



# PORTS & HARBORS

Official Journal of the International Association of Ports and Harbors

**Serving the bulk trades**  
Trade could double in the next decade?

**Dredging and the dockside**  
Educating the public about projects

**Lean and green**  
How ports can learn from manufacturing

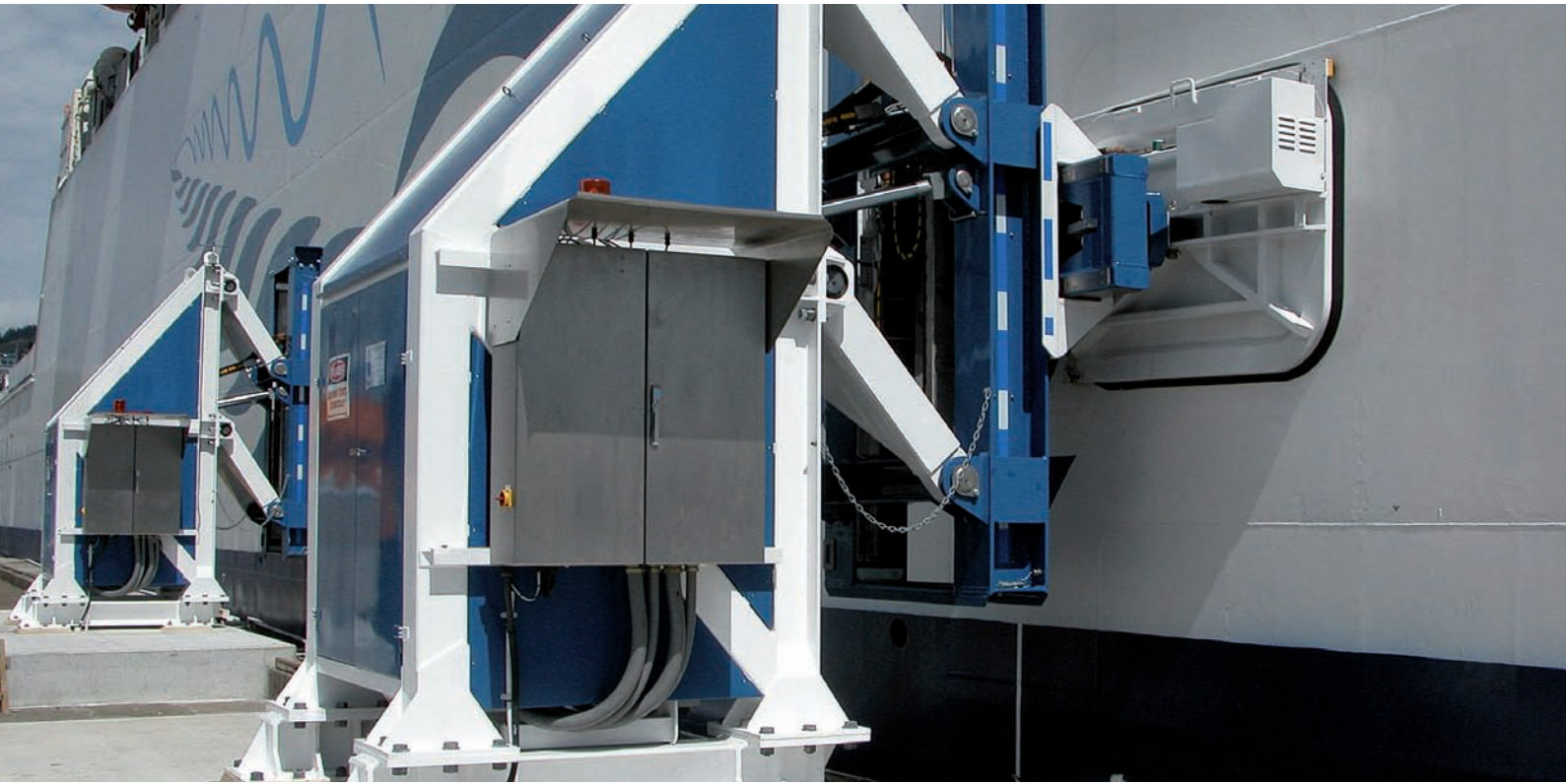


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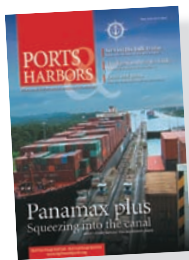
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Will ports be able to cope if the Panama Canal ends present size restrictions to handle booming traffic levels?

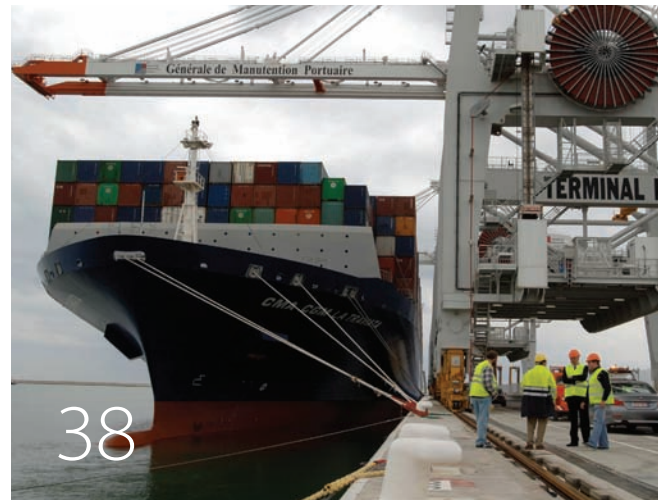
May 2006  
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## PORTS & HARBORS

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# A different world is coming

It can have escaped no-one's notice at the IAPH mid-term board meeting that India is on a solid path for growth

In Mumbai, India's commercial and maritime capital, the IAPH board of directors and technical committee members, landing back at the historic Gateway to India, were greatly impressed by the energetic developments they had witnessed.

After a half-day port tour by boat, they saw the activity at Jawaharlal Nehru and Mumbai ports. The special public session on the final day, open to members of the local port and maritime community, also reflected this energy. Participants were keen to join heated debates over institutional reform and other policy issues.

According to global investment banking giant Goldman Sachs, India's economy is on track to become larger than all but those of the USA and China in the next 30 years. It predicts that India could overtake Germany by 2023 and Japan by 2032.

More rapidly, China is on course to overtake that of Germany in

the next four years, Japan by 2015 and the USA by 2039. Most startlingly, in less than 40 years the economies of Brazil, Russia, India and China combined – the BRICs economies – together could be larger than the G6 (USA, Japan, UK, Germany, France and Italy) in dollar terms.

India could overtake  
Germany by 2023 and  
Japan by 2032

Definitely the rapid economic growth of China is already a central driving force for the unprecedented growth of the world trade. It is also impacting trade patterns and the world's maritime activity.

Sustained strong growth in the other BRIC economies would have a similar impact on global trade patterns. Taken together, these trends are throwing up new challenges and opportunities for ports all over the world. We must always take seriously these projected drastic and rapid changes.

In this issue, you will find a *P&H* exclusive – an exciting interview with Alberto Alemán Zubieta, administrator of the Panama Canal Authority. He talks about eliminating the Panamax restrictions on transit, which would mean an end to the physical limitations on vessels the Canal can handle – now 32.3m width and 12m draught.

Canal traffic is reaching close to capacity, so the Authority has been conducting numerous studies on expansion possibilities. This expansion is subject to Panama Cabinet Council approval and eventually national voting, which he expects this year.

No doubt global infrastructure developments, including those planned for the Panama and Suez Canals, together with international corridors such as the Malacca Strait, will be a decisive factor in determining future world trade and maritime activities.

Are you ready for a dramatically different world? **PH**



**Dr. Satoshi Inoue**

Secretary General – The International  
Association of Ports and Harbors

## Port updates

### CRUISE CONTROL

The president of cruise operator Costa Cruzeiros do Brazil, Rene Hermann, is supporting plans to open a second cruise terminal in the port of Santos. He said a new terminal must be in place for the 2007 to 2008 southern hemisphere cruise season (from November to March).

Hermann said the acid test would come on February 24 next year when seven vessels are scheduled to berth on the same day in Santos, bringing in 20,000 passengers, just above Concais's theoretical capacity. Port authority Codesp is promising a temporary arrangement for the season beginning 2007 and plans a cruise terminal as part of the longer-term Barnabe Bagres project.

### BUSAN PUSHES AHEAD

South Korea's Busan port, with three berths in operation, continues its expansion with a further three berths scheduled for completion at the end of this year and the final three for phase I due to be in operation by the end of 2008.

The next two phases will see a total of eight berths constructed by Busan Port Authority and 30 by 2011.

### CONGO CARGOES

The Republic of Congo is trying to attract international investment in its the development programme for the autonomous port of Pointe-Noire (PAPN), aimed at upgrading and modernising port facilities. The port is an important gateway on the gulf of Guinea for cargo destined for neighbouring landlocked African countries.

### QABOOS TO SPEND \$260M

Plans are afoot to carry out expansion of Oman's Sultan Qaboos port. The Oman Rials 100M (\$260 M) proposed plan, which awaits government approval, includes the building of a new breakwater, additional berth and storage area, logistics centre and a new passenger terminal. Now Muscat, which, has plans to become a regional hub port, can handle vessels of up to 200m in length with a maximum draft of 13m.



Bringing in more containers – ACL's 3,100TEU Atlantic Companion makes a call at PMT

## Cargo boost at Virginia

February was a good month for both container and breakbulk cargo at The Port of Virginia (PMT), with both types of cargo showing growth when compared with the corresponding month in 2005.

In February, container traffic totalled 162,948TEU and the port handled 47,000 tonnes of breakbulk cargo. A year ago, those numbers were 145,009TEU and 29,591 tonnes, respectively.

"The gain in breakbulk can be attributed to additional imports of

paper, automobiles and machinery coming into Newport News Marine Terminal," said Tom Capozzi, the Virginia Port Authority's senior managing director of marketing services.

"Autos are up almost 80% compared with last February. To date, Lydall Paper has handled almost 10,000 tonnes of paper at NNMT, our machinery tonnage is up almost 25% and we handled more than 2,100 tonnes of particle board.

"These numbers really point to the strength of the breakbulk handling capabilities at Newport News."

Through the first two months of the year container traffic is up 11.7% and breakbulk traffic volume is up 19.7%. In December 2005 and in January this year, the port handled 173,022TEU and 169,000TEU, respectively. Virginia Inland Port has seen a 22.6% growth in container volume for the financial year to date.

## Bayport gets new cranes



Houston's cranes are on their way from China



More cargo handling equipment is needed at Houston to cope with traffic growth, according to a recent Port of Houston Authority board meeting. It approved the purchase of two dockside cranes for the new Bayport terminal. They will be delivered next year.

The board approved a contract with Shanghai Zhenhua Port Machinery (ZPMC) for two electric container cranes at a price not to exceed \$17.43M. Port officials said the purchase of the cranes brings the port one step closer to having the new Bayport container facility opened and operational later this year. Delivery of an earlier Bayport order of four cranes from ZPMC is imminent.

# China targets 7.5Bn tonnes

Anticipating continued growth of the economy and foreign trade, China has set capacity targets for ports to handle bulk commodities and containers.

Minister of Communications, Li Shenglin revealed at a forum in Tianjin port, northern China that capacity additions by 2010 will see China handling 7.5Bn tonnes of cargo and 150M TEU annually.

In 2005, Chinese ports, operating beyond capacity, moved 4.5Bn tonnes of cargo and 75M TEU. The minister also outlined plans to build five major "port clusters" over the next five years made up of the Yangtze River Delta, the Pearl River Delta, the Bohai Bay, the south-east coast and the south-west coast.

The 'red hot' Chinese economy grew by as much as 10.2% for the first quarter of 2006 sparking concerns of overheating.

Also of concern was the effect China's burgeoning imports of iron ore, crude oil and other commodities had in fuelling a massive increase in freight rates. Now these are easing as tonnage supply has increased.

Rising exports of manufactured goods from China and other Asian economies have also sustained container freight rates. According to freight conference the Transpacific Stabilization Agreement (TSA), China-USA shipments grew by an average of 24% in January and February.

"We don't believe the shift in manufacturing to China, South-East Asia and elsewhere in the region has run its course," TSA executive director, Albert Pierce said. TSA is a grouping of 11 major container shipping lines serving the Asia-US route.

Economists are urging the Chinese government to tighten land approvals and lending for mega projects unleashed by local governments to check rampant urban growth.

## Getting bigger all the time

Below is the *COSCO Ningbo*, which at 9,449TEU, has the highest declared capacity of any ship currently in operation. It is 351m long with a breadth of 42.8m. Pictured at Felixstowe on its inaugural voyage, the vessel is part of COSCO's new fleet of ships designed to cope with the ever-growing trade from China



# PSA makes Hutchison equity move

Singapore-based container terminal operator PSA International, which had lost out in the race for acquiring P&O's port terminals, has hit back with a stunning \$4Bn purchase of 20% equity and loan interest in rival Hong Kong-based Hutchison Whampoa's (HWL) portfolio of ports.

HWL's port arm, Hutchison Port Holdings, is the world's leading container terminal operator, with 42 ports in 20 countries. PSA operates 19 port projects in 11 countries. Both companies said the purchase agreement totalled \$4.3Bn. Hutchison said it is realising a profit of HK\$24Bn (\$3Bn) on the deal.

## Fos sees 10% growth

First quarter throughput at Fos container terminal, handling east-west trade at the port of Marseilles-Fos, increased by 10% to 160,000TEU over January – March, 2005. Marseilles' total box traffic was 233,000M for the period, but the port's overall container increase was pegged to 5% due to a 3% drop in north-south and Mediterranean trades handled in the eastern harbour.

Container tonnage rose 6% to 2.3M tonnes, boosting the general cargo tally by 5.4% to 4M tonnes. With conventional traffic up 10%.

## California clean air boost

BHP Billiton says it would use clean burning natural gas in all operating equipment and vessels if successful in its bid to build the Cabrillo Port offshore LNG project in California.

Renee Klimczak, president of BHP Billiton LNG International, said initiatives to cut NOx emissions included the planned use of advanced engines in tugs servicing Cabrillo and the replacement of engines in two tugs to help the reduction of emissions in the area.

## Port updates

### ABU DHABI MANAGEMENT

UAE President Sheikh Mohammed bin Zayed Al Nahyan has issued a decree to set up Abu Dhabi Sea Ports Company to oversee and manage ports in the emirate. Nasser Ahmed Al Suwaidi has been appointed board chairman charged with the development of port facilities.

### UP FOR GRABS

Cerescorp has purchased two Liebherr super post-Panamax cranes for its Fairview Cove Container Terminal facility in the Port of Halifax, bringing to six the cranes it operates there. Its equipment – three 65-tonne, super post panamax cranes and three 40 tonne gantry cranes will be able to handle a throughput in excess of 400,000 containers a year. Delivery is expected mid-2007.

### JAPAN HUB

ProLogis is to build a major new distribution facility in Japan for Hitachi Transport Systems, a logistics subsidiary of the consumer electronics giant. ProLogis Parc Maishima II will be developed near the Port of Osaka, with completion due in the second half of this year. ProLogis said it also has an option on additional land at the site for future expansion.

### REFURBISHMENT PROJECT

UK terminal operator, Tilbury Container Services (TCS) has awarded Kalmar a major contract for the refurbishment of 13 straddle carriers. This project follows an existing contract for Kalmar to carry out routine servicing of the entire TCS straddle carrier fleet. TCS currently operates 39 straddles at its Tilbury terminal. Michael Quinn, terminal engineer for TCS, explained: "Our Kalmar machines are now approximately ten years old and we want them to last 15 years."

### DOUBLING AT KINGSON

Jamaica's port of Kingston is about to double its capacity to 3.2M TEUs. With its fifth expansion phase now underway, the Fort Augusta facility will be expanded to 5M TEU capacity in a bid for hub status.

## People

### AT THE HELM IN MALAYSIA

Port of Tanjung Pelepas (PTP) chairman, Datuk Mohd Sidik Shaik Osman has been appointed the new president of the Federation of Malaysian Port Operator Companies (FMPOC) for a two-year term. Membership is made up of Westport, Northport, Penang Port, Johor Port, Kuantan Port, Bintulu Port and Lumut Port, as well as Tanjung Pelepas.

### DEVELOPMENT PLANNING

Oakland-based Marine Terminals has appointed Tom Ward to the new position of director and chief engineer, with responsibility for terminal development and facility planning, capacity and productivity analysis and technology impact planning. He is expected to help in MTC's declared plans for international growth and diversification.

### LONG BEACH RETIREMENT

Tom Teofilo, MD, maritime, at the Port of Long Beach, has retired after two years at the port. He previously held positions with the LA-Long Beach World Trade Center Association and the Pacific Merchant Shipping Association in 2003.

### SOUTH AFRICAN POSTING

Edwin Briggeman will head up the new South African subsidiary company set up by Kalmar Industries. Kalmar Industries South Africa is based in Durban. Aman Kumkaran has been appointed technical manager.

### ABP TOP MEN

Ayr & Troon, part of Associated British Ports (ABP), has a new port manager as Stuart Cresswell, currently business development manager for the two ports, is promoted to the top position. Cresswell takes over at the Scottish ports from Alastair MacFarlane, who has also been promoted within ABP and will relocate to become manager of East Anglian ports.

### HOUSTON COMMISSIONER

The Port of Houston Authority (PHA) has announced the appointment of Elyse Lanier as a member of the port's Board of Commissioners.

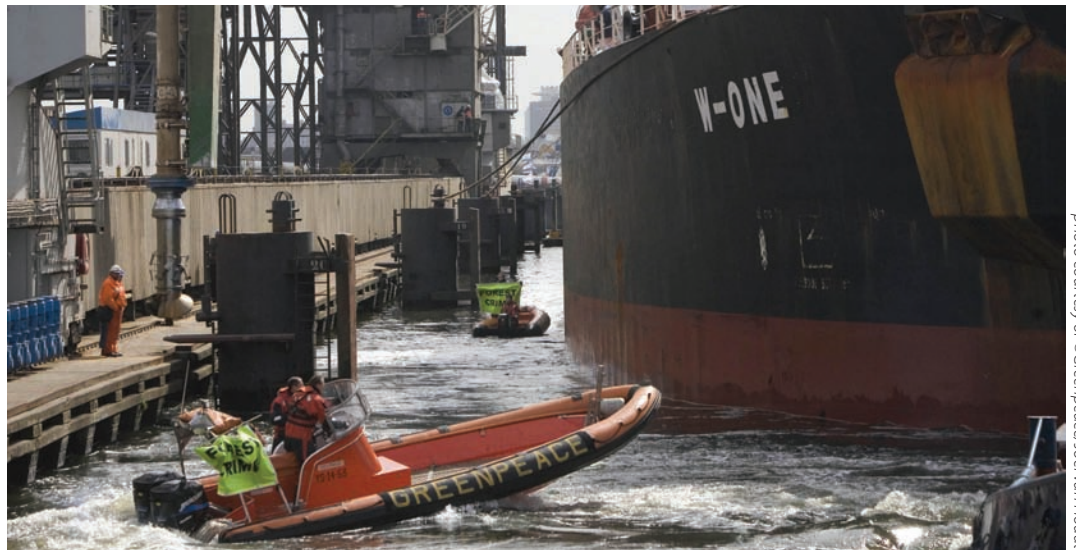


photo courtesy of @Greenpeace/Joel van Hoult

**Greenpeace activists block the W-One loaded with Amazon soya to prevent it docking in Amsterdam**

## Greenpeace in the docks

Greenpeace delayed the docking of a ship at Amsterdam, claiming its cargo of soya was grown in illegally deforested areas of the Amazon for processing for European fast food restaurants.

A spokeswoman for the environmental group said police detained five activists in inflatable

rafts manoeuvring between the quay and the 68,788dwt bulk carrier W-One.

The operation was part of a campaign launched against USA-based Cargill Inc, which Greenpeace says is sourcing the soya from the Amazon, and against the fast food chains

McDonald's and KFC, which buy the soya as feed for chickens used in their products.

