH Mid-term Board Meeting, Savannah, USA  
[www.iaphworldports.org](http://www.iaphworldports.org)



# Brighter future

Looking ahead for 2010, assistant general manager for Port Klang and IAPH Port Environment Committee chair, **Capt David Padman**, sounds a positive note

The global economic downturn has brought a veil of gloom over ports around the world. Ports on the American and European continents have been seriously affected, and those in Asia have also seen an impact.

Malaysia is the 17th largest trading nation in the world. Ninety percent of our trade – valued at about \$140Bn per annum – is handled through our ports. Port Klang experienced a fall of about 8% in container traffic in 2009, and our figures indicated that we handled close to 7.3M teu for the calendar year.

Nevertheless, our cargo growth showed improvement and a general upward trend towards 3Q09. This upturn in throughput is thanks to the large amount of intra-Asian transshipment trade we handle, plus the fact that the manufacturing sector has also shown signs of a recovery.

Many other ports have either cut back or laid off staff. Port Klang, however, aimed to retain its staff and used the opportunity to introduce different working practices, such as multi-tasking. This has enabled staff to be redeployed to other areas of port operation and has reduced resource wastage. Shift workers' schedules were also reorganised to minimise redundancy. We have also been working very closely with the shipping lines to reduce port costs

while still looking at long-term interests.

This year we will continue to invest in more state-of-the-art container-handling equipment, including rubber-tyred gantry cranes and prime movers. Older equipment and machinery is being replaced with quieter and more energy-efficient models in our effort to reduce noise pollution. Terminals have been encouraged to switch over to more environmentally-friendly equipment and port practices in response to the global movement towards reducing our carbon footprint. IAPH's World Ports Climate Initiative (WPCI) is actively promoting these ideas.

Additional back-up areas for use as container yard space are being developed, while we also plan to construct new berths to handle larger vessels. The south entrance (South Channel) to the port has also been deepened to 16.5m to cater for the demands of our customers. With the simultaneous widening and deepening of the South Channel, there have been no restrictions on two-way traffic at the port's primary entrance as of January 2010.

Port Klang is very optimistic that 2010 will be a great year for both our port and the logistics industry and that its strategic location in the busy Strait of Malacca will continue to ensure growth potential in the years ahead. **PH**

Port Klang has taken the opportunity to introduce different working practices





# GREENLINE™

## ENVIRONMENTAL LEADERSHIP

LIGHTER. SIMPLER. MORE RELIABLE. ENERGY-EFFICIENT.  
GREENLINE™ SPREADERS. ONLY FROM BROMMA.



Bromma GreenLine™ spreaders offer terminals ship-to-shore and yard solutions that are lighter, more energy-efficient, simpler to operate, and more reliable. GreenLine™ all-electric spreaders reduce power consumption in two ways. Reduced spreader weight lowers STS crane power consumption by an estimated \$4,000 USD/year per crane.

Eliminating hydraulics reduces spreader power consumption by an estimated 85%. For every 5 kWh consumed by an STS45, less than 1 kWh is consumed by an STS45E. This represents annual savings of more than \$1,100/year per spreader. What are combined crane and spreader fleet savings? For a 10-spreader fleet, more than \$50,000 USD per year.

With no fluids to change, and no filters to replace, GreenLine™ means reduced maintenance, a savings Bromma estimates at more than \$2,000 USD per year. Quiet, ideal for automated terminals, and energy efficient, GreenLine™ spreaders are the right products for the right time, and they are only available from Bromma.

**GREENLINE™. ENVIRONMENTAL LEADERSHIP.**

*Only from Bromma.*

*A Tradition of Innovation*

**BROMMA**

Bromma is part of  
Cargotec Corporation





## Solutions for tomorrow's world

### Coast protection project

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



Van Oord is a dredging and marine contracting company with a worldwide reputation for building tomorrow's infrastructure. We carry out projects around the world, offering solutions to our clients' marine engineering problems and managing the entire process from design to completion. Our work combines professional skill with experience in local environments and innovative solutions. Van Oord employs 4,500 highly-qualified professionals and has one of the world's largest state-of-the-art dredging fleets.