Cargill said it was working with Brazilian farmers to 'minimise negative impacts' of soy production while boosting the economy of an underdeveloped region by developing farms.

## Gas for ships of the future

Gas-powered ships are sailing the seas and are here to stay, but ports have nothing to fear from the technology, a leading marine engine builder told *P&H*.

Ingemar Nylund, of Finnish engine builder Wärtsilä said that LNG was "extremely safe" as a fuel in ports, adding: "it is probably the safest fuel."

He told a briefing organised by CIMAC, the International Council on Combustion Engines, that if more vessels were built to include LNG or dual fuel engines, port emissions could be cut back.

Earlier, Lars Nerheim of consultant group Ricardo UK, said that for the advantage in reduced emissions to be felt, the fuel had to be made more available at ports. "The real issue is will gas be available?" he said. "It provides the solution to emissions challenges in the marine industry, there is no doubt about that."

However, a question from *P&H* asking for the implications for ports in operational or safety terms, of more burning LNG as fuel, brought silence from the panel. Eventually, the panel members explained that any escaped gas would evaporate "extremely quickly," according to Nylund. "It needs to be heated to 530°C before there are any problems, unlike petrol and diesel where problems occur at about 250°C."

LNG engines reduce NOx emissions to 10% of conventional marine fuels, and reduced SOx emissions to almost zero, Nylund said. "It is a clean fuel with lean burn."

There are about 28 vessels in the world LNG-powered fleet, with five more ferries and four other vessels under construction, amongst them China's first ever LNG vessels. A further 30 are expected to be built for the world fleet over the next 10 years.

## DP World USA fallout

The Dubai Ports World (DP World) P&O terminals takeover debacle in the USA is moving towards resolution as politicians have turned their attention to broader port security issues. DP World has agreed to sell its holdings in the USA within six months at the latest.

One of the casualties of the affair was David Sanborn who had planned to move from DP World to head up the Maritime Administration, but returned to the company, where he will head a new Americas regional office, overseeing operations and acquisitions outside the USA.

DP World has decided to consolidate management of its four marine terminals in Canada and South America. It is being forced by Congress to sell P&O Ports North America, the USA subsidiary it recently acquired.

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*Alessandro Becce, Managing Director, CICT*

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## Cash & Cargo

### HUTCHINSON'S RATING

Standard & Poor's (S&P), the USA investment analyst has warned that Hutchison Whampoa, parent company of Hutchison Port Holdings, faces a 'pivotal' year. The giant Hong Kong-based conglomerate, listed 'A-', needs to rectify weak performances from its non-port related units, says S&P. A report said key issues in 2006 included debt levels and cash flow generation and the performance of the company's third-generation telecommunications segment.

### ABP RESULTS UP

Associated British Ports Holdings returned an operating profit for the full year 2005 up 3% to £151.3M (\$265.1M) from £146.3M (\$256.3) in 2004. This translates into a 6% growth in underlying earnings per share. Bo Lerenius, group chief executive commented: "In 2005, our strategy of building our core UK ports business on long-term contracts once again delivered solid growth."

### HAMBURG DEVELOPMENT

San Francisco-based real estate developer AMB Property Corporation has invested \$47M at the Port of Hamburg with the acquisition of four distribution facilities.

### REACHING HIGH

The Port Authority of Jamaica has ordered 24 four-high straddle carriers and six seven-high empty container handlers from Kalmar Industries for use at the Port of Kingston. Traffic increases will see the port's annual throughput increase this year by about 500,000 TEU to more than the terminal's 1.5M TEU capacity. The order will bring the total number of straddle carriers in operation at Kingston to 74.

### AUCKLAND LOOKS UP

Ports of Auckland (POAL) has returned a 5% rise in total earnings before interest and tax for the half year to December of NZ\$37.6M (\$23.2M). Total container volume was up 8% to 352,788 TEU. Breakbulk volumes were unchanged at 2.4M tonnes. Imported vehicles and steel continue to be important, the port said.



## Terminal tractors

Privately-owned Thamesport (London) has boosted its fleet with the delivery of a further 13 new terminal tractors, supplied by MOL Group of Belgium.

The new tractors (seen above) will be used to haul containers

between the quayside gantry cranes and the only automated container-stacking yard in the UK.

This latest investment in new equipment will increase the number of tractors operating at the Medway port to 40.

Chris Lewis, CEO of Hutchison Ports (UK), which owns Thamesport, said: "This latest investment in new, state-of-the-art equipment will help to secure Thamesport's future competitiveness by improving turnaround times to and from the yard, and will lead to significant gains in productivity."

## Weighing advantages in Manila

ICTSI has begun weighing export containers at its Philippines Manila International Container Terminal (MICT) to ensure container safety in the terminal and during transit at sea.

Under the system, all fully loaded containers pass through the newly built gate, where four lanes of 100 tonne-capacity weighing bridges are installed.

ICTSI SVP Francis Andrews said the weighing of containers (right) is a value added service for MICT

users to ensure the safety of cargo inside the port.

The move allows terminal planners to accurately plan the stacking of boxes in the yard and stowage onto the ship. Andrews noted that container ships calling at the MICT are getting larger with the entry of third and fourth generation containers, prompting for a sophisticated system in handling the boxes.

Apart from safety, ICTSI said cargo pilferage inside containers

could be detected. The company has issued guidelines to shipping lines to ensure compliance to global legal container weight rules.



## USA congestion eases

The USA's National Retail Federation (NRF) is forecasting that this year's peak season container cargoes will flow through the country's ports with a minimum congestion, after a trouble-free 2005.

The NRF/Global Insight 'Port Tracker' survey said that the 2006 peak season should be marked by higher volumes, with 'little or no network congestion.' This despite continuing concerns over rail and truck capacity after problems in

2004 hit many ports.

Seattle and Tacoma will stabilise market share after carrier service changes following congestion in 2004 at LA/Long Beach, it added.

East Coast ports including New York/New Jersey and Hampton Roads, Virginia should see double-digit volume gains, but within system limits. For the US rail system, intermodal and coal gains are being offset by drops in chemicals and cars, keeping growth relatively flat.

## \$35M aid for Galle port

Sri Lanka's Galle Port development will benefit from a \$38M share of a \$185M Japanese Government loan package, but a warning was issued that such projects face difficulties.

Japan's ambassador to Sri Lanka, Akio Suda, said international assistance would only continue if problems including frequent changes of plan, delays to projects, delay of reforms and the future financial position were tackled.

## Low speed rewards

Port of Long Beach harbor commissioners have endorsed a \$2.2M programme to lower berthing charges for ships that stick to a 12 knot speed limit within 20nm of the port for a year.

Ocean carriers will qualify for a 15% discount during the following 12 months if 90% of their vessels comply with what is officially known as the green flag programme. A voluntary programme has been in place for five years and is observed by 65% of ships using the port. If all ships to complied, nitrogen oxide emissions could be reduced by container ships by almost 550 tonnes a year.

## Constanta finance in place

DP World's wholly-owned Romanian subsidiary Constanta South Container Terminal (CSCT) has gained financing by for the initial phase of its container terminal expansion.

DP World took over management of CSCT in 2004 and financing for the latest phase of development will be from German-based bank WestLB.

The terminal acts as a hub for the Black Sea, benefitting from trade expansion in Eastern Europe, and handles a mix of local cargo and transshipment cargo for many other countries in the Black Sea region. Barge services linking the port and Belgrade have recently been initiated, and there are plans for a rail link between CSCT and Budapest.

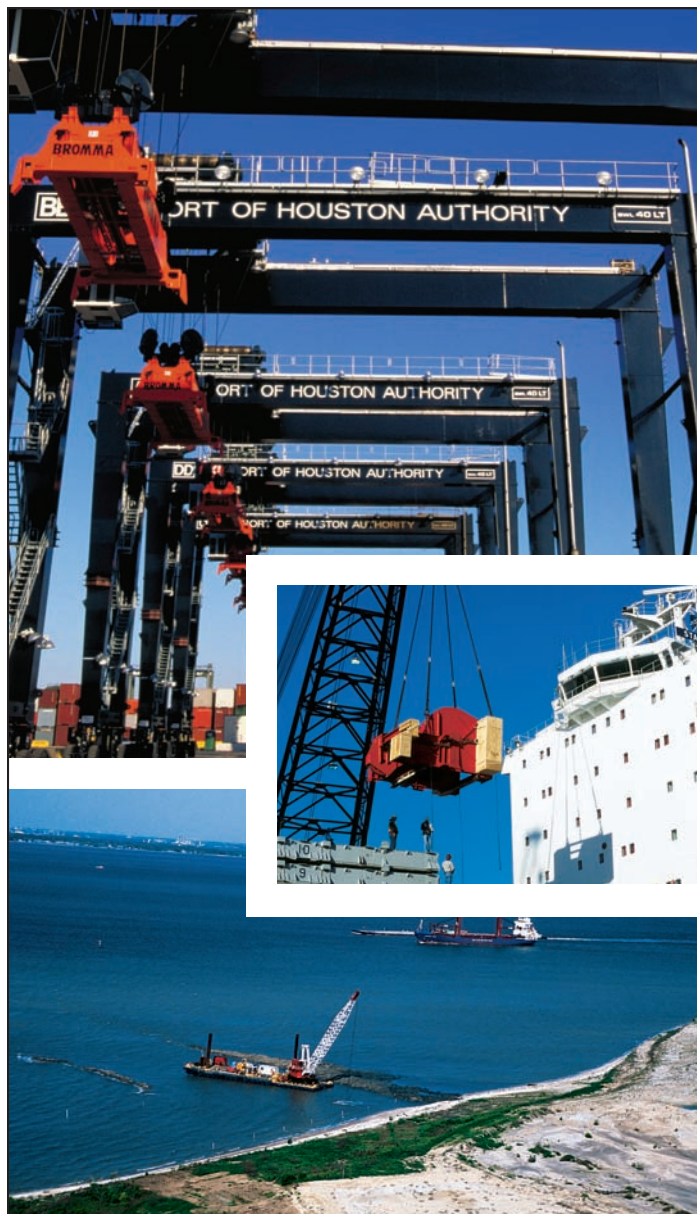
## California PierPASS fees rise

A 25% increase in fees has been imposed at Los Angeles and Long Beach ports from last month on trucks moving containers in or out during peak hours.

The \$50 fee per TEU and \$100 per FEU is aimed at encouraging truck drivers to use the PierPASS Offpeak programme more, to

reduce congestion during peak times. The original \$40 fee was introduced when Offpeak was established in July 2005.

Bruce Wargo, PierPASS CEO, said that the scheme has been "wildly" successful, with a 30-35% take up, exceeding expectations of a maximum of 20% in the first year.



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More info: [hq@rina.org.uk](mailto:hq@rina.org.uk)

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More info: [www.coastms.co.uk](http://www.coastms.co.uk)

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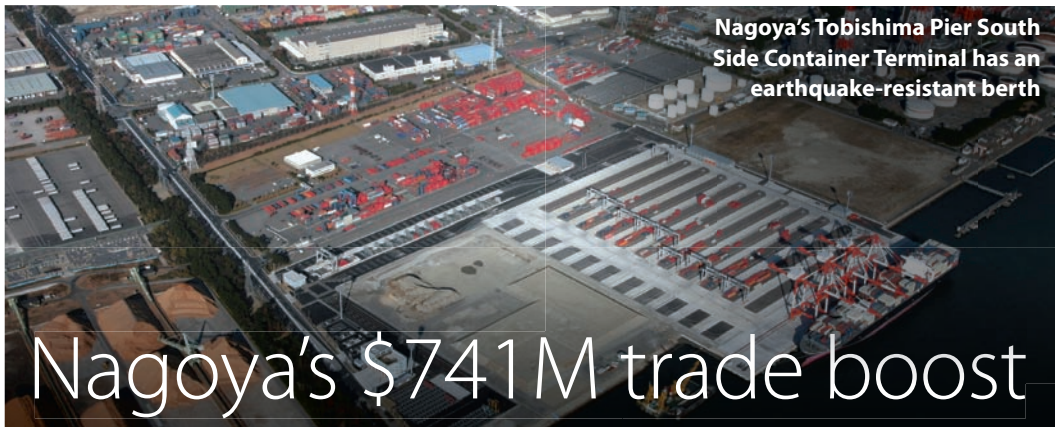
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Nagoya's Tobishima Pier South Side Container Terminal has an earthquake-resistant berth

## Nagoya's \$741M trade boost

Nagoya port has emerged as one of the strongest growing in Japan, with export trade in 2005 worth \$741M – up 6.6% on 2004, according to a provisional trade report from the region's Customs.

The report indicates that both export and import trade grew at the Port of Nagoya for the sixth consecutive year.

Car exports and exports of car parts lead the increase in trade with 12 % growth. By contrast, Yokohama's export trade grew 3.9%, that at Kobe by 6%, at Tokyo by 6.6% and at Osaka by 23.9%.

Nagoya's import trade value

recorded strong growth of 19% over 2004, to \$30.6Bn. The value of oil imports increased dramatically, due to the high-price of crude oil, although the volume of oil imports increased only slightly. Import of liquid crystal panels grew three-fold, reflecting strong consumer demand in the domestic market.

The port has marked its success with the opening of the Tobishima Pier South Side Container Terminal with an earthquake-resistant berth with a quay length of 400m and a water depth of 16m.

Its cargo handling yard has a capacity of 9,768TEU, and boasts

three 22-row quayside container cranes of the mono-box type with single girder, and 12 remote-controlled automated rubber-tired gantry (RTG) cranes.

A jacket type steel structure, usually applied to offshore oil-drilling facilities, was introduced to the development of the berth, the first such attempt at a deep-sea pier in Japan.

The newly introduced RTG cranes are operated automatically in the storage area and remote-controlled. One operator in the cargo handling area is able to control a maximum of four RTGs.

## Slow down at Long Beach

Port of Long Beach harbor commissioners have endorsed a \$2.2M programme for lower docking rates for ships that stick to a 12kt speed limit within 20nm of the port for a year.

Ocean carriers will qualify for a 15% discount during the following 12 months if 90% of their vessels comply with what is officially known as the

Green Flag programme. A voluntary lower speed programme has been in place for five years and is observed by 65% of ships using the port.

The aim of the new initiative is to persuade all ships to comply, in the hope that nitrogen oxide emissions by container ships could be reduced by about 550 tonnes a year.

## More investment at Singapore

Singapore's latest terminal – a joint venture between Mediterranean Shipping Company, the second largest container shipping line in the world and the PSA Corporation – has opened.

The MSC-PSA Asia Terminal Pte Ltd – dubbed MPAT – is the second venture between the two companies, following the opening of their Antwerp terminal last year.

Yeo Cheow Tong, Singapore's Transport Minister said the commitment to MPAT was "a strong vote of confidence" in Singapore. He said the country wanted to increase its hub port status and looked forward to more foreign investment in its terminals.

MPAT would benefit from PSA's economies of scale, said chairman Fock Siew Wah. Three berths were operated by the joint venture at Pasir Panjang Terminal with an annual capacity of 2M TEU.



Launching operations at MPAT (left to right): Diego Aponte, vice-president, Mediterranean Shipping Company, Yeo Cheow Tong, Singapore's Transport Minister and Fock Siew Wah, chairman, PSA International

## Dredging Projects

### MELBOURNE DELAYS

Environmental concerns have delayed work to deepen the Port of Melbourne's shipping channel until at least the end of 2007 – a year after its proposed completion date. The delay means the A\$580M project, which involves dredging over two years during autumn, winter and spring, may not be finished until late 2009.

The port said it's unable to complete further government-ordered environmental studies on the project until the end of this year; public hearings on the updated environmental effects statement (EES) will occupy next year and if the project still wins approval, it would go ahead after that.

The EES was called into question when an independent panel found it had failed to answer crucial questions about the effect of scouring 32M m3 of sediment from the floor of the bay.

Transport Minister Peter Batchelor defended the latest delay saying the government was still committed to the project. "We're not prepared to take any shortcuts," he said.

More info: [www.channelproject.com](http://www.channelproject.com)

### DEEPENING DISPUTE

Hamburg and neighbouring federal state Lower Saxony have yet to settle a dispute over deepening the River Elbe. The bone of contention remains the issue of dyke security. A spokesman for the Lower Saxony state government in Hanover, which governs the territory between Hamburg and the Elbe estuary, says the issue will drag on until a planning inquiry sheds light on how the deepening will affect the Elbe's currents.

### INVESTORS SOUGHT

Pakistan's Muhammad bin Qasim Port (PQA) is seeking a \$88.3M loan to finance the delayed dredging of its 45km-long access channel to increase draught to 17.5m. It would provide all-weather draught and help the port accommodate vessels of up to 75,000dwt. PQA is seeking financial assistance on a soft term basis. The project envisages dredging up to 20Mm3, with the port authority providing 25% of costs.

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



Photo: Dietmar Hasenpusch

# Very large ore carriers make a comeback

It is not only container ships that are getting larger and larger. As **P&H** has found out, the bulk trades are not immune to size trends

**L**ast year there were none delivered. This year only one will enter service, but the picture will change as the decade continues because very large ore carriers (VLOCs) are making a comeback. After years of neglect from shipowners, there has been a series of orders unprecedented since the late 1980s.

By 1990 there were about 65 bulk carriers in the size range of 300,000 dwt. Soaring world demand for steel, and therefore iron ore, has led to owners placing orders for nearly 30 ore carriers of 300,000dwt or even larger. They will add an extra 4.5Mdwt of capacity to the world fleet in the next four years.

The last time there was any activity for vessels of this size was in 2004, when just two VLOCs were delivered and the largest of the pair was comparatively small at just 233,694dwt. In fact, the last time a ship above 300,000dwt was delivered was in 1997 when two vessels joined the world fleet. Before that there were only four vessels of similar size in operation, three built in the mid 1980s and the fourth in 1992.

The 360,000dwt ore carrier *Berge Stahl* is the largest in the world, and it's fully dependant on Rotterdam, the only European port that can accommodate a vessel with a 23m draught. The \$51M carrier was built by Hyundai HI in 1986, but now Japanese shipowners are active in this specialist area.

Owners are obviously being attracted in by the price of the vessels as VLOC newbuilding prices have been kept pretty low, having only gone up by about \$10M in 18 months. By contrast, the prices of other vessel types such as VLCCs, which also need a lot of steel to build, have gone up by \$20-25M – or about 20% – over the same period.

While Japanese majors are active in the VLOC sector, China's Cosco puts all of these deals in the shade. It has 10 new ships (including options) on order. VLOC orders have traditionally been few and far between as the vessels lack versatility and can usually only be used for one thing – moving iron ore around for the steel industry. But the steel industry is booming today and

forecasts for the next few years, when most of these ships will come into service, are also good.

These ships are unlikely to be left lying idle as demand for steel has been outstripping supply for over a year. Companies are keen to improve the efficiency of the transport of ore while grabbing a bigger slice of this booming industry.

A report by MacQuarie Research claims steel production will increase to 1.36Bn tonnes by 2010 - fuelling a 6% increase in iron ore shipments, or about 46M tonnes a year.

China is the world's largest consumer of steel at the moment and will continue to be as its economy mushrooms. Huge amounts of ore are to be moved to China from mines in Brazil, South Africa and Australia in the next five to ten years.

Cosco looks to have virtually sewn up the Chinese ore market single-handedly and few other owners are expected to invest \$90M for a new ship with limited scope for alternative employment. The orderbook looks likely to stick as it stands for the next few years.

And it is not only newbuildings that are fuelling the market for the larger ore carriers – some companies are not waiting for new ships, but are converting other vessels. Hebei Ocean Shipping (Hosco) is converting the Hebei Innovator, a 250,000dwt VLCC into China's first VLOC.

Over the whole bulk carrier fleet there seems to be plenty of tonnage to cope with the increase in trade. The huge orderbook, combined with scarce scrapping, means that the market has had to find room for another 480 vessels over the past two years, according to Chris Tomlinson, freight analyst at Clarkson's.

"In 2006, the burden will get heavier: the fleet could grow by another 329 ships, assuming no scrapping," he said. "That would put the fleet on course to expand by more than one-fifth in fewer than three years, a rate comparable to that of the early 1980s. Just nine ships in a total Capesize (more than 100,000dwt) bulker fleet of 655 are today more than 25 years old."

These large vessels and the increased activities they are engaged in have thrown up another problem – what to do with the huge amount of ballast water they generate. IMO's new Ballast Water Management Convention, adopted in February 2004, is likely to enter into force around the world by January 2009.

In the USA, the Ballast Water Management Act 2005, which is similar to IMO's measure, is likely to come in

“ The steel industry is booming and forecasts for the future are good ”

at the same time and Australia is already operating a comparable regime. Shipowners are required to replace ballast water mid-voyage. Ship operators and ships' officers will need to plan for the stability and structural implications of substantial pumping operations at sea.

The initial exchange standard of the IMO convention requires ships over 400gt to replace at least 95% of their ballast water when more than 200 nautical miles offshore and in water over 200m deep.

Then, between 2009 and 2016, depending on their age and ballast capacity, ships will have to start complying with IMO's more stringent treatment standard. This will require existing ships to be retrofitted with type-approved ballast water treatment systems.

In another development, changes are to be made to the loading requirements for some bulk carriers, banning alternate hold loading, depending on the type of vessel and the density of the cargo. The new IMO regulation comes into force on July 1 under the SOLAS (Safety of Life at Sea) regulations.

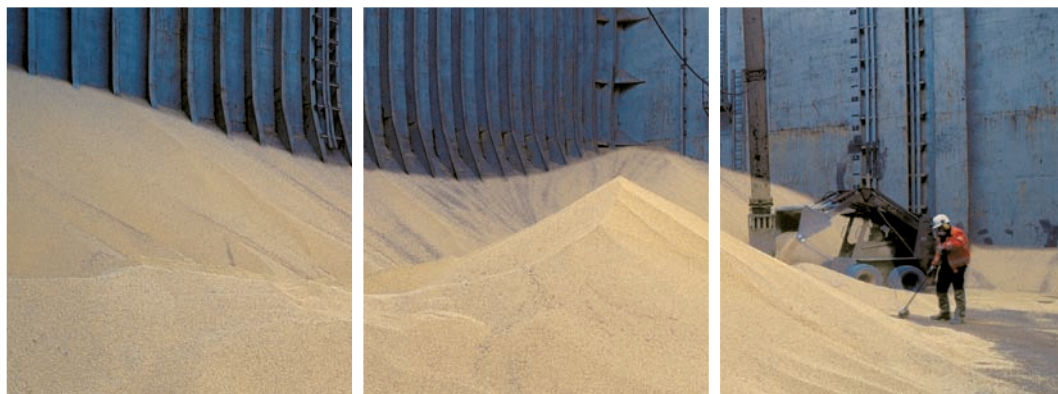
It covers newly built and existing bulk carriers of single skin construction. If the vessel does not meet strict survivability rules for the flooding of holds, as many bulk carrier losses were considered to be as a result of the flooding of hold number one, and the cargo carried has a density of 1,780 kg/m<sup>3</sup> or above, then the rules will apply.

If alternate holds are loaded, the amount of cargo carried will be limited to 90% of the ship's deadweight, according to classification society Germanischer Lloyd. The ships should sail with each hold loaded to at least 10% of the vessel's deadweight capacity. If the cargo exceeds 90% of the ship's deadweight capacity then it must be distributed homogeneously at the assigned freeboard. There are exceptions for vessels on multiport voyages. **PH**

More info: [www.gl-group.com](http://www.gl-group.com)

**A sea of grain: new rules mean different loading plans for the largest bulk carriers**

Photo: Eberhard Petzold





## Dry bulk – the trend is up

A huge industrial boom is fuelling the bulk trades – and ports are scrambling to meet the growth, as **Bridget Hogan** reports

**T**he dry bulk freight market has been undergoing a structural change over the last decade. The trades are certainly on the up – last year by some 100M tonnes – and huge investments by terminals are underway to cope with demand.

In the first five years of this decade, international trade in iron ore, coal and grain, all saw increases in the order of 100M tonnes each year, some 30M tonnes a year more than expected.

For all trades there is one area, and usually one country, whose economy is driving the market conditions. All eyes are on Asia and most are focusing on China. In the past China has been a bulk exporting country, but now its trade is shifting to imports to feed the huge demands of its growing industries.

Around the world, bulk terminal development is expanding to cope with demand. North China's Hebei Province, 130km to the southeast of Beijing, plans to invest \$2.85Bn over the next five years to handle the region's coal, iron ore, LNG and crude oil imports.

South Africa's Richards Bay Coal Terminal – the world's

largest – will be expanded under the government's new National Ports Bill at a cost of \$160.5M.

On Russia's Pacific coast, Vostochny Port in Nakhodka, has started construction of phase three of its coal terminal, with completion expected in 2009, adding 800,000 tonnes to capacity.

India's Paradip Port Trust plans a new iron ore and coal berth, which will be able to accommodate Capesize vessels of 125,000dwt. In Bangladesh, UK-based coal miner Asia Energy wants to build a \$40M river terminal to handle coal shipments from its Phulbari coal mine.

An \$86M expansion to the Australian coal port of Abbot Point has been approved by the Queensland state government. The project – to be completed by mid-2007 – will increase the terminal's capacity to 21M tonnes a year from the current 15M tonnes. And at Hay Point, one of the world's largest coal ports, \$50M will be spent on dredging to expand capacity by 3M tonnes a year.

These developments are needed. Last year Chinese iron ore imports alone increased by some 58M tonnes

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## “The dry bulk market is becoming more, rather than less, dependent on China”

and with the country expected to increase imports across the board at least up until 2010, the dry bulk market is becoming more, rather than less, dependent on China. The high level of steel production in China is now equal to the combined output of Russia, Japan and the USA.

The world trade in thermal coal is expected to increase 4% this year to 520.5M tonnes, with demand for coking coal rising by nearly 9% to 220.8M tonnes. Chinese demand is set to grow by nearly 8% in 2006, but there will be a shortfall as domestic supply is expected to expand by just under 5%.

As a result, China is expected to retreat from the coal export market and keep production for its own needs. Some 85% of its exports were to Japan, South Korea and Taiwan, so these countries will be forced to look elsewhere for supplies. Chinese imports come mainly from Vietnam, Australia and Canada.

European demand for coal is falling, but production is falling at a faster rate, so imports will continue to rise. Europe sources its coal largely from Russia, Colombia, Venezuela and South Africa.

In the USA, the National Mining Association forecasts that domestic coal production will rise 3.2% to over 1Bn tonnes this year. Imports will rise to 36M tonnes, up from 30M tonnes last year. Colombia, Venezuela and Indonesia will meet nearly 90% of this need.

As the world's fourth largest exporter and the fifth largest producer of coal, South Africa has made more coal discoveries and continues to develop its mines. Its

strategy is to open new export opportunities.

China is influencing the grain markets too, as it shifts away from being a corn exporter to a potential importer of feed grain, with exports of corn reduced from 6M tonnes to 4M tonnes last year.

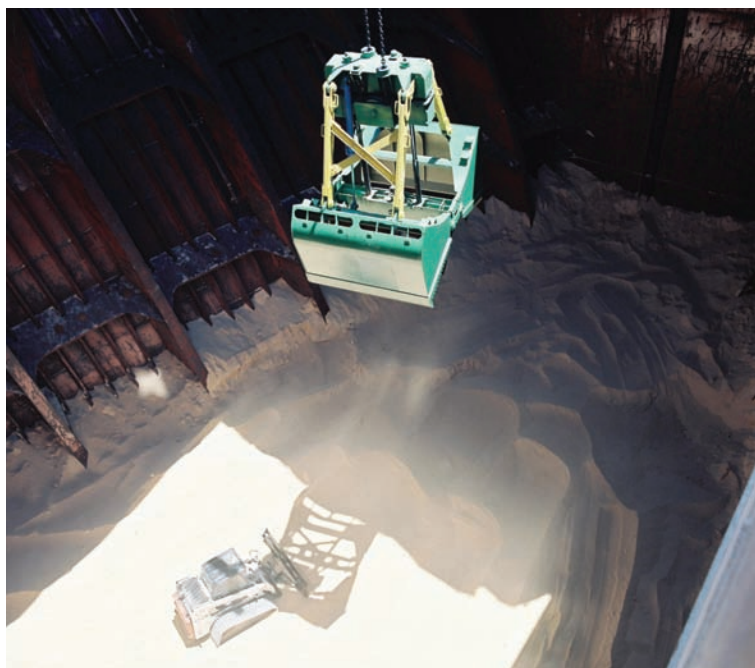
After exporting over 7.5M tonnes of corn just two years ago, China may need to import 1M tonnes in 2006 and 2007, driven by the growth in the livestock sector and expanded ethanol production.

After a third year of good harvests and large stocks, Australia's grain exports are expected to surge to A\$8Bn (\$5.7Bn) this year. For wheat, exports are forecast to grow by nearly 2M tonnes. Weaker global demand and reduced buying from some key markets including China and Iraq, however, is likely to limit export growth.

Australia is expected to remain the world's largest exporter of barley, accounting for about a third of world trade, up from a quarter last year. In the USA, as much as a third of all grain is exported.

In the future, developing countries are expected to emerge as importers of grain. These countries have absorbed more than 80M tonnes of grain in recent years and in the future will change grain trade patterns dramatically. Simply put, the future for world grain trade depends upon the rate of growth in food demand in developing countries.

Japan is the world's largest importer of food, producing only 10% of its grain needs. Its wheat imports are expected to grow to 5.8M tonnes this year, which is about 6% of the world's trade. The country is highly dependent on a small number of countries for its food purchases and the main suppliers are the USA, China, Australia and Canada. Japanese consumers are very quality conscious and are highly concerned about food safety, which will influence the areas that the country is able to source from. **PH**



## Some bulk indicators

### Global steel markets at a glance

China production		
2005	340M tonnes	
2004	273M tonnes	6% for export

Russia exports 50% of output  
South Korea and Japan export 33% of production

### Chinese iron ore imports

2004	205M tonnes
2005	75M tonnes
2006	315M tonnes

Source: Chinese customs

### Chinese crude steel production

2005	281M tonnes
2006	350M tonnes (estimated)

Source: Chinese customs



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# An education in dredging

*P&H* looks at the issues facing the dredging industry as demands for its services reach an unprecedented level



In an uncertain world one thing seems without doubt at the moment – world trade is on the up now and trends indicate a substantial increase over the next 10 years, perhaps even as much as a doubling of present volumes.

It is being led by expanding economies, particularly in India and China. More goods are being transported by more and bigger ships and all this adds up to more capital and maintenance dredging at ports to accommodate the burgeoning trade.

In addition declining resources – of piped natural gas and oil especially – have led many countries to investigate the importation of liquid natural gas on a large scale. Several projects are planned, often in places where a new facility would not automatically be considered, such as the shallow Nigerian coast. Once again, the demand will be for large capital and maintenance dredging campaigns.

So the future looks set for more, rather than less, port dredging, but with perhaps a greater emphasis on good environmental practice. But the industry faces obstacles to progress.

The public perception of dredging remains that it is a cause of pollution – and legislators seem to share this opinion, with a few exceptions – so perhaps the industry's primary task should be to educate the general public about dredging's benefits, both economic and environmental.

The proliferation of environmental legislation – and genuine environmental concerns – about the effects

of dredging and the disposal of dredged material has led to the Central Dredging Association (CEDA) reappraising its responses to these issues.

Neville Burt, the chairman of CEDA's environmental steering committee (ESC) explained that the association plans to adopt a 'proactive' role, involving itself in the debate both nationally, in countries around the world, and at the international level. Burt, who is also technical director of HR Wallingford, explained: "The aim is to educate the policy makers and the public at large about the benefits and technology of dredging." It is felt ports could benefit from this increased profile when they move to undertake dredging projects.

Indeed, CEDA's ESC draws on expert representatives from ports, regulators, consultants and researchers as well as dredging contractors. The countries represented are Denmark, Germany, the UK, Netherlands, Belgium, France, Spain, Portugal, Italy and Morocco. The most recent addition is Bulgaria, representing the Black Sea region. It also has links to the Eastern Dredging Association and keeps close contact with the Western Dredging Association's Environment Commission in the USA.

Over the years, CEDA has worked to improve the understanding of dredging issues at two major international conventions – the London Convention and the OSPAR, the inter-governmental cooperation to protect the North-East Atlantic – both of which seek to control pollution of the oceans.

"High level involvement began when the London Convention formed a working group that included CEDA to draft the Dredged Material Assessment Framework," said Burt. "That's now an established part of the Convention and forms the basis of several PIANC and CEDA guidance documents."

Such was the respect gained by this initiative that CEDA was asked by the London Convention to organise workshops to provide teaching on environmental aspects of dredging and discuss the particular problems that ports may have. The next will be in China this month, following on from others in Mombassa, Cape Town and Jamaica. **PH**

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

“The public perception of dredging remains that it is a cause of pollution – and legislators seem to share this opinion”



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# Antidote to unstable walls

Structural and stability issues can preclude deepening at berths – but there is more than one solution as **Gregory Margeson** and **Jonathan Thomas** explain

**D**eepening quays has become a critical issue facing port and terminal operators worldwide. Agencies are spending, or planning to spend, billions of dollars dredging harbors and access channels, but may find that existing berths cannot be deepened due to structural and stability issues.

There is a cost-effective alternative that allows waterfront facilities to be deepened without significant impacts to existing pile-supported structures.

Its attraction is the ability to retain the existing mudline elevation beneath the wharf, while permitting the area in front of the toe wall to be dredged to the desired depth. If improvements are necessary to deepen an existing berth, then the toe wall normally becomes a very attractive alternative.

Typically, the main restriction regarding deepening is related to the dependence of existing piles (and bulkheads if applicable) on in-situ soils to provide lateral stability and axial load carrying capacity. Structural considerations for berth deepening also include the impacts associated with:

- Increased lateral loads from larger ships – existing fender and mooring systems must also be investigated to determine their ability to withstand the new berthing and mooring forces
- Unbraced piles – dredging results in a larger effective unbraced pile length, which translates into greater pile flexibility with an accompanying increase in the risk of failure.

This also impacts the ability of piles to support the design axial load in combination with the increased bending moment. This is a particular problem

associated with waterside crane beam piles, which may be simultaneously experiencing a significant increase in axial load associated with a planned new container crane to accommodate the larger ships.

These problems have been tackled in an innovative way in several projects in the USA, using toe wall designs. These are gaining in popularity and acceptance due to their overall speed of construction and cost savings compared to berth replacement or standoff structures. The solution put forward is typically for a steel sheetpile or king-pile/sheetpile combination wall. The advantages are that it will not negatively impact port operations by requiring longer crane outreach after completion and it does not take a long time to construct.

Recent projects have led to a production rate of approximately 100ft of toe per week at a cost ranging between \$1,000 and \$2,500 per foot, depending on the type of wall installed.

Toe walls can provide effective and efficient solutions and their use is growing in popularity at ports around the world. But there are several considerations that need to be taken into account when planning this type of development. These include: soil types, the height of the proposed toe wall, seismic requirements and the overall standoff to avoid impacts between ships and the toe wall. **PH**

*Gregory Margeson is a Moffatt & Nichol vice president based in New York and Jonathan Thomas is an M&N associate in the Savannah office.*

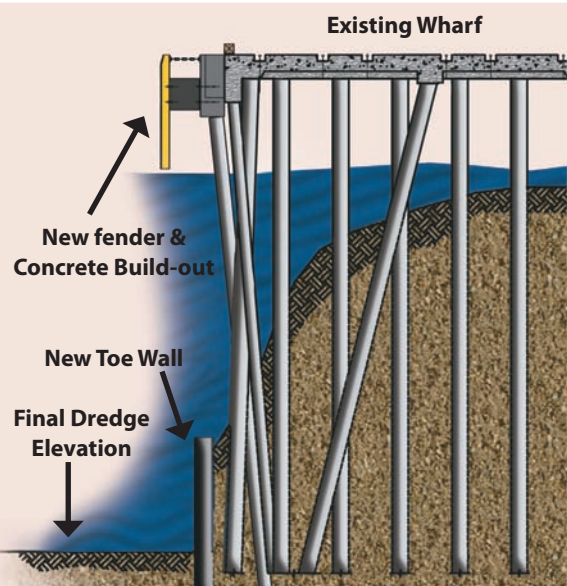
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## Case Study 1

Port Newark Container Terminal (PNCT) in Elizabeth, New Jersey, included improvements to the Port of New York & New Jersey (NY&NJ) berths 51 to 63. The berths are timber pile-supported and the project involved converting two existing terminals into a single, state-of-the-art container terminal to accommodate 6,600TEU vessels and new, 100ft-gauge container cranes. One portion of the project included installation of approximately 3,000ft of anchored king-pile toe wall to allow the berths to be deepened from 35ft to 52ft.

## Case Study 2

Wilmington Terminal, for the North Carolina State Ports Authority (NCSPA), involved berths three through eight with deepening from 30ft to 42ft MLWS to take advantage of the \$330M US Army Corps of Engineers' Cape Fear River Deepening Project. Several berths were unstable and dredging could not be completed without risk of deep-seated slope failures and the potential for significant damage to the berths. Partial berth replacement would have cost \$54M against the \$17M for the toe walls that was decided upon.





## A sea of opportunity

### Port of Bremen, Germany

Van Oord's German subsidiary Brewaba carries out the dredging works for the construction of Container Terminal IV in the Port of Bremen, Germany.



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**Processing the sediment (above) which was highly contaminated, but was still turned into bricks**

**T**hink of Venice and the chances are that contaminated sediment won't immediately spring to mind, but that was the problem faced by the Autorità Portuale di Venezia (APV). Historic discharges of industrial wastes, particularly in the canals of the Porto Marghera area, resulted in relatively large volumes of sediment with a variety of contaminants, including heavy metals, hydrocarbons, chlorinated pesticides and biphenyls.

Yet the issue has been turned round, and not only has dredging been allowed, but the contaminated spoil is to be reused – in a brickmaking plant. This was not a straightforward process, however.

The Italian environment ministry set Venetian sediment quality criteria in 1993, which classified Venice Lagoon's sediments as 'A, B, C or C+' according to how heavily contaminated they are. For the most recent dredging project the APV and the city's water authority, Magistrato alle Acque di Venezia, also responsible for canal maintenance dredging, estimated that about 1.5M m<sup>3</sup> of contaminated sediment was Class C+ – the most heavily polluted.

Faced with a government action plan calling for environmental restoration, APV initiated a series of sediment assessment and biological studies, together with engineering reviews. They called in USA-based BioGenesis to employ its sediment washing technology decontamination process.

The project, which was conducted as a co-ordinated effort, funded and authorized by the APV and the Veneto Region, attracted technology sponsorship from the US Environmental Protection Agency (EPA).

The objectives of the pilot scheme included the need to treat a range of sediment from the Venice Lagoon. Class A and B sediment could be managed according to current regulations while in the past, class C sediment had been placed in a confined disposal facility – CDF space, however, is limited. Class C+ material was typically disposed upland in hazardous

## Clean it, then make bricks with it

Venice isn't just palaces, churches and art museums. The city has a bustling port that needed to be dredged and a pilot scheme has worked in the sensitive historical lagoon. *P&H* investigates how

waste landfills at very high costs.

Around 330m<sup>3</sup> of contaminated sediment was dredged from four locations in Porto Marghera's canals and transported in four separate batches to the pilot site for treatment.

Samples of the treated sediment and water were collected throughout the process to evaluate the SWT, not just by the pilot partners, but also by Italian national and regional authorities and EPA's superfund innovative technology evaluation agency.

All the pilot project objectives listed were achieved by the team. On a technical, engineering and cost basis, SWT can meet the Venice port authority's sediment treatment requirements, specific conclusions including the effective reduction of overall concentrations of metals and organic materials and the achievement of clean-up goals. Full-sized production units were used in the pilot – all operated as predicted with no significant down time.

The pilot was evaluated independently by various agencies, whose evaluations were consistent with the data collected by the project team

It was a safe project with worker exposure to potential airborne contaminants evaluated independently by the local health organization. This determined there were no harmful or hazardous exposures

A preliminary design and cost estimate has been prepared for a full-scale facility capable of decontaminating around 200,000m<sup>3</sup> per year of sediment from the Venice Lagoon. The estimated unit cost is €58.50 (\$72.2) per cubic metre.

Treated sediments appear to be suitable for beneficial use in brick manufacturing – APV and Biogenesis will continue to pursue this option.

And during full-scale design, the suitability of treated sediments to meet industrial soil standards will be further investigated, so existing Veneto Region and national decrees and regulations will be met. **PH**  
More info: [www.biogenesis.com](http://www.biogenesis.com)

5<sup>TH</sup> EDITION

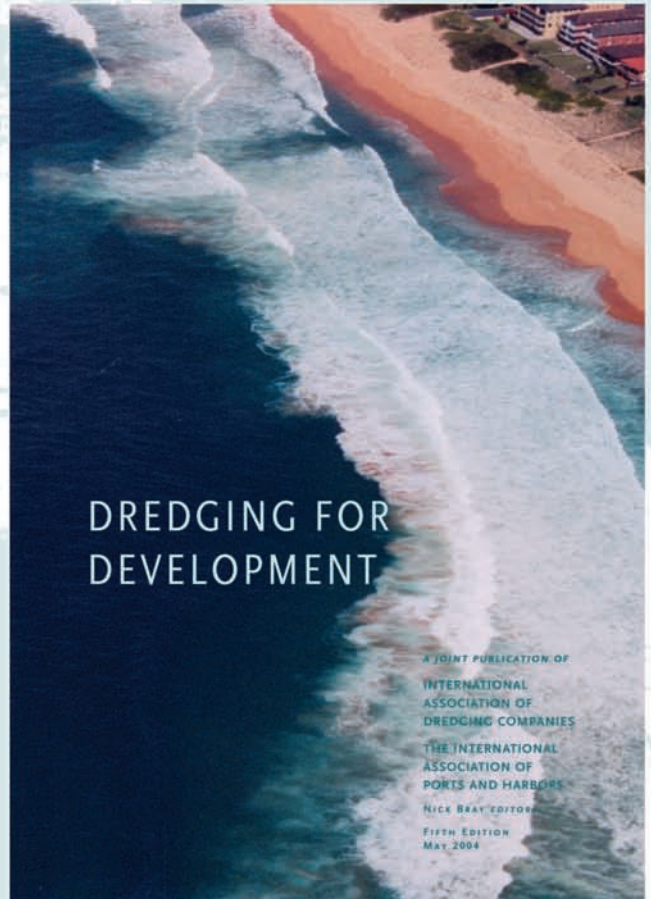
# DREDGING FOR DEVELOPMENT

A JOINT PUBLICATION OF  
INTERNATIONAL ASSOCIATION  
OF DREDGING COMPANIES &  
THE INTERNATIONAL ASSOCIATION  
OF PORTS AND HARBORS

EDITED BY NICK BRAY

An introduction to the complex field of dredging for public officials, stakeholders and all those interested in the field of dredging, this in 2004 updated version of *Dredging for Development* is edited by the well known expert, Nick Bray.

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## Choosing to trust outsiders

A change of attitude to let outsiders in at an early stage in developments can help ports get the best solutions, argues **Constantijn Dolmans**, secretary general of the International Association of Dredging Companies

**D**redging companies need to be involved in port developments at an early stage so that their experience and knowledge can be used to the best advantage in longer-term planning.

There are three main factors that hamper port development. First, many organisations just extrapolate past developments – they deal with uncertain forecasting of the future instead of taking a multi-perspective outlook.

Moreover, in infrastructure development there is often a lack of time and money in the planning and design phase. Finally, delays result from distrust between the employer – the port – and the contractor. In ports, mutual trust with other stakeholders, such as dredging companies, will enhance creativity and efficiency.

A delay in port development is a problem in

three ways: for the port, for the contractor and for society. The port cannot expand and faces loss of trade, the contractor cannot plan and is confronted with higher costs and society as a whole cannot realise growth.

In general, people tend to extrapolate current trends to predict the future. If all the predictions on world containers trades to 2030 were added up, you might expect the world to become one large port and logistics area without any space left for humans to live. Obviously unrealistic.

As an example of the unreliability of predictions, look to the oil prices forecast for 2006 – in 1981, the estimated price per barrel was about \$100. In 1984 the forecast was lowered to \$60, in 1987 \$40, 1991 \$25 and in 1995, \$20. We actually pay about \$70 per barrel. People are bad at predictions.

How does the current system create delays

in port development? One case: dealing with environmental legislation. One example in that case: the European Union Habitats Directive.

This requires that, even if measures are taken to fully compensate for the environmental impacts of infrastructure projects, other alternatives have to be considered first.

Within EU Habitats Directive legislation, the interpretation of 'alternatives' is rather broad. We should not look at port development in an such an isolated way.

The Flushing container terminal extension was postponed because other employment possibilities in the province of Zeeland had not been analysed and so no overriding public interest had been proven.

The most obvious way is not a feasible option for today's port development. What to do instead? Scenario-analysis has been used to

develop robust options for future developments in many industries.

It employs outside-inside thinking, identifying future relevant social, technical, environmental and political factors, recognising opportunities and combining them with the key competences of the port. To identify relevant outside factors, it is helpful to involve present and future stakeholders. You should not only invite your best friends for such a brainstorming session, but also the citizens in the neighbourhood, environmentalists and yes, even contractors!

After having identified the options, research and feasibility studies, a preliminary design can be drafted. Since the costs of a dredging project – whether maintenance or capital dredging – are directly related to the type and nature of the dredged material and the nature of the dredging and disposal or reclamation site, proper research and investigations are the key success factor for any project.

This means that before searching for finance and drafting a detailed design, information is needed on a host of specialist topics. These include: hydrography (bathymetry, tidal, current and wave data), the weather (e.g. storm frequency), morphology (drifts, sediment transport patterns) and geotechnical circumstances (soil characteristics). And of course, environmental impacts of the project should be considered in a proper environmental impact assessment.

The problem with all this research is that few employers recognise its importance and do not allow enough time or spend enough money to execute these investigations at an early stage.

The European International Contractors estimates that the cost of the tender design and the bidding documents is approximately 3% of preparation. Indeed, that appears to be insufficient to perform state-of-the-art feasibility studies. The lack of time and money for hydrographical, meteorological, morphological, geotechnical and environmental investigations in the early stages of the project design often results in higher costs in a later stage of a project.

If you told a contractor that he would be dredging sand and after two weeks of dredging the dredger hits rock, the project will be delayed. And let's not forget the fuss about who is going to pay the extra costs...

So you should either provide proper information on these essential factors or involve pre-qualified contractors in these investigations early in the process, making use of their knowledge and expertise in this field.

However, for this early involvement some basic trust between port and contractor is needed. Of course, trust is not blind and has to be earned. Of course, trust needs boundaries



and bonding such as a proper tender process and fair, clear conditions of a contract. Unfortunately, these boundaries and bonding are sometimes unclear and unfair.

Moreover, the majority of dredging projects are operated under a traditional tender process where little use is made of the specific contractors' knowledge. In this process there should be at least enough time allowed between providing the relevant tender documents and the final tender date.

As all ports know, the most relevant price is the life cycle costs of a port development project and not the execution costs of dredging as such. However, in many traditional tender processes the lowest price still gets the contract without appraising quality. In the long term however, a quality based selection of tenders is less costly.

A two-envelope system, where the best technical solution is selected without bias from the knowledge of the price of that solution, might help to focus on quality and reduce the life cycle costs of a project.

'Design-build' arrangements, as currently used for Maasvlakte II, also make early involvement of contractors' knowledge and capabilities possible, whilst ensuring proper 'boundaries for trust'. Such an arrangement might need a two-stage tender procedure. In the first stage, the employer

and tenderers exchange ideas with well-defined conditions. After pre-qualification, tenderers are asked to tender on comparable terms.

Some governments and port authorities are seeking innovative methods to finance large infrastructure projects nowadays. In the UK, for example, there is a long experience in supply chain partnerships with private contractors that make available contractors' capabilities and knowledge in all stages of project development, execution and maintenance.

Partnering between public bodies and private contractors can create a win-win situation whereby the contractor is allowed to make a reasonable return and the client gets a scheme, with value added, within budget and on time.

Transparency and trust are the key words in 'partnering', which provides the client with the benefits of the market without losing too much management control. Although not yet often used, 'partnering' between a port and a private dredging contractor might be a feasible, innovative choice both for port development and maintenance.

By using the knowledge and experience of the international private dredging industry in a timely fashion – and not only after the project boundaries have been set – ports will get the right vessel, with the right professionals to complete their project at the right price. **PH**



# Post-Panamax? I hate that term!

Panama Canal administrator Alberto Alemán Zubieta wants the world to learn a new phrase – ‘Panamax-plus’ – and in this exclusive *P&H* interview, he tells **Tony Slinn** why

**T**oday, we have ships that the industry calls post-Panamax – I hate that term because it implies shipping lines cannot use our country. So we need to do something about it, we need to remove the limitations...”

Does that automatically mean expanding the Canal, building the much-heralded larger locks and creating the so-called ‘third lane’? Or can the myriad infrastructure improvement projects now underway cope with world demand?

Those were perhaps the key questions I put to administrator Alemán in his grand office at the Austin Lord-designed administration building, overlooking the Canal entrance on the Pacific side. In the Italian Renaissance style, opened just a month before the

Canal itself, the building is much more than a symbol to the Panamanian people – as my cab driver proudly pointed out. Its stunning, poignant murals capture the monumental effort that went into building the Canal, not least the ultimate sacrifice by so many people.

Alemán and the Panama Canal Authority (ACP) took full control of the Canal on December 31, 1999. I tried to put myself in his place...

Where I live, we hold the biggest village carnival in England and a few years ago, I was elected chairman of the organising committee. I admit to a moment of terror – how did the administrator feel when put in charge of running what’s essentially a world wonder?

“Extremely well,” he replied, “but at the same time with a deep sense of commitment and responsibility.

“Basically, I believed in the capacity of the Panamanian people. I knew I had the very best people, trained and able to do the job. There was no doubt in my mind that we would be able to take over this waterway – not only that, there would be a sense of ownership.”

Over the last five years, the ACP has won praise for its commitment to gaining ISO 9001. Today, its 9001-certified sectors cover the largest single area on earth.

The industrial shipyard and electrical and aqueduct divisions, joining safety, maritime operations, human resources and training and development were the latest to receive Det Norske Veritas approval when it was granted on January 27 this year.

What, I asked, were Alemán’s personal highlights – and was there anything he’d done that the Americans neglected to do?



**Miraflores Locks with Pedro Miguel Locks and the Centennial Bridge in the background (above left)**

**Centennial bridge (top right) could soon span a bigger waterway**

**New locomotives – the Canal's 'mules' at work on the Miraflores Lock (above right)**



"Comparisons are not always the best way to do things," he said. "We have different ways of management, different reasons, both economic and political."

"We looked at the way we'd need to manage the Panama Canal for the benefit of the Panamanian people – for the benefit of its owners. We wanted to run this as a business, providing the best value and service to our customers, so I would say there was a culture change in the management of the Canal – and that takes time."

"Under the US, we had a system that charged for the Canal's basic operation. Today it's different; we look at the various sectors. If you're moving containers, or are a cruise line, or LPG tanker operator, then it's different economics – we try to understand our customers and we're trying to provide the service that best suits them. It's why we went into ISO 9001, it's a way to have a certain quality of service, one our customers can expect from us."

"We're now moving to ISO 14000, to do with the environment, which is very important for us and very high in our priorities. After all, you can also look at the Canal as an important water resource and the ACP as a water management company."

The administrator has covered a many miles in the past few years, not least in the Far East and US, signing memorandums of understanding (MoUs) with many ports. How important did he see his role as an ambassador for the Canal, for Panama and for the all-water route, I asked?

"I think it's extremely important. The reason we have MoUs with ports, including understandings with ports in Korea, is that we're part of a transportation chain; the Canal is an element in world trade. Therefore, we look on ourselves as a service supplier. We connect the two main oceans, the Atlantic and Pacific, and whatever we do here has an impact on world trade."

"Ships are being designed according to our limitations, the industry calls them Panamax. But if we go ahead with the expansion, there'll be a new term, 'Panamax-plus', and that will have a huge impact on ports and the maritime world."

"Expansion will mean major decisions by fleet owners. If you're buying a ship, costing \$60M to \$100M and lasting 20 years, you need to know where it can be deployed – and of course the Canal plays a role in that. The same applies to ports. If you've moving cargo from Asia to the US, or from Europe to the west coast of South America, the all-water route plays a major role. That's why we went to Chile recently and are talking to the Chileans about what's going to happen with the expansion of the Canal. It will play a major role in their economy."

"Whatever we do here is also about sharing information, and getting information, about the future. We're all players in the same business and again, it's about bringing better value to our country and those who use this waterway – a win-win situation."

"Panama is a major player in the maritime world, not only because of the Canal, but because of our fleet: the Panamanian flag is the biggest in the world and that also plays a role. But I think our location is our biggest competitive advantage and we need to maximise that. I have a vision of making Panama the most important transshipment and logistics centre in the whole of Latin America and to do that you need the east-west, north-south routes."

More Panamax ships than at any other time are now transiting and inevitably they're more affected by Canal maintenance than other vessels. What impact is that having, I asked?

"We plan our maintenance in periods so we can best manage the work. It's extremely expensive to the Canal; you have to work 24/7 in the fastest way to minimize the effect. We're doing that rather than, say, having one lane out for a month then working on the second – which would be much more cost-effective."

"We're doing it too because we have a system to honour, although it puts pressure on us. We put a lot of planning, people and resources into maintenance work so it starts and finishes on planned dates. Our aim is to finish early and we've been successful in doing that."

"The Canal is 91 years old and needs maintenance, otherwise it would break down. We want to maximise reliability, so we continually look at how we conduct maintenance alongside Canal operations. And we announce, in plenty of time, when will happen."

A customer satisfaction survey in 2005 highlighted two major concerns: capacity limitations, as you'd expect, and the availability of pre-booked slots. What could the administrator do to improve both the tonnage handled and Canal water [transit] times, I queried?



“Whatever we do here has an impact on world trade”



## What the shipping lines say...

Member lines of TSA, the Transpacific Stabilization Agreement give a guarded response, saying, as project completion was due in 2014, the Canal's 100th anniversary, things may change.

The 11 lines, including major carriers from Asia, the USA and Europe, say the fee structure of the enlarged waterway will be a factor after recent sharp increases in Canal transit fees.

‘There is huge demand for east coast all-water services that are now running at near-full utilisation and lines are building US Gulf coast terminals to cover eastern USA distribution centres from Asia, Europe and Latin America,’ said a spokesman. ‘I would say there’s interest, but no consensus.’

“We’re improving our service quality levels. We’ve just finished the first tie-up station and are now constructing another one, closer to Pedro Miguel [locks] on the west bank. We’re also widening the curves in the Culebra Cut because of the length of ships we’re getting. Our projects will maximise the tonnage capacity of the Canal – it’s about 330M – by 2008 to 2009 when the Canal maxes out. That will happen when you have full utilisation of the Pedro Miguel Locks, our last bottleneck.

“Today, the Canal operates at about 85% of the maximum capacity that we can attain. We’ve added other features, such as better lighting and of course the new locomotives, but it’s a system that has its limitations and that’s why we’ve been looking at expanding and building new locks.

“What are our options? The master plan we’ve been looking at has basically two components – expansion, but also to get the Canal to its maximum capacity, which we’re already entertaining as demand is increasing. And we have added new slots in the reservation system, which we can continue to do as long as there’s still capacity.

“The maritime industry has changed from ships working independently to more and more liner services – strings of ships that know they’ve got to get to ports on time. It’s becoming like the airline industry and we have to understand that in order to modify and

improve the way we do things. But we also have to understand our limitations.”

Could we see transshipment playing an increasingly important role? You’re planning a new megaport on the Pacific side for transshipment, are we also likely to see major infrastructure improvements in highways and the Panama Canal Railway, the so-called ‘dry canal,’ I asked?

“I don’t think that railways and roads, the dry canal we already have, will ever replace the Canal itself. Unloading on the Pacific side and taking cargo by road or rail to the Atlantic side doesn’t work in Panama, or Central America. It would take too many trains or trucks. If you look at it in terms of just one 4,000 teu ship, you’d need 20 to 30 trains to take containers to the other side of the Canal. And once there, you’ll need another, empty ship to load onto. It’s extremely expensive and the time constraints are enormous.

“Sure, transshipment is important, though I think redistribution is a better term because what we have in Panama is an all-water route with a system of ports that allows you to reposition some of your cargo. It’s a better logistics package; you can concentrate cargo over here and need move only a few containers, many of them empty, by rail.”

So was Alemán looking at something similar to Europe’s Motorways of the Sea, building the megaport as a hub and using feeder ships? Keeping the focus on the Canal itself, not the dry canal?

“Yes, because that’s where the future lies. As said, the dry canal serves really as a system to reposition containers. What brings the volume over here is the connectivity the Canal provides for shipping. It’s not about roads or railways. It might be that some cargo can be repositioned to the Atlantic side, but it’s only a small portion.”

Designed to cover the next 20 years, the master plan includes the key issue of whether to expand the Canal. But that’s subject to a referendum. So I split my question into sections – when did Alemán think the referendum would happen?

“This year, definitely this year.” But he wouldn’t be drawn further, nor take a stab at guessing how much the ‘third lane’ would cost.

I’d taken a straw poll while in Panama and everyone

I spoke to said they'd vote yes. But there are those against the project – how do you convince them?

"I think the project is very important for Panama and will bring major benefits to all the people. Just the other day I was in the highlands of Chiriqui and said to the farmers, 'when you look at the Canal and every time you see containers, think of them being filled with farm produce grown here and going to ports all over the world. Having the Canal here allows you to be very competitive – if you grow pineapples, for example, you can easily ship them to the USA or to Europe.'"

If expansion goes ahead, how long will it take to build the 'third lane' and what are the major factors to be considered?

"I think it will take about seven years, the locks about five years, plus all the work we have to do dredging the navigation channels and the Canal. We also plan a system of water-saving basins that will give us the ability to move more ships than we can today, yet still save water.

"This project, when you look at it in a simple way, builds on what we've accomplished in maximising the infrastructure that we have, including improving the navigation channels. Meanwhile, we use the Canal as we have it today and continue to improve – we're dredging the Pacific entrance now, for example."

But what if the expansion doesn't happen? Have you any plans to enlarge the Gaillard [Culebra] Cut, the Canal's narrowest section, so Panamax vessels can sail north and south simultaneously, I asked?

"In our analysis of maximising use of the Canal, we think that tie-up stations are the best way – the reason is that we have an unbalanced system.

"On the Atlantic side you have one set of locks – Gatún – with three chambers very close to the ocean entrance and also with a lake that can serve as a staging area for ships. Those locks are working 24/7 precisely because you can stage the ships.

"On the Pacific side of the Canal, it's a different system altogether. You have two sets of locks separated

by a very small lake, then you're into the Culebra Cut. You don't have a staging area, you're further from the ocean and it takes longer for ships to get through those locks. So really there's no advantage in having two-way traffic in the Culebra Cut. We can widen the curves, but you can't move the same number of ships on the Pacific side that you can on the Atlantic side because of those two sets of locks. That's why I said that the Pedro Miguel Locks are our last bottleneck.

"I think once we've completed the existing projects we'll have maximised the Canal's capacity as it was originally built. There is no more capacity over 330M tons – it's the end of the line. But expansion will bring the Canal's capacity up to 600M tons, nearly double that of today."

Visiting last year, USA President George Bush complimented Alemán and Panama on the Canal's administration. But in 1999 many people, including some Panamanians, said it was a gamble turning over the Canal. What would you say to those critics today, I asked?

"Yes, at that time people were asking the question whether we would be able to manage the Canal. I put that question in a different context: a lady from the press asked me what would happen after December 31st 1999 – I answered, January 1st 2000!

"Today, I think people can see the results for themselves – and we'll continue to improve and make things better. But what matters now is the expansion of the Canal..."

Which brought us back to the phrase he has coined – 'Panamax-plus'.

"I'm sure the industry will get used to that term, will start modifying and will adjust to the Canal's new dimensions. The industry will move as it has before so I think the term 'Panamax-plus' will be used in the near future – before the end of this year."

You heard it first in *P&H*. **PH**

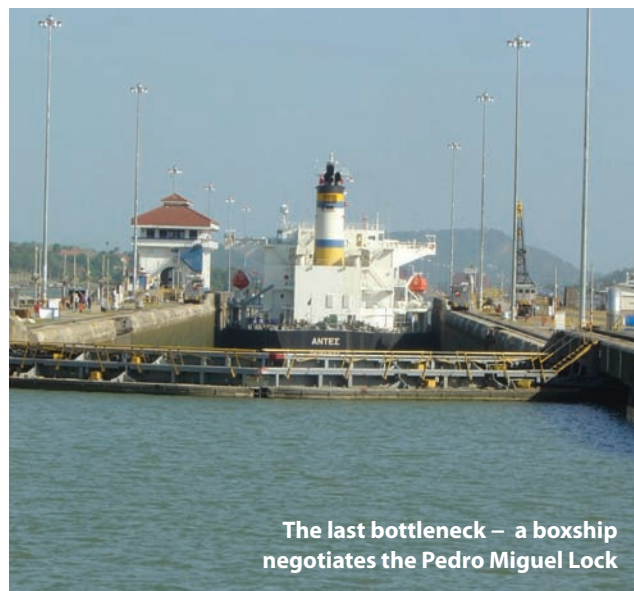
More info at: [www.pancanal.com](http://www.pancanal.com)

## The man behind the Canal...

Alberto Alemán Zubieta, the Canal's administrator, was born in Panama City and holds degrees in both industrial and civil engineering from Texas A & M University

For many years president of one of the country's largest construction companies, he took over as administrator of the then Panama Canal Commission, a US federal agency, in 1996. Two years later he became administrator of the Panama Canal Authority (ACP) – the new Panamanian body that would assume complete responsibility for the waterway following the Canal transfer on December 31, 1999.

His responsibilities include maximizing efficiency in the management, operation and maintenance of the Canal and his track record in doing that has garnered a host of honours and awards – including Federal Engineer of the Year from the American Society of Civil Engineers and Seatrade's Personality 2001. In 2005 the Board of Directors re-elected him to lead the ACP for another seven years. He expects Panamanians to back expansion, which has been controversial, because the Canal is Panama's most important resource.



The last bottleneck – a boxship negotiates the Pedro Miguel Lock

# Panama's \$5.25Bn cut

**Michele Labrut** and **Tony Slinn** outline the expansion plans and projects already started

**T**he decision has finally been made. As P&H went to press, it was confirmed by Panamanian President Martin Torrijos and the Panama Canal Authority (ACP) that expansion will go ahead, subject to approval from the Panamanian people.

The project is likely to cost at least \$5.25Bn, with the third set of locks as the centrepiece. A referendum to confirm the scheme is likely to be held before the end of the year.

According to La Prensa, the country's most important newspaper, the referendum will support the ACP plans. In its poll of 1,200 Panamanians published last December nearly 60% said yes to expansion with only 19.3% opposed.

Highlights of the expansion are:

- New locks, of 427m in length, 55m in width and 18.3m in depth, will accommodate vessels up to 12,000 teuU so-called 'post-Panamax'.
- A new 3.2km long locks navigation channel from Gatún Lake to the Atlantic Ocean.
- New 5.8km-long Gaillard Cut Lock navigation channel and a 1.3km long navigation channel connecting to the Pacific Ocean.
- The new navigation channels will be 218m wide, allowing one-at-a-time transits of vessels currently considered 'post-Panamax' in one direction.

■ Both Gaillard Cut and Gatún Lake channels will be deepened by 1.2m to 9.2m PLD (precise level datum), giving the Canal a 15.2m draft. The Gatún Lake channel will be widened to no less than 280m in straights and no less than 366m in the curves.

■ Both Atlantic and Pacific entrances will be widened and deepened: to 225m in width and 15.5m in depth.

■ The level of Gatún Lake will be raised 0.45m to 27.1m PLD to provide 625M more litres of water capacity, allowing 1,100 additional lock movements each year.

The expansion is on top of an ambitious, continuing \$1Bn investment programme to modernise and improve the Canal's infrastructure, initiated in 1996.

Core projects designed to enhance productivity, efficiency, security and operational capacity include:

■ Widening the Gaillard (Culebra) Cut – and smoothing curves to aid passage by Panamax ships, which are expected to account for over half the ocean-going transits this year. It should be completed in 2009.

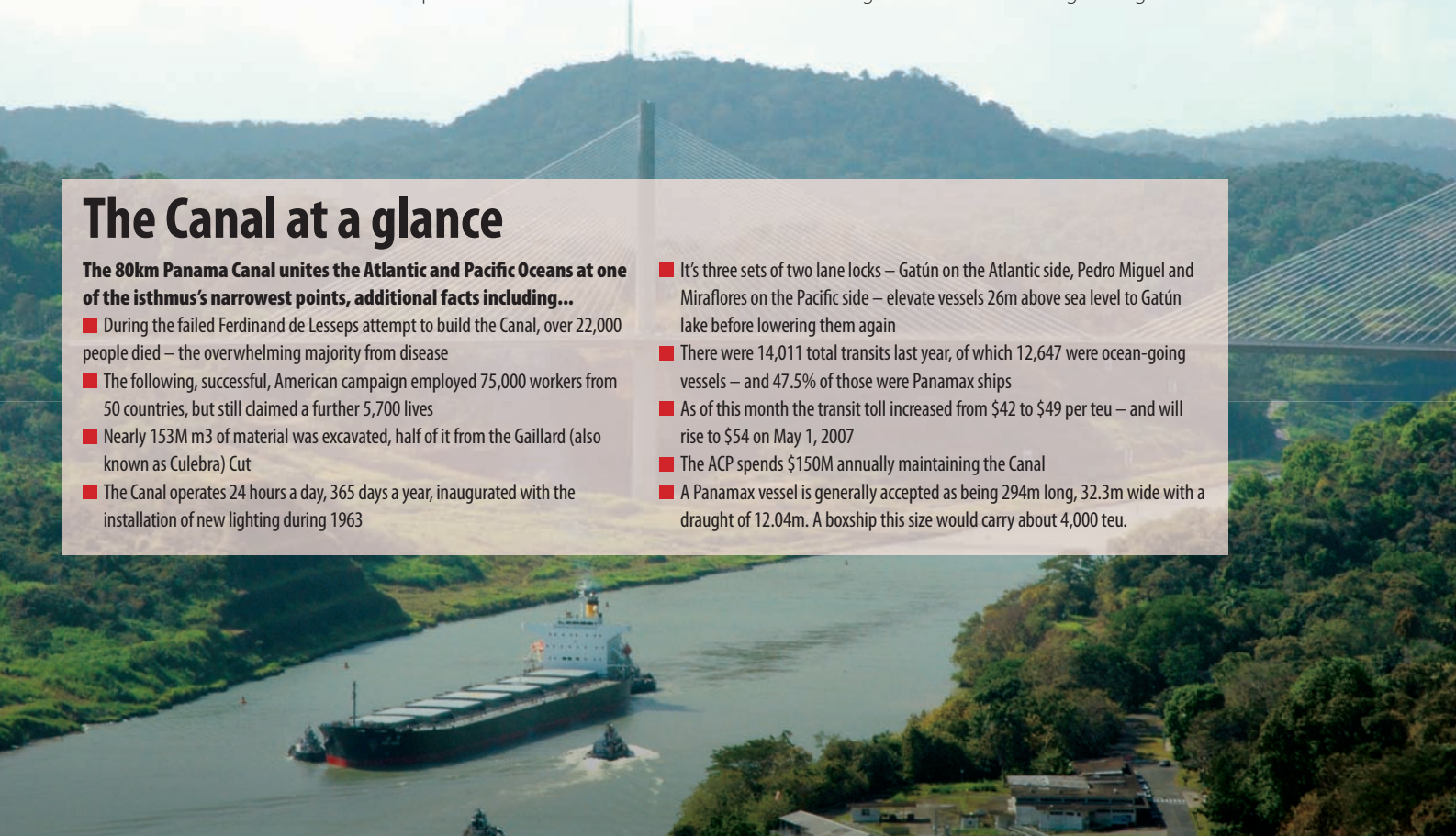
■ Paraiso tie-up station – just completed at Cucaracha Reach on the Gaillard Cut, north of the new Centennial Bridge. It provides safety moorings for ships in trouble, but more importantly serves as a staging post during lane outages or periods of high-traffic demand. The ACP is now building a second such station close to the Pedro Miguel locks on the Cut's west bank

■ Deepening Gatún Lake – about 60% complete now, it will provide an additional metre of water storage, upping capacity by 45% and thus minimizing draught restrictions during droughts as well as

## The Canal at a glance

**The 80km Panama Canal unites the Atlantic and Pacific Oceans at one of the isthmus's narrowest points, additional facts including...**

- During the failed Ferdinand de Lesseps attempt to build the Canal, over 22,000 people died – the overwhelming majority from disease
- The following, successful, American campaign employed 75,000 workers from 50 countries, but still claimed a further 5,700 lives
- Nearly 153M m3 of material was excavated, half of it from the Gaillard (also known as Culebra) Cut
- The Canal operates 24 hours a day, 365 days a year, inaugurated with the installation of new lighting during 1963
- It's three sets of two lane locks – Gatún on the Atlantic side, Pedro Miguel and Miraflores on the Pacific side – elevate vessels 26m above sea level to Gatún lake before lowering them again
- There were 14,011 total transits last year, of which 12,647 were ocean-going vessels – and 47.5% of those were Panamax ships
- As of this month the transit toll increased from \$42 to \$49 per teu – and will rise to \$54 on May 1, 2007
- The ACP spends \$150M annually maintaining the Canal
- A Panamax vessel is generally accepted as being 294m long, 32.3m wide with a draught of 12.04m. A boxship this size would carry about 4,000 teu.

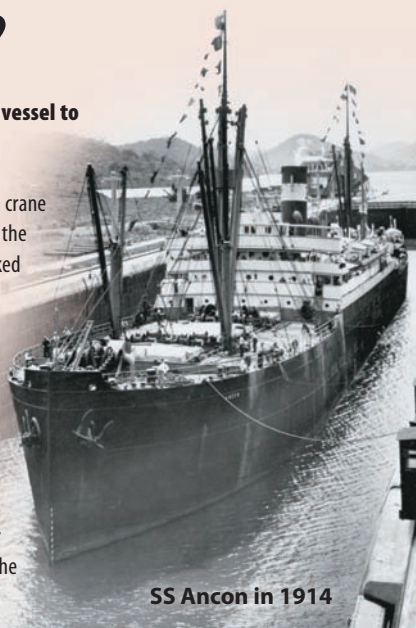


## Did you know?

**That the *SS Ancon* was not the first vessel to transit the Panama Canal?**

That honour went to the humble floating crane *Alexander La Valley* in January, 1914. But the *Ancon's* passage seven months later marked the waterway's official inauguration.

Perhaps the most remarkable transit, however, was by American adventurer Richard Halliburton – he swam the Canal's entire length in 1928. It took him ten days and he paid a 36-cent transit toll, the smallest ever. The most expensive toll for Canal passage to date was \$226,194.25, paid by the cruise liner *Coral Princess* on September 25, 2003 – the average toll today is around \$54,000.



**SS Ancon in 1914**

accommodating future demand for drinking water and preparing the way for the third lane expansion. As with the widening of the Gaillard Cut, the anticipated completion date is 2009.

- Deepening both the Atlantic and Pacific access channels – the former project is complete and Dutch dredgers Boskalis are at work right now on the Pacific side

- More tugs – the ACP now has 24, increasing the Canal's ability to assist vessels during transits, especially at the lock entrances and through the Gaillard Cut

- Replacing locomotive tow tracks – and upgrading and renewing the 55-ton locomotives (nicknamed 'mules') that guide vessels through the locks, the new machines have 50% more towing power

- New hydraulic lock controls – that require less maintenance than the previous electromechanical systems, enhance safety and increase reliability via computerized equipment monitoring.

These projects will up the Canal's capacity to 330M tonnes: the expansion will nearly double that to 600M tonnes. But how will Panama pay for it? Tolls will increase – maybe even doubling by 2025. Even

allowing for inflation adjustment, tolls could rise by an average of 3.5% per year.

Higher toll income will allow the ACP to fund the expansion in an economically sustainable manner, which will require an additional \$650M per year in revenues on top of existing resources over the construction phase (2007-2014) as well as the post-construction period when costs are fully paid off (2015-2025).

External financing will cover about 50% of the estimated cost. At the height of the construction period when expenses peak (2009-2011), ACP "will go the international markets for a \$2Bn-\$2.3Bn facility to be drawdown in tranches according to project needs", said ACP board president Ricaurte Vásquez.

The ACP maintains that the Panama Canal will continue to remain competitive with other transportation routes such as the Suez Canal, despite higher usage fees.

The timing and number of toll increases will be determined by ACP financing needs and the disbursement programme for construction.

Just over 3% of the world's trade is transported through the Canal annually, 68% of that originating or ending up in the USA. Apart from containers, the principal commodities are chemicals, petroleum products, coal, iron and steel, phosphates and grain. The main trade routes are from the US East Coast to both Asia and the west coast of South America and from Europe to the US West Coast, Canada, Asia and the west coast of South America.

Apart from the US, major users (and their percentage of world trade) are China (18%); Japan (16%); Chile (9%); South Korea (8%); Peru (6%); Canada (6%); Ecuador (5%); Colombia (5%) and Mexico (4%).

Just how important the expansion project is has recently been illustrated by the continuing problems vessels face in getting swift access to the Canal as demand for its services increases. Vessels waiting to transit have become a regular feature.

ACP says recent congestion was due to 'abnormally high arrivals, in addition to an unexpected increase of frequency of days with arrivals above sustained Canal capacity, that is, 38-40 vessels per day.' Transit backlog forces vessels to wait five days at the moment, but vessels holding reservations are not affected.**PH**

## What the shipping lines say...

Broadly, the development has been welcomed by shipping lines as they are looking forward to moving post-Panamax container vessels between Asia and the east coast of the USA, where they expect continuous growth in demand.

Lines are looking keenly at the costs, according to 'K' Line, which points out that ACP increased toll fees by almost 70% in the three years up to 2005. 'It depends on the price. Carriers may need to evaluate the efficiency of Panama Canal routing from both an

operational and an economical view point,' the company told *P&H*.

'K' Line expects the expansion to have a big effect on future vessel designs and newbuilding programmes, and urges the ACP to settle project details as soon as possible.

With expansion, the line warns that major USA east coast ports will have to be ready to accept post-Panamax type vessels, otherwise carriers will not be able to enjoy the full benefits of the canal.



## The power game

Without worldwide standards it will be difficult for ships to get connected ashore, explains a team that has been examining the issue

California has a reputation for tackling environmental issues and one of the targets of the latest round of initiatives is pollution from ports. Dockside equipment is being changed over to more ecologically-friendly fuel, but the real target in the eye of authorities is emissions from ships.

The most obvious drawback is cost. The California Air Resources Board estimates it would cost ports in the state at least \$90M to supply alternative maritime power (AMP). In addition, retrofitting vessels is expected to cost in the region of \$500,000 to \$1.5M. On the plus side, the board says that emissions could be reduced by 18 tonnes a day, or 70%, if every vessel calling three or more times a year to California's ports was able to receive shoreside power. Long Beach and Los Angeles have long-term plans to supply power to vessels making frequent calls and are putting serious efforts into persuading other ports on these vessels' itineraries to do the same.

Current rules and standards need to be revised and new ones developed to ensure systems are compatible at ports around the world. Naval architects, shipowners, and port authorities should be involved in the development of these standards to ensure safe, cost-effective methods are developed for powering ships on shore power.

The following issues should be addressed: Modern container ship operations at berth present many

challenges when connecting shore power to the ships. Wharf space is limited and container cranes operate near the edge of the wharf. Shore side connections need to be located away from cranes at the edge of the berth at locations flexible enough to accommodate different ships.

If ships are retrofitted for the connection to shore power, standards are needed to simplify connection methods, establish voltage level, and connection capacity.

If a plug or receptacle connection is used for shore power connections, an international standard for compatibility should be developed to allow ships to connect at different ports throughout the world.

Standards need to be developed to identify acceptable ranges for shore side voltage level and system frequency.

On-board generator emissions during docking periods has become an important air pollution issue and vessel power demands have increased dramatically, reaching tens of MW. AMP, provided from the shore, should make use of near-zero or zero emissions technology to provide cleaner power to docked ships. Several ports throughout the world, including Los Angeles in the USA and Gothenburg, have already implemented shoreside power measures.

Specifically, these measures call for ports to: require shore-side power as a condition of new terminal leases

## “ Many ship operators and port authorities are struggling with the absence of standards for connecting ships ”

or renewals; invest in infrastructure for electrical power; redevelop shoreside power for port-operated facilities; subsidise development of shoreside power for harbor craft; and provide funding to offset costs of retrofitting ships to accommodate shoreside power.

On the shore side, an appropriate special power system is required to hook up the power delivery cabling system via power receptacles and power plugs. Power may be delivered at 6.6 kV or 440 V, depending upon the rating of the vessel's on-board normal power supply equipment.

Many ship operators and port authorities are struggling with the absence of appropriate standards and specifications for interconnecting the ship service load to on-shore power distribution systems, especially the grounding of the shoreside power system.

For AMP to be successful, sufficient power must be available for use at the berths for substation development, and cable-laying rights-of-way must be available close to the terminals. Ships in service may not have the correct electrical hookups to allow proper connection.

At present, there are no industry standards for cold ironing connection and power system design, especially the grounding of the shore side power to a floating ungrounded ship's electrical infrastructure.

Based on its economic analysis studies, the Port of Los Angeles has fitted two terminals with shore power and plans are being developed for seven other terminals. Nearby, the Port of Long Beach is planning to provide shore power to every berth. These ports have planned and selected a 6.6 kV supply voltage infrastructure with power delivery up to 7.5 MVA per berth. Specific shore side power supply system grounding requirements are still under discussion with ships interests.

Other USA ports investigating the possibility of cold ironing projects are Houston, Richmond, Norfolk, Seattle, Tacoma, Oakland and San Francisco. Ports surrounding the Baltic Sea are incorporating shoreside power as part of their environmental programmes and Lubeck port started tests in August 2005.

Ports considering container or cruise terminal AMP need to upgrade existing shore side power system infrastructures, since these ships demand power in the range of three to 15 megawatts. This demand requires new substations with step down power transformers with medium voltage secondaries to match with shipside voltage requirements.

In addition, appropriate medium voltage switchgear, flexible power cable connections, and power plug or receptacle assemblies are needed for ships loading or off-loading at dock. The emissions associated with the electrical generation supplied by the substation must be significantly lower than the emissions generated by on-board generators of receiving ships to ensure significant air pollution emissions reductions. Shore

side power generation must make the use of renewable energy sources or appropriate natural gas. Any port-operated substation should explore the best available control technology to reduce pollution impacts.

The second option is the installation of one or two fuel cell units (200 to 250 kW) at berths where smaller ships (tugboats, commercial fishing boats, and crew/supply boats, for example) are hoteling, and where natural gas is available as a fuel source.

The third option is a power barge equipped with fuel cells to supply power at multiple locations. The fuel cell application may be particularly well suited for berthed cargo ships where diesel generators producing auxiliary loads are in the one to two megawatt range. Fuel cell technology offers significant enhancements over existing diesel generators including very low exhaust emissions, inherently low vibration and sound levels, and improved thermal efficiency (particularly at low-load levels).

Much work needs to be done to develop recommended practices for AMP, and we would recommend this be conducted together with the USA-based Institute of Electrical and Electronics Engineers, Inc (IEEE). A group with international participation could be formed to work with the IEEE standard 45 working group to study and develop recommendations. **PH**

Authors: Yuri Khersonsky, Dev Paul, and Kevin Peterson, senior members IEEE

**Los Angeles port (left) has opted for barges to supply shore side power for ships**



**Barges (above right) can supply power all over a port (bottom right) .**

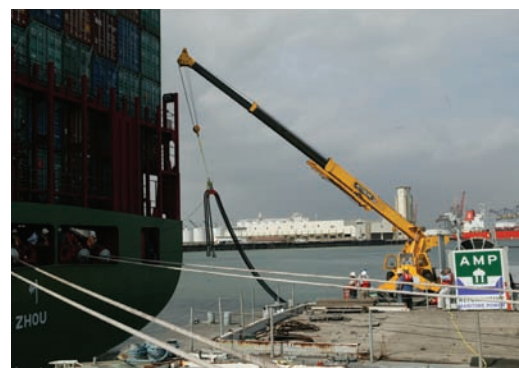




Photo Ed Turner

## Lean toolkit for green fixes

Ports can meet green targets by borrowing ideas from lean manufacturing processes, says a new report from the Massachusetts Institute of Technology

**I**t is not enough for ports to get green – they must get lean too. And if they get lean and green and integrate their activities with lean enterprises on the shore and the ocean side, then just-in-time would be achieved with a minimum of waste in time, materials and personnel.

So far though, lean practices have been used in manufacturing. So what lessons can be learned from manufacturing that could apply to a service industry such as ports? It could be a way to reduce bottlenecks. Lean techniques are aimed at improving the flow of goods through a manufacturing system. If applied to ports these could lead to reduced congestion.

In order to achieve benefits ports need to dedicate a small staff, trained in both ecological and managerial best practice to identify targets for continuous environmental improvements. They must reframe cost benefit analysis to include lifecycle costs and benefits of community involvement.

Cost efficient gains, can be highlighted and ports

can ensure costs and benefits are more equitably shared across stakeholders. The link between ports and their surrounding communities would be repaired to strengthen the flow of value and responsibility between these critical networks.

The core principles of lean manufacturing may be applied to the broad spectrum of port stakeholders. We offer recommendations for driving these theories into mainstream operations.

Ports can move more rapidly towards green operations by implementing systems thinking tools, examining costs and benefits across the full stakeholder spectrum and the complete lifecycle of port operations. Moving systems thinking from theory to implementation, however, requires management tools suited to the broader perspective.

Springing from similar philosophical roots, the techniques of lean manufacturing are a perfect fit. They are laid out in the 'Lean and the Environment' initiative from the Washington-based Environmental



**Happy landings – Boeing has been praised for using lean management techniques to improve productivity – now it's the turn of ports to benefit.**

Protection Agency (EPA).

Lean manufacturing aims to eliminate waste from all aspects of an organisation's operations. Through systematic focus on the elimination of activities that do not add value, lean manufacturing substantially improves the environmental performance of organisations. Even without explicitly targeting environmental outcomes, lean initiatives can yield substantial environmental benefits.

Traditionally, the costs of green ports have been passed from stakeholder to stakeholder so as to minimise short-term costs for individual players. Such action typically results in higher long-term costs for the system as a whole and, as a result, often higher long-term costs for each stakeholder.

Successful green ports are not those who simply work hardest at cleaning up the pollution they create. Rather, they are those who examine sources of pollution throughout their supply chain and provide co-operation and incentives for the whole chain to reduce pollution at its source.

An efficient port is nearly always inherently greener than an inefficient one. Reductions in waiting time, congestion and clutter lead not only to improved shipping times and greater profit margins, but also tend to reduce air pollution from standing vehicles, clarify the proper place for disposal of waste and increase visibility of other environmental issues.

The reduction of waste in its many forms and the clarification of processes are powerful tools in promoting greater efficiency and thereby profitability, as well as cleaner operations. In many ways, development and implementation of an environmental management system provides the perfect forum for discussing green port issues with all the stakeholders there.

Indeed, lean and environmental management systems are not only complementary but synergistic, helping to build an organisational culture that is focused throughout on continuous improvement and waste reduction. If lean management principles are applied to development and enactment of environmental management system plans they can also help ensure cost-efficiency and sustainable commitment.

We recommend three actions to encourage dissemination and adoption of lean methods for port stewardship.

A report on the viability of adapting lean manufacturing methods to port sector activities should be commissioned by the EPA.

The lean toolkit offers effective methods for implementing systems level analysis and value stream integration. EPA efforts highlight how lean can reduce environmental impacts in the manufacturing industry. What remains is developing a clear case for how these tools, derived for manufacturing, may be best applied to the operational context of ports. Such a report could be used to highlight ways that lean best translates across this culture gap, clarify areas in which lean tools might be misapplied in the operational context and showcase models for lean enterprise integration in the language of port stakeholders.

At the centre of this report should be examples of

environmental systems analysis which demonstrate, quantitatively, the long term cost effectiveness of managing pollution at the source. Quantitative examples are needed to demystify the actual systems-level economics of the issue, such that the burden of implementation may be more accurately distributed across the parties that benefit.

Then a consulting group could be charged with helping to implement cost-beneficial efficiency and environmental improvements across the port system.

Among the most successful instantiations of lean are those that begin with a knowledgeable instructor, schooled in the techniques and unafraid to push for the first steps of change. Identifying such a consulting infrastructure for ports will both lower the activation energy to waste reduction and continual improvement and serve as a broader institutional memory for the port sector, carrying recommendations of technological solutions with successful track records, proof of positive fiscal returns and records of suppliers and consumers that integrate well into lean enterprises. Such an overarching viewpoint could also facilitate cross-port analysis for use in lobbying to reduce reporting requirements or other governmental overhead. We recommend that the EPA offer a pilot program on a competitive proposal basis, pairing interested consulting firms and ports to identify and enact the first steps of environmental lean changes.

Educational programmes could be established to help increase knowledge of the workforce in both environmental issues and lean operations.

One common thread between environmentally successful ports is the presence of an informed and motivated person in the role of environmental compliance officer for the port authority. We recommend an internship and/or scholarship program to provide additional personnel trained in both environmental issues and lean tools.

In addition to post-secondary training for emerging port staff, we recommend on-the-job training for current employees, broadening understanding of environmental stewardship and assisting in development of a lean and green culture. In the early phases of adoption, such training should be provided by common stakeholders, like the EPA. As lean enterprises emerge within the port networks, however, dissemination from port authorities should supplement this effort, educating suppliers and consumers about available options for green investment. **PH**

*Authors: Ryan Hannink, Hsiao-Lan Lin, John Pendray and Erika Wagner: all of MIT  
More info: <http://www.epa.gov/>*

## The prime mover

Geraldine Knatz of the Port of Los Angeles, chair of the IAPH Port Environment Committee, was instrumental in instigating a report on green port issues by MIT's technology and public policy programme

# Room for one more on top

**Steve Govier** explains how ports can benefit from the multi-storey car park designs more usually seen in airports and retail locations



**Going up. Building up, as here at Southampton, rather than creating expanses of parking, can save money**

Not every port has room to dedicate hectares of land to storing cars, so increasingly they are looking to build multi-storey car parks, following the lead of airports, retailers and other businesses. However, designs in the past have not always been user-friendly. Concrete structures have posts which create obstacles hindering the handling of cars. Worst of all from an investment point of view, they represent a huge commitment. A concrete car park cannot be easily uprooted. It cannot be considered mobile will probably have to be destroyed to make any changes at the port.

Some 15 years ago traditional concrete structures dominated the car park sector; however, now the trend is for modular, system-built car park frame technology. Considering the future of car park construction across all sectors, these de-mountable systems enable buildings could be dismantled and re-erected elsewhere at a port, or even sold on to another business. Other businesses have enjoyed these benefits and now it is the turn of ports to enter a world where car park locations can be changed according to business demands.

Steel is readily becoming the material of choice for the modern car park in other areas and could be described as elegant, fast in construction

and economical. How can ports now benefit from the changes in multi-storey steel car park design seen elsewhere?

This type of modern steel structure was used at the Portsmouth Continental Ferry Port and due to its retained asset value at the end of the prescribed lease period, was financed by a lease fund agreement. This is a perfect example of how ports could benefit from this new kind of procurement facility.

So what benefits does a de-mountable car park have? The offsite manufactured components enable prefabrication, which reduces construction time, disruption and health and safety risks, and speedier construction. Quality control and manufacturing tolerances are excellent as components are made in a modern computer process-controlled factory.

The car park has no internal columns allowing unobstructed use of the whole floor plate. The lack of columns in parking bays has many benefits. Columns hinder the use of the whole floor in high-volume storage buildings, cause potential parking hazards, and prevent the floors being re-marked in the future if and when cars get larger or smaller. They also prevent future changes to the geometry and layout and inhibit the long-term adaptability of the building.

Steel structures are relatively lightweight which can



often avoid piling and heavier below-the-ground costs. Ports are often situated on poor or man-made ground and a lightweight structure can be beneficial.

Steel is an ideal medium on which to fix a myriad of different external finishes from masonry to architectural steelwork. And, as steel structures are slender and elegant, they can be left unclad, especially in a port environment where aesthetics are less important due to less rigid planning requirements. This allows more natural light to enter the building which reduces annual lighting costs and improves the internal environment of the building.

Modern steel car parks are robust and very tolerant to low maintenance and have also proven to be extremely durable in a saline environment when galvanised. The steel in the structure can, when finally demolished, be reused in building – steel is 95% recyclable.

Bourne Parking has completed the design and construction of a new car storage building, Empress Terminal, at the port of Southampton, on behalf of Associated British Ports.

The five-storey flat deck car storage building provides 2,293 spaces for new cars awaiting export and is equivalent to an additional three hectares of storage capacity. The contract, worth \$6.1M, started in spring 2005 and opens this month. As the building is close to the sea, it has been designed to be extremely durable, the columns have been painted orange to lift the aesthetic feel and a new tensioned wire crash barrier was used in its construction.

The Southampton project is an innovative and economic form of multi-storey building. Designed to save a considerable amount of money and space, these 'car-car parks' are a great substitute for using hectares of land to store cars. It will be able to store over 100,000 cars a year for export worldwide.

The traditional single storey yards are slowly becoming a thing of the past as ports realise that in order to grow they must make better use of their land, for importing exporting or ferry traffic.

At Portsmouth, we designed and built a \$4.6M five-storey car park for the almost 3.5 million passengers who use the port each year. The building provides passengers with 516 car parking spaces next to the main ferry terminal, consolidating all long and short-term parking at the port into one safe and easily accessible location. With a clear span of 16m, the

## Multi-storey living

Barcelona already has four multi storey car parks with a capacity of 24,000 covered places. Construction of a new multi storey car park with 4,500 covered places will start in July, for completion in 2007. This is part of a major project to increase car handling capacity at the Port of Barcelona (APB). The projects are due for completion in 2015, with some terminals, including the car parks, coming on stream earlier. APB says it expects to see car trade through the port increase because of the developments.

Dave Herrod, senior project engineer at ABP Southampton commented: "After researching the various options for the storage building, steel came out as the best material available. Not only did it cost less but the structure was specially designed to our exact requirements and the slender columns meant the building could hold more vehicles, which was a clear benefit."

Phil Gadd, ferry port manager at Portsmouth Continental Ferry Port, commented: "The car park has been a great success and has helped to increase passenger numbers."

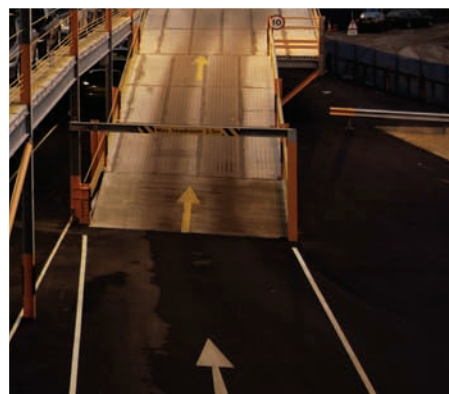
number of columns in the car park was kept to a minimum ensuring a continuous, bright and user-friendly parking environment.

The car park building has been designed to optimise the use of a site of a derelict industrial building adjacent to the ferry terminal area. The structural form of the building combines the latest long span, composite construction technology while allowing for the structural elements to be dismantled and relocated in the future should this be required.

In this instance the car park was used to improve port services, offering a safe, secure place to leave cars and giving customers piece of mind. With the travel industry growing and competition for ferries coming from cheaper flights and trains through the Channel Tunnel, ports need to offer better facilities can help to keep customers using and harbours. These local pressures in the UK are duplicated around the world.

The demand for safer, cleaner, more spacious and modern car parks is coming from the customer. It could be to the detriment of businesses if they fail to recognise the importance of this. **P.H**

*Steve Govier is MD of Bourne Parking,  
More info: [www.bourneparkingonline.com](http://www.bourneparkingonline.com)*





All photos Eric Hour

# French fanfare for a giant terminal

It has taken \$990M, 15 years of debate, strikes and construction – but the largest container terminal in North Europe is now open for business as *P&H* reports

**F**rench president Jacques Chirac may have missed the party, but it was all smiles as the port of Le Havre officially opened its giant container complex, Port 2000. Chirac was dealing with rioting in Paris in protest against his proposed new employment laws, but stand-in transport minister Dominique Perben had no such worries. There was no hint of the earlier unrest from gantry crane operators, after a late settlement with them smoothed the opening ceremony which went ahead without a hitch.

The first vessel to call at the new port was the 8,500teu *CMA CGM Tosca*, operated by CMA CGM. Le Havre has been eagerly awaiting the giant Port 2000 facility to come on stream to cope with its capacity problems. Ten years of discussions and consultations and five years of building later and the dream of the facility has come true.

Port 2000 has been built south of the current port facilities at Le Havre, in the River Seine estuary. The complex is actually a completely new port, enclosed

by a newly built 5.2km breakwater and including a new port entrance, south of the current one. Container vessels approaching Port 2000 will use the same channel as that used to enter the older port, but will change course, to the south, just before they make their approach to the new entrance.

When finally completed, Port 2000 will offer 4.2km of quay length, comprising twelve berths each of 350m. Only two of these berths, offering a total length of 700m, have so far been built.

They make up the Terminal de France (TDF), which is operated by local stevedore Générale de Manutention Portuaire (GMP) in association with CMA CGM. And the facility has been equipped with six super post-Panamax gantry cranes, provided by Chinese manufacturer ZPMC.

The second phase of Port 2000 is due to be operational in the second half of 2007 when Terminal de la Porte Océane (TPO) is opened. TPO will also offer a quay length of 700m, able to accommodate two

## Port 2000 should enable Le Havre to handle about 3M teu in 2008 – and further developments will double that by 2012 to meet capacity demands

of the largest container vessels simultaneously. The facility will be operated by Terminaux de Normandie (TN) in association with Maersk Line. A third section of Port 2000 is likely to be operated by TN/Mediterranean Shipping Company (MSC), though this has to be finalised. The official date for the carrier to take over the complex is still unclear. MSC currently concentrates all its transshipment activities at Quai de Bougainville in the older port, behind the François I lock.

Development has made draughts of 14.50m available at all tides. In the medium term, the plan is to make 17m draught available, enabling the port to accommodate 12,000teu and larger container vessels with ease. The final development phase of Port 2000 will see the construction of six further berths of 350m each. Timing for their opening will depend on how traffic grows.

Much effort has been put into the infrastructure report for Port 2000, and there are new road and railway connections. Plans are advanced to enable connections with inland waterways. Links will be made for barges to connect with the Quai de l'Europe in the inner docks, while in the longer term, a lock will be built between Port 2000 and the inner docks. This will enable barges to moor alongside container vessels at the new complex.

In 2005, Le Havre handled a total traffic of 2.1M teu. The coming on stream of the first phase of Port 2000 should help the port handle about 3M teu in 2008 – and further developments will double that by 2012. GMP alone is expected to handle about 300,000 teu in 2006 at Terminal de France, with mainly one client, CMA CGM. Although the call of the *CMA CGM Tosca* at TDF was only symbolic for the opening, GMP handled its first two ships at Port 2000, the 2,700 teu *CMA CGM Kalamata* and the *CMA CGM La Traviata*, within a week. Both ships were operated successfully, said GMP.

The dockside has been more of a headache for the potential operators and Le Havre has seen industrial unrest recently, although now there are hopes that issues have been solved. Port 2000 will use gantry cranes 'lent' from the publicly-owned port authority.

These gantry operators will be under the direct control of the private stevedoring companies running the respective terminals at Port 2000, for an initial period of three years. At the end of that time, gantry operators will have to choose to stay in the private sector or return to public service at the port authority.

Settling the status of the gantry operators at Port 2000 was a delicate issue. In France all gantry

operators are public employees and have a different status from that of the dock workers, who are now salaried employees of the private sector.

Stevedores have been pressing for reform of the gantry operators' status for some time, in a bid to bring them into the private sector. So far these initiative have been flatly rejected by unions, whose members regard this as a privatisation of their employment.

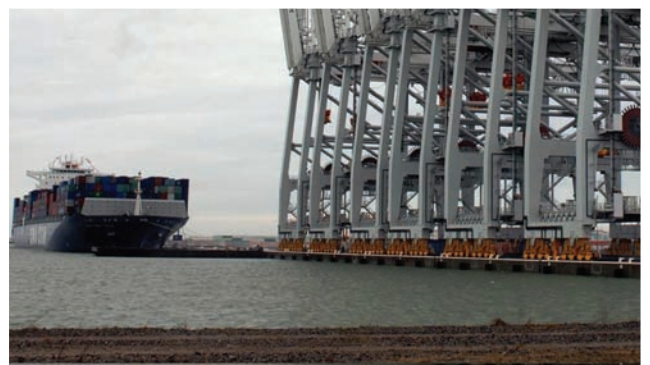
Stevedores at Le Havre warned that there would be no Port 2000 if a solution to the proposed changes to the status of the gantry operators was not found quickly. Maersk Line was even forced to postpone its arrival at the complex, fearing that this issue would not be settled in time for its installation. Finally, a last minute agreement was found just before the opening of Port 2000, to the relief of CMA CGM.

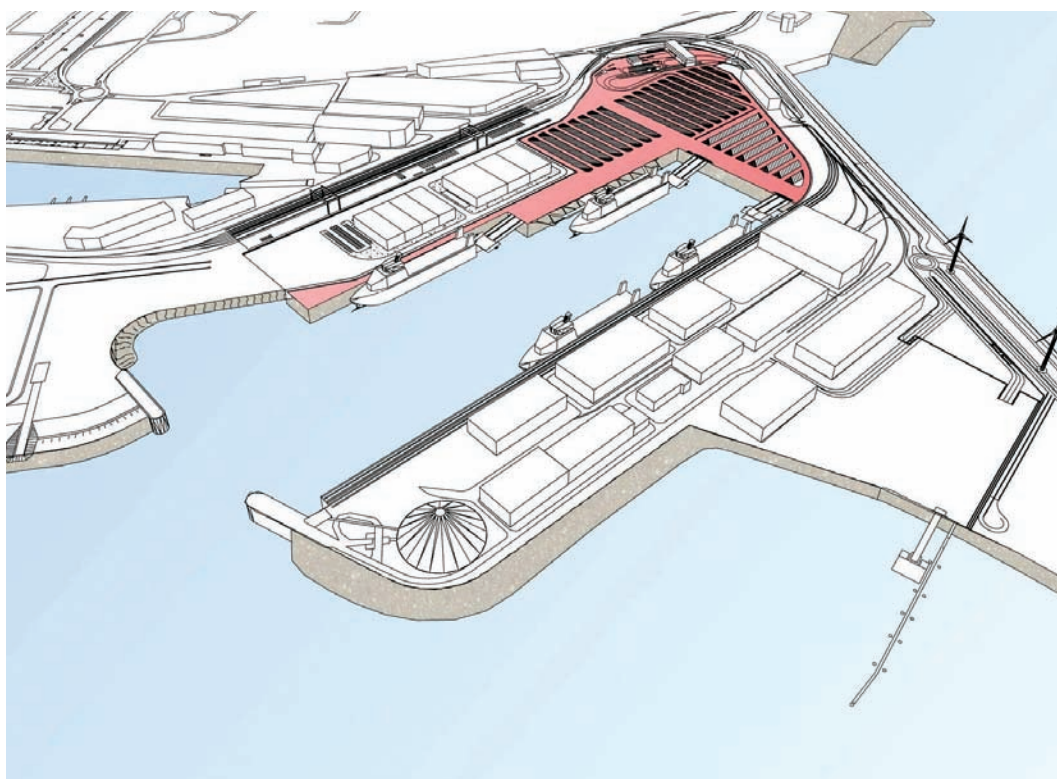
Now the spotlight moves to the far south of France, where Fos 2XL, the proposed container complex to be built at Marseille/Fos, is likely to apply the same new rule for its gantry drivers. The construction of the complex remains on the drawing board as long as no solution is found.

In its initial phase, Port 2000 has cost €800M (\$990M), a sum financed by the European Union, the French state, the Normandie region, the local department and the Port of Le Havre Authority (PAH). In addition, €46M has been earmarked for environmental initiatives, to preserve wildlife.

'With Port 2000, Le Havre is at last going to be in a position to recover its lost market share and compete more efficiently with its North European neighbours. We are targeting a 10% share of box traffic in the Le Havre/Hamburg range and hope to treble our current container throughput of about 2M teu a year by 2012,' the Port Authority said. **PH**

**Six super post Panamax cranes tower above the first ship to dock at Port 2000 – the CMA CGM Tosca**





Boulogne's new hub port is part of huge investments all along the Channel coast

# Ferry ports spend \$800M on future

Big spending ferry ports are facing up to competition with confidence, as **David Robinson** reports

Ferry ports around the world are facing strong competition from fixed links and cut price airlines. One of the first and most ambitious of these projects was the \$15Bn Channel Tunnel which provided a ground link between the UK and continental Europe for the first time since the Ice Ages.

Many passengers in Northern Europe have been attracted away from short sea routes as a result. By contrast, cargo is booming and ports are poised to spend over \$800M in a flurry of investment aimed at a robust counter to the competition they face. Dover, Calais and Boulogne have all announced investments in new facilities. Dover's plan extends over 30 years while Calais has narrowed its plans to 10 years.

The masterplan at Dover involves an investment of up to \$350.7M over the project's 30 year life. It will transform the western docks, now used for various purposes including a yacht marina, into a four-berth ferry terminal. It envisages that this will be operated by a single company.

In looking at the port's future, the Dover Harbour Board had to consider harbor and berth capacity plus landside and external road capacity. These studies have now been put out to consultation.

Of the various traffic studies, the port found the following key issues:

- Ferries – there was limited ferry manoeuvring capacity, but berth slot capacity for Dovermax ferries (up to 210m long) was adequate. The existing ferry terminal has some scope to increase capacity, but this is restricted.
- Fresh produce – growth potential, but there are capacity issues.
- Cruise – growth, but scheduling issues.
- Aggregates – relatively stable.
- Marina – steady growth.
- Other trades – such as containers, bulk and trade cars, were rejected for various reasons.

Out of these studies came the proposal to develop the western docks into a second ferry terminal with two old docks being filled in to provide support land. The new terminal would provide up to four large berths. One of these is being considered as a fast ferry berth and there would be a new marina with up to 600 berths and other waterfront developments.

Another key part of the masterplan is to develop a truck buffer zone somewhere outside the centre of Dover so that traffic flowing into the ferry terminals



Ownership of the Port of Calais is being restructured to share management between the region, the district and the Calais city area. Restructuring has to be completed before authorities will give approval for the 2015 scheme.

In Boulogne, an investment of \$24.3M in a new ro-ro berth, due for completion by June 2007, is being made by the Boulogne Chamber of Commerce

and Industry (BCCI). This is a major diversification from the traditional cross-Channel traffic as the berth will be used by a new class of fast, jet cargo carriers called BGVs – Bateau Grande Vitesse (above left).

The BGVs are stainless steel trimarans and Boulogne will be the European hub port for a network of services that will provide links to Drammen in Norway, Santander in northern Spain and Sheerness in the UK.

These trimarans will be operated by NorFerries, which is expected to acquire two C180 BGVs, each 180m long with a capacity of 94 trucks, and one C210,

can be better managed. This would also prevent the congestion which builds up when delays occur.

Once consultation is completed, one of the first tasks will be construction of the new marina, enabling the inner docks to be filled in.

Across the Channel, the Calais 2015 plan calls for a new outer port costing \$485.5M in a two-phase development. The first \$303.5M phase will include three new berths by around 2010-12, with the \$182M, two-berth second phase following. It is hoped that approval for this can be obtained over the next few months and that work will start by the end of the year.

Calais has been busy with developments in the meantime. It had just opened a new berth – No 9 – when the new plan was unveiled. The new berth, like the two opened in Dover last year, is state-of-the-art and able to accommodate the largest-sized ferries able to operate between Dover and Calais.

The berths have the latest fendering and ship guidance systems, including special suction devices which help berth the ferries in the fastest possible time. The No 9 berth cost \$48.6M and was part of a larger \$133.5M development that included a number of projects to improve the working and capacity of ferry activities.

The port management hopes that the disruption Calais experienced in 2005 is now behind it, allowing it to focus on the Calais 2015 plan which aims to provide sufficient future capacity. With the commissioning of the new No 9 berth, Calais is equipped with five large ferry berths plus others for handling fast ferries and trade cars.

“In a major diversification, Boulogne will be used by a new class of fast jet, cargo carriers”

of 210m length and with a 174 truck capacity. The BGVs will have an average service speed of 35kt. The larger BGV will operate from Boulogne to Santander with a 20-hour sailing time and the two smaller ones to Sheerness (two hours) and Drammen (20 hours). Confirmation of where the vessels are to be built is expected soon, with construction starting this summer. BGV services are scheduled to begin in 2007.

The BCCI has spearheaded the BGV development and will now use it as an investment opportunity to regenerate part of the commercial port, which has not been used since the closure of the Comilog ferro-manganese plant in 2003. This will be the location of the new ro-ro berth.

Commenting on this project, Francis Leroy, president of the BCCI said: “This is excellent news for the future development of the Port of Boulogne as the only French port to be involved in the revolutionary BGV project. We are convinced that the BGV service can attract road hauliers between the countries it will operate to and from, notably for the transport of fish, seafood and fresh produce. We also believe that this is an important way to support EU initiatives to move some freight cargo from the roads.”

At another Channel port, Folkestone, uncertainty over its future may soon come to an end. Development has been shelved since the new owner, Roger de Haan, bought the port last year. Now a new report has been commissioned from architect Norman Foster's company, Foster and Partners, to rebuild the waterfront to include a marina and ferry berth. **PH**

## Dover traffic forecasts:

### Freight traffic (vehicles)

2005	2M
2014	2.5M
2024	2.6-3.3M
2034	2.8-3.9M

### Cruise calls

2005	111
2014	140
2024	180 - 190
2034	250

### Tourist traffic (vehicles)

2005	2.7M
2024	2.9M
2034	3.1M

### Fresh produce

2005	165,000 tonnes
2034	350-400,000 tonnes

### Passengers

2005	13.3M
2034	15.5M (low)
2034	16.4M (high)

### Marine aggregates

Stable at 200,000-250,000 tonnes per year.

## Commitment to pollution improvement

The Round Table of international shipping associations has told the International Maritime Organization (IMO) of its strong commitment to the revision of atmospheric pollution standards contained in Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL).

The submission has been made by BIMCO, Intercargo, International Chamber of Shipping (ICS) and Intertanko and the International Council of Cruise Lines (ICCL).

The group expressed support for moves to reduce the sulphur content of marine fuel used globally and to set up sulphur emission control areas.

It said it was keeping an 'open mind' on possible additional measures to introduce more stringent global controls on nitrogen oxide emissions by ships and on the need to address emissions of particulate matter.

However, the Round Table warned that the task of bringing about further improvements to shipping's environmental performance was complex and urged early ratification by governments of MARPOL Annex VI.

'The IMO review could have a major impact on the safety of operations, fuel costs, engine design, and even the long term commercial viability of many ships,' the group said. It warned against adopting regulations for 'political' reasons before the new methods required by the new rules are proven.



Milestone: IMO secretary general Efthimios Mitropoulos welcomes Mexico's ratification from Juan José Bremer, UK ambassador

## New dumping protocol emerges

A new rule on dumping of waste at sea has entered into force after ratification by Mexico. The 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972, is being hailed as a major development.

The 1996 Protocol represents a major change of approach to the question of how to regulate the use of the sea as a depository for waste materials. In essence, dumping is prohibited, except for materials on an approved list. This contrasts with the 1972 Convention which permitted dumping of

wastes at sea, except for those materials on a banned list.

Mexico's UK ambassador, Juan José Bremen, deposited his country's instrument of ratification at the IMO, and was welcomed by IMO secretary general Efthimios Mitropoulos.

"Now that the requisite number of ratifications has been received, the 1996 Protocol will enter into force, thus achieving another major milestone for the marine environment. The application of the Protocol's precautionary approach will have a significant impact on the protection of the marine

environment from dumping at sea," Mitropoulos said.

One of the first key issues for discussion under the 1996 Protocol is likely to be a review of the compatibility of CO<sub>2</sub> capture and storage in sub-seabed geological structures, as part of a suite of measures to tackle the challenge of climate change and ocean acidification. In preparation for the discussion on how best to facilitate and/or regulate such activities under the Protocol (and the London Convention), a number of options and possible amendments will be developed..

## Support for salvage plan

Support for 'worthwhile' moves initiated by the International Salvage Union to introduce compensation for salvage operations which prevent damage to the environment, has come from Måns Jacobsson, director of the International Oil Pollution Compensation Funds.

He told the International Salvage Union Conference: "The present international compensation regime is fairly restrictive as regards compensation to salvors who

prevent or minimise environmental damage. There is no prospect of a revision of the 1992 Civil Liability Convention and the 1992 Fund Convention in the near future.

"However, the law is not static. It develops to take into account political and social changes. It is certain that the conventions will be revised at some point, when states consider it appropriate to do so, and the issue of compensation to salvors could be considered in that context."

## Big six in rule crack down

Six leading international shipping industry organisations have produced basic guidance for ship management and crews for the use of oily water separators.

The six, BIMCO, Intercargo, International Chamber of Shipping (ICS), International Shipping Federation, Intertanko and the Oil Companies International Marine Forum, all emphasise the importance of adhering to International Maritime Organization (IMO) rules.

Peter Hinchliffe, from the ICS, explained: "The shipping industry is committed

to a zero-tolerance approach to any non-compliance with the IMO MARPOL Convention. The purpose of our leaflet is to highlight some of the issues surrounding the proper use of oily water separators, and to remind company management and shipboard personnel how they can act to prevent MARPOL infringements."

The new guidance advises that 'every effort' must be made to ensure that no-one in shipping engages in any illegal conduct in the mistaken belief that it will benefit their employer.

## Action programme for inland waterways

The European Commission (EC) has proposed an action programme over several years – dubbed NAIADES – which is designed to encourage transport by inland waterways in Europe.

There are hopes throughout the EC that congestion, delays and harm to the environment can be mitigated if goods are switched from road to other transport modes. EC transport vice-president, Jacques Barrot, commented: "The NAIADES action plan is a contribution to Europe's

strategy for growth and employment. With a fleet of 11,000 vessels and a capacity equalling 10,000 trains, or 440,000 trucks, inland waterways can make transport in Europe more efficient, reliable and environmentally friendly. Europe cannot afford to leave that potential untapped." The action programme focuses on five strategic areas:

- Creating favourable conditions for services and attracting new markets,
- Stimulating fleet modernisation

and innovation,

- Attracting new workforce and increasing investment in human capital,
- Promoting inland waterway transport as a successful business partner through a promotional network and
- Providing an adequate inland waterway infrastructure.

The plans are expected to be implemented by 2013.

More info: [http://europa.eu.int/comm/transport/iw/index\\_en.htm](http://europa.eu.int/comm/transport/iw/index_en.htm)



The American Association of Port Authorities (AAPA) has praised the USA Senate Appropriations Committee for approving a measure to boost security funding for the country's seaports.

As part of the the Emergency Supplemental Appropriations Bill, the committee approved an amendment which would provide an additional \$648M in resources for radiation portal monitors, container inspections, port inspections and port facility security grants.

"Securing America's seaports, which are essential for the nation's economic growth, vitality and way of life, must be a top national priority," said AAPA president and CEO Kurt Nagle. "This legislation, along with pending port and cargo security legislation in the

House and Senate for future years, provides heightened focus on protecting the cargo, people and critical infrastructure of our ports that we as a nation depend on."

In total, the Senate Bill allocates \$106.5Bn in emergency funding, including \$72Bn for the global war on terror and \$27Bn for hurricane recovery efforts.

Included in the \$648M offered under the Bill is \$227M for the federal port security grant programme; \$211M for customs and border protection (CBP) to purchase 60 more cargo container inspection systems; \$23M for 50 additional port inspectors; \$23M for the US Coast Guard to triple the number of port security plan specialists; \$32M for 85 cargo container security specialists and

\$132M to place more than 300 additional radiation portal monitors in US seaports to check cargo containers carrying radioactive materials.

"Since 9/11, AAPA has recommended that the administration and Congress provide \$400M a year to help America's seaports harden their facilities against terrorism," explained Nagle.

"The \$227M included in this Bill, combined with the \$175M previously appropriated for 2006, offers the first opportunity to meet the funding level for which we've been advocating. It also promises to better ensure the security of maritime cargo, the people who work at our ports, and the communities around them."

More info: [www.aapa-ports.org](http://www.aapa-ports.org)

## No rush for European ports policy

The European Commission (EC) has indicated that there will be a long period of consultation before any new proposals on ports policy are produced.

The statement, from Fotis Karamitsos, director general of transport and energy at the EC in Brussels, followed the second defeat of the EU port services' directive. The European Sea Ports Organisation (ESPO) has changed the theme of its annual conference next month to debate the issue.

Karamitsos said that one of the challenges facing the industry is the growing concentration of container terminal operators, with the top six operators handling some 70% of Europe's trade. The EC will monitor developments to avoid abuse of dominant positions.

"Our objective is to help seaports facing these and other challenges," said Karamitsos. "This means that we need to take appropriate measures to attract investment for the modernisation and expansion of our ports. It involves facing the lack of space, avoiding congestion and developing more efficient ways in which services are provided."

He said that the EC will be raising several issues in the forthcoming debate, including completion of the internal market, fair competition, state aid, infrastructure charging, tariffs, congestion, labour schemes, pilotage and environmental constraints.

"We have no pre-fixed ideas on the measures to take", Karamitsos concluded: "We want to engage in a broad consultation exercise first." He said that the ESPO conference in Stockholm marked the start of this process and that there would be a long period of consultation putting emphasis on the requirements of port users.

ESPO chairman Giuliano Gallanti said: "There is now a clear opportunity to make progress with the development of a coherent and supportive policy framework for European seaports".

The ESPO 2006 Conference marks the 100th anniversary of the Association of the Ports of Sweden.

More info: [www.espo.be](http://www.espo.be)



BIMCO directors have reviewed and adopted a study on the practice of using criminal sanctions against seafarers. The owners' organisation has become 'greatly concerned' by the number of occasions identified by the study in which seafarers have been unfairly treated following an incident.

A co-ordination group on the protection of seafarers' rights has been set up to promote the fair treatment of seafarers and provide assistance to members whose seafarers are being unfairly treated.

BIMCO plans to present the study to the next meeting of the IMO/ILO ad hoc working group on the guidelines for the

fair treatment of seafarers.

However, on the issue of pollution BIMCO decided that it will not join the coalition that has been established to challenge the European Union directive on ship source pollution in the UK Administrative Court.

At a presentation to the shipping community BIMCO president designate Philip Embiricos (above) ruled out a confrontationist approach with regulators. "I believe it is important for shipping's image that the industry is not seen to be reactive, or adopting a wholly negative approach to matters of social or environmental concern," he said.

More info: [www.bimco.dk](http://www.bimco.dk)

## New Africa rescue centre opens

This month, Africa's latest maritime rescue co-ordination centre opens in Mombasa, the result of a project between IMO and the Kenyan government.

After its opening, IMO secretary general Efthimios Mitropoulos will move on to Dar-es-Salaam, where he plans to establish one of the two sub-centres – the other in the Seychelles – to support the Mombasa regional centre.

"The establishment of the three centres, in addition to financial support provided by the SAR Fund, will draw funds from the Tsunami Maritime Relief Fund to enhance the provision of search and rescue services in the Indian Ocean," said Mitropoulos. "This will be an important step in our efforts to implement the recommendations of the 2000 Florence Conference concerning the establishment of regional MRCCs along the African coast," he added.

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

## Slow pace of IMO criticised

Criticism of the 'slow implementation' of International Maritime Organization (IMO) procedures was raised at the International Harbour Masters' Association's 5th Congress in Malta.

John Hirst, director of the Association of Australian Ports and Maritime Authorities, voiced his concerns over how IMO addressed issues of environment and safety. His major concern, was IMO's slow speed of procedure, a move away from timely results to a practice where "show and process" seemed more important.

He cited the fast speed at which the ISPS Code was agreed and implemented as an example of the ability of the IMO to move forward at pace, rather than simply reflect and review, as seen with so many other issues.

Hailed as the largest gathering of harbour masters ever assembled, the event attracted delegates, speakers and exhibitors from more than 35 maritime nations.

Igor Ponomarev, the permanent head of the Russian delegation to the IMO and chair of the IMO's Maritime Safety Committee (MSC) offered the view that the maritime industry has been "transformed" into a safer and more secure operational environment through the workings of the IMO. The industry should be "proud" of this, he added.

Ponomarev called for all sectors of the industry to work together to effectively isolate bad sectors, particularly those with embedded practices of cost- and corner-cutting.

In reviewing the post-tsunami effect on aids to navigation, Torsten Kruuse, of the International Association of Lighthouse Authorities, highlighted the difficulties of obtaining accurate assessments of local damage.

He said that any response needed to both analyse and then prioritise the need, before initiating any concerted response.

In a totally absorbing presentation, Frank Paskewich explained how he co-ordinated the US Coast Guard response to the devastation wreaked by Hurricane Katrina to the New Orleans area and how unique lessons could be learned from the disaster to help with salvage and search and rescue operations in the future.

At a discussion of an International Harbour Masters' Association survey on mooring issues, concern was expressed about mooring and towage arrangements, both on board and ashore. Delegates considered these were 'increasingly inadequate' for handling new generation vessels, particularly very large passenger vessels and container ships.

More info: [www.ihmamalta.com](http://www.ihmamalta.com)





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Time to talk. Above, left to right: Tom Kornegay, Jon Halcon, June-Suk Choo and Wolfgang Hurtienne lead the discussion. Below, a packed hall as delegates debate

# Official welcome for delegates to first India session

India's leading government shipping official, Ashok Kumar Mohapatra, helped welcome the 150 guests at the opening of the mid-term board meeting in Mumbai – IAPH's first ever in the country. Secretary of Shipping Mohapatra, flew in from Delhi for the welcome reception.

The meeting, held last month, was hosted by Jawaharlal Nehru Port Trust, Mumbai Port Trust and the Indian Ports Association.

Some 80 IAPH members from 25 countries attended the board meeting. They had a lot of business to get through in a short time. The meeting started with technical committee sessions and was followed by the regional

board meeting. Delegates chose this as an opportunity to discuss in-house issues, such as the 2007 Houston World Ports Conference and various international topics.

June-Suk Choo, president, Busan Port Authority offered to host the 27<sup>th</sup> IAPH world ports conference in Busan in 2011, although members were reminded that bids are still open.

The board meeting was followed by a technical tour to Mumbai port, which is considering a short-list of companies wanting to participate in expansion. The tour also went to Jawaharlal Nehru port, which is planning to double capacity from about 3M teu now, to 6M teu by 2012.

At a special session held on the last day, which was open to the local port and maritime community – attracting some 150 participants – the subjects discussed included an overview of Indian ports, a user's perspective on their development and the controversial topics of institutional reform and private participation in the industry. All stirred heated debate among participants.

Finally, IAPH President Tom Kornegay, who is executive director of the Port of Houston, lead a panel discussion entitled: Port Reforms – a Global Perspective. He was joined on the top table by John Hacon, business development manager Port of Taranaki, Busan's June-Suk Choo and Wolfgang Hurtienne, head of port planning, Hamburg Port Authority.





Top, the board meeting. Above, members flew in from all over the world. Below, they were greeted with traditional dances

### New Exco members elected

The regional boards took the opportunity afforded by the meeting to elect two new Exco members, a move endorsed by the full board. Abdul Wahab Al Diwani, consultant marine affairs Abu Dhabi Seaport Authority, UAE was elected for Asia/Oceania Region and Jean-Claude Terrier, MD, Port of Dunkirk Authority, France, for Africa/Europe Region.

### Houston conference nearer

More decisions were made about the final shape of the 25th IAPH World Ports Conference, to be held in Houston next year. The overall programme, including the registration fee, proposed by the conference vice-president, Argentina James, was confirmed. The themes and speakers will be agreed and information will be sent out next month or July.

### Japanese rendezvous

The next Exco meeting was confirmed for 9-12 October at the city of Shizuoka, Japan, to be hosted by Shimizu Port Authority. The Port of Shimizu is now part of the new metropolitan area of Shizuoka. It was visited this April by *The World*, the residential cruise ship, on its first call at Japan. It is one of the best places to see Mt. Fuji!



## AMP measures – the way forward

IAPH members are working to minimise air pollution at their ports and many are considering alternative maritime power (AMP) – sometimes called cold ironing – for their facilities.

According to the managing director of the IAPH European office, Fer van de Laar: "The provision of AMP is a measure which is well worth considering when addressing air quality in ports."

However, he adds that it is "not yet possible to draw general conclusions on the subject."

He says the control of air emissions from ships will involve:

- Tougher measures for ships in Annex VI of Marpol 73/78
- Consideration of local conditions which would play an overriding role in deciding where and when to apply AMP
- The urgent need for global standards for the supply and transfer of AMP to avoid differing national or regional regimes,
- And the need to critically monitor developments.

See page 32 for more on AMP

## Call for information on VOC rules

The International Maritime Organization's Marine Environment Protection Committee (MEPC) is reminding governments to share information on national and local rules regulating volatile organic compounds emissions (VOC) from tankers in ports and terminals.

Under the provisions of Marpol Annex VI, IMO should receive this information, but only one government has complied. Governments should ensure that VOC systems are operated safely and do not delay tankers. IMO should be notified six months before VOC systems are due to come into force.

## Coming in from the cold

Delegates had what was probably the coldest IAPH meeting so far, as Riga was under snow, the River Dauvgrā was frozen and temperatures rarely rose above -6°C. However, the welcome from Freeport of Riga Authority was warm.

IAPH 2nd Vice-President, Gichiri Nduia, said he had not seen such "mountains of snow" for many years and observed that "the snow looks like sand in the desert." He praised the Freeport for taking over the meeting at short notice after the Port Administration of Sines in Portugal had been unable to hold the meeting, following management changes there.

Sines has offered to host the Europe/Africa regional meeting in February, 2007.

## Port ties to be strengthened

The meeting heard that ties were being strengthened between IAPH and the European Sea Ports Organization, following a model already developed in the USA. There, the IAPH collaborates successfully with the American Association of Port Authorities. Now the IAPH is looking for a similar links in South East Asia to strengthen its work there.

## First work placement

The IAPH programme to give candidates from African ports work experience in European ports, is going ahead. The first placement will be in Riga, it has been confirmed.

Irina Gorbatiukova, director, international affairs and administrative department for the Freeport of Riga Authority, said that the Kenya Ports Authority would send a port professional to Latvia. Originally, his arrival was scheduled for February, but it was considered too cold, so a later date was decided on! Other port placements in the region will follow soon, the meeting heard.



**A warm welcome in the cold of a Latvian winter for the Europe/Africa region meeting delegates**

## Splendid future for Latvia is outlined

Latvia's prime minister, Aigars Kalvitis, and its transport minister, Ainars Slesers, were on hand to welcome IAPH members to the Europe/Africa Regional meeting held in Riga.

In an impressive speech, Kalvitis explained how the Baltic States were the fastest growing region in the European Union with Latvia experiencing a 10% growth last year – compared to 1.7% across the region as a whole.

He said that the transport sector accounted for 16.3% of Latvia's

GDP in 2005 and was the recipient of 16.4% of investment.

"Latvia's ports handled 60M tonnes last year, the largest amount for ten years," Kalvitis told the meeting. "This was an increase of 4.5% on the previous year, and some 80% of this is transit cargoes. We expect growth to continue."

In the future Latvia plans to exploit its position as a natural crossroads between Europe and Asia. "We are only at the beginning of a splendid future," he declared.

For his part, Slesers said the

government expected the country's ports to virtually double throughput by 2013.

Rail traffic was going to be a major driver, he said, as Riga was now linked to Russia and China via the improved trans-Siberian Railway. As a result, major investments were being made in port infrastructure.

"In the future, Latvian ports will try to be this region's gateway for global trade," he said. "We know that to increase our traffic we have to increase co-operation throughout the region."

In his opening address to the meeting and welcome to the prime minister, Gichiri Nduia, IAPH 2nd vice-president, said: "We believe in trade and to trade successfully we have to have peace prevailing. The necessary tool for trade is peace."

In his welcoming address to delegates, Leonids Loginovs, CEO of the Freeport of Riga Authority, said there had been a port in Riga for 900 years. "There are great changes happening here," he said. "The port is working in a very dynamic environment, both economic and human."



**Clockwise from above left: Irina Gorbatiukova greets Gichiri Nduia and Dr Inoue. The meeting makes the TV news with Ainars Slesers. Leonids Loginovs (l) first greets Prime Minister Aigars Kalvitis. Loginovs is interviewed for Latvian TV**

# Ports & Harbors Reader Survey Results

As you recall, a readers questionnaire was included in *P&H* January, 2006 issue and we have had a good response. Thanks to all who took the time to return the survey. All comments at any time are always welcome. Remember, it's your magazine and contributions for editorial in any section are always welcome. Contact [ph@iaphworldports.org](mailto:ph@iaphworldports.org).

## QUESTIONNAIRES

Questionnaires were disseminated by Ports & Harbors January 2006 issue and the following Online Newsletters:

No. 99, January 5,

No. 100, January 19

No. 101, February 2

No. 102, February 16

And e-mail to IAPH Officers / EXCO members / IAPH Coordinators on March 13.

## RESPONSES

39 responses as of April 18, 2006

### 1. How many people read your copy of P&H?

Four or more	76.3%
One	10.5%
Two	7.9%
Three	5.3%

### 2. How long does it take to read P&H?

10-30 min	36.8%
30-60 min	31.6%
More than 60 min	18.4%
Less than 10 min	13.2%

### 3. What section do you read first in P&H? (multiple answers)

News	34.2%
Features	18.4%
Maritime Update	13.2%
IAPH Info	13.2%
Open Forum	10.5%
Cover Story	5.3%
Comment	2.6%
Other	2.6%

### 4. Please rate P&H

	Average 7.8	Highest 10 x 6	Lowest 2 x 1	Majority 8 x 16
Accuracy				
Clarity	8.0	10 x 7	3 x 2	8 x 13
Relevance	7.5	10 x 6	3 x 1	8 x 10
Informativeness	7.7	10 x 5	2 x 1	8 x 13
Usefulness	7.4	10 x 5	3 x 1	9 x 9
Balance	7.1	10 x 3	2 x 1	9 x 8
Design	7.9	10 x 9	1 x 1	9 x 13

### 5. What topics do you like to read? (multiple answers)

Safety & Security	25
Environment Management	27
Dredging	10
Port Development	34
Cargo Handling & Terminal Operation	24
Logistics & Supply Chain	18
Port Community IT Systems	17
Personnel Training	12
Shipping	21
Port-related Issues at the UN	16
Other	8

### 6. Please name three commercial maritime magazines, ranked 1st to 3rd

Cargo Systems	11	Bulk	1
Containerization International	5	Cargo	1
Ports & Harbors	4	Hazardous Cargo Bulletin	1
Lloyd's List	3	Lloyd's Ship Manager	1
Port Strategy	3	Maritime Digest	1
Port Technology International	3	P&DI	1
Fairplay	3	Safety at Sea	1
Container Management	2	Scandinavian Shipping Guide	1
World Port Development	2	SeaTrade Cruise Review	1
SeaTrade	2	Seaways	1
Journal of Commerce	2	Traffic World	1

### 7. Any other comment on P&H?

■ *P&H* is the sole guide for the IAPH member ports to keep updated about the latest developments in the maritime sector. Once a quarter, a *P&H* special should be released with exclusive coverage on the disciplines as at Q5. This would be helpful to the port officials to keep updated about developments and to share their experiences and would also act as a useful reference document. It would also be worthwhile considering releasing an annual compendium on port statistics and other related maritime issues.

■ There is not that much about African or African-related ports. There are not many articles or technical information written by Africans.

■ Keep up the good work.

■ It would be helpful and useful if you put statistics of world ports periodically, and regional news, which is interesting to me, so I can know regional movements at a glance.

■ Too small a font. Old wine in new bottle. It still retains the flavour of an association or club journal rather than being a valuable info update source which it should be. One should look up *P&H* as the domain of info and not as a leaflet of collated prints.

■ I personally prefer the design of *P&H* before the renewal on March 2005. Current design and editorial policy look quite similar to commercial magazines.

■ Good publication and good writing.

■ More news in relation to IAPH member ports development and personnel. Please give priority on IAPH-related news and world ports development and projects.

■ More relevant update information about the world top ten ports.

■ Very useful.

■ I would like to see a letters from members section.



## Membership Notes

The IAPH welcomes the following new members

### Regular Member

#### General Direction of Ports

Address: Nuevo Leon 210 210 Floor 15,  
Hipodromo Condesa, 06100, D.F. MEXICO  
Telephone: +52 55 5574 2702  
Fax: +52 55 5265 3138  
E-mail: agrul@sct.gob.mx  
Website: <http://www.sct.gob.mx>  
Representative: Angel Gonzalez Rul Alvidrez,  
general director

#### Shanghai Municipal Port Administration Bureau

Address: 13 Zhongshan Road (E.1) Shanghai  
200002, CHINA  
Telephone: +86 21 63290077  
Fax: +86 21 63235686  
E-mail:  
Website: <http://www.shanghaiport.gov.cn>  
Representative: Xu Peixing, director general

### Associate Member

#### Pakistan International Container Terminal Limited (PICT)

Address: Business Plaza, Second Floor, Mumtaz  
Hassan Road, Karachi-74000, PAKISTAN  
Telephone: +92 21 2417933/2400450/2855701  
Fax: +92 21 2400281/2414492  
E-mail: [info@pict.com.pk](mailto:info@pict.com.pk)  
Website: <http://www.pict.com.pk>  
Representative: Haleem A. Siddiqui, chairman  
Nature of Business: Container terminal operator

## President Kornegay visits the Secretariat

IAPH President Thomas Kornegay, accompanied by conference vice-president, Argentina James, visited Tokyo on their way to Mumbai in April for a meeting with Secretary General Dr Inoue.

On the agenda were last minute issues relating to the Mid-term Board Meeting in Mumbai and the proposed programme for the World Ports Conference, to be held in Houston in 2007.

It was President Kornegay's first visit to Japan during the cherry blossom season.

**Meeting at cherry blossom time, from left to right: Dr Inoue, Shellie Stocks of International Meeting Managers, President Tom Kornegay and Argentina James**

## Future challenges –

An appeal for the cargo handling and logistics technology industries to work collectively with ports to meet the challenges of the future was made by IAPH Secretary General Dr Satoshi Inoue when he spoke to the 28th ICHCA International Conference in Singapore.

"Let us work together and take up the innovative challenges faced by us in the future for the generations to come," he said in the conference's keynote speech.

He added that in 10 years time, the world's ports need to more than double container handling capacity if they are to play a central role in the global logistics system.

The problems facing ports included: finding enough space to develop, the need to expand with sufficient speed and to introduce economies of scope, rather than scale.

"Serious space problems are already arising at some major ports and even those having no problems at present are quite likely to face this issue in the near future," he continued. "Therefore, we need to aggressively develop

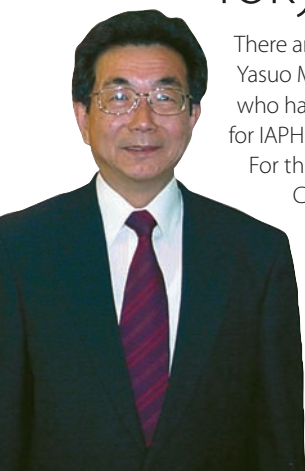
innovative approaches and systems to devise a new model – the 'space-efficient port'. This concept will need to be applied not only to brand new terminals, but also to the redevelopment of existing terminals."

Dr Inoue said existing terminal operations will have to improve productivity. The Pasir Panjang Terminal, at the Port of Singapore, has made a start towards this with automation of cargo handling. Another approach has been taken by the Ceres Paragon Terminal, at the Port of Amsterdam. There, vessels can be worked both sides of the dock.

"To speed up turn-around of ships and cargo flow at ports, we definitely require more integrated and efficient systems with access to all transport modes," he continued. "The development of inland ports, or dry ports, will also help to make sea ports more space efficient."

If a port had space for expansion, it should move ahead with the project as quickly as possible, Dr

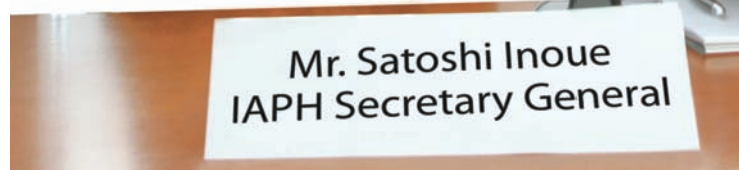
## New arrival as Miura joins Tokyo Secretariat



There are changes at the IAPH Secretariat, with the arrival of Yasuo Miura, under secretary for financial and general affairs, who has joined us to replace Tadao Katoh. Mr Katoh worked for IAPH since April 2001 and retired at the end of March.

For the last 35 years, Mr Miura worked for the Asahi Kasei Corporation, a leading Japanese chemistry and materials science company. His career in marketing and business administration for the fibres and textiles business included an overseas assignment in Belgium.

IAPH Secretary General Dr Satoshi Inoue thanked Mr Katoh for his dedicated service and, on behalf of all friends and colleagues, wished him "good health and a fruitful retirement." He also asked members to give a warm welcome to Mr Miura.





## new dimensions

Inoue argued. Hurdles to quick expansion, however, include the need to satisfy the numerous environmental standards – and requirements are getting more onerous for ports.

"Unless you develop a 'clean and green port', your new project and even existing terminals might be stalled," he warned.

Finally, he advocates embracing economies of scope, rather than scale, to meet the diversifying needs of port customers. "Ports will need to

create added value to goods in global supply chains," he told the conference.

"Logistics hub centres, with versatile capabilities such as high-speed sorting and automated storage, need to be developed at ports. Integrated computer systems must be equipped to support all the activities and services of the port industry.

"Needless to say, any logistics services must come together with high levels of security. The security of the entire logistics chain, and not just that at ports and terminals, is far more critical today than ever before. The importance of the availability of multi-modal links to hinterlands cannot be overstated."

And he concluded: "To cope with increasing world trade, ports should expand their capacity, not by blindly repeating traditional concepts and modules, but by introducing innovative approaches and systems."



## Dates for your diary

Major maritime congresses throughout the world

### JUNE

**1-2:** ESPO Conference 2006 – Stockholm, Sweden.  
[www.espo.be](http://www.espo.be)

**6-7:** The 4th Asean Ports & Shipping Exhibition & Conference – Kuala Lumpur, Malaysia.  
[www.transportevents.com](http://www.transportevents.com)

**6-9:** Posidonia 2006 – Athens, Greece.  
[www.posidonia-events.com](http://www.posidonia-events.com)

**13-14:** Air & Port Security – Hong Kong.  
[apsasia-pr@ntlworld.com](mailto:apsasia-pr@ntlworld.com)

**13-15:** Seawork – Southampton, UK.  
[www.seawork.com](http://www.seawork.com)

**19-20:** Asia/East Coast Maritime Conference – Norfolk, Virginia USA.  
[www.joc.com/conferences](http://www.joc.com/conferences)

**25-28:** WEDA XXVI, 'Dredging Creates a Strong Economy' – San Diego, California, USA.  
[www.westerndredging.org](http://www.westerndredging.org)

**27-28:** Port & Terminal Technology – Oakland, USA.  
[www.millenniumconferences.com](http://www.millenniumconferences.com)

### SEPTEMBER

**4-5:** Asia Maritime & Logistics Conference & Exhibition 2006 – Kuala Lumpur, Malaysia.  
[balan@portsworld.com](mailto:balan@portsworld.com)

**10-15:** American Association of Ports Authorities Annual Convention – New Orleans, USA.  
[www.aapa-ports.org](http://www.aapa-ports.org)

**14-15:** Southern Asia Ports, Logistics & Shipping 2006 – Mumbai, India.  
[www.transportevents.com](http://www.transportevents.com)

**19-20:** CSR in Shipping – London, UK.  
[www.proactivelogistics.com](http://www.proactivelogistics.com)

**19-20:** US Maritime Security Expo – New York, USA.  
[www.maritimesecurityexpo.com](http://www.maritimesecurityexpo.com)

**26-29:** Shipbuilding Machinery & Marine Technology (SMM) – Hamburg, Germany.  
[www.smm2006.com](http://www.smm2006.com)

### OCTOBER

**9-12:** IAPH EXCO Meeting – Shizuoka, Japan  
[www.iaphworldports.org](http://www.iaphworldports.org)

**17-18:** Port & Terminal Technology – Rotterdam, Holland.  
[www.millenniumconferences.com](http://www.millenniumconferences.com)

**24-26:** TOC2006 Americas – Acapulco, Mexico.  
[www.toc-events.co](http://www.toc-events.co)



# Investigating the future of container trades

Susumu Naruse, from Japan's MLIT and chairman of IAPH's Port Planning and Development Committee, explains the Association's quest for the answer to the question – just how fast will container demand increase in the future?

Container transport is always the core discussion these days because of its rapid development and strategic importance when considering port management and development. We face, however, many uncertainties on container trade issues, including: will the size of container ships continue to grow in future? If so, how big will container ships of the future be? Will there be changes to the 'hub and spoke' structure of container transport?

These are only some examples of the matters that the port industry has to seriously scrutinize. Among the many questions, however, the most fundamental point may be: what will be future container demand?

The Port Planning and Development Committee is now tackling this issue. As it is beyond our scope and ability to make predictions on our own, we are collecting global container forecast examples to help us review the industry.

To date we have obtained three examples – one of these has two forecast cases, so in reality we have four projected figures – each of which reveals a slightly different result.

The bottom line is that global container transport will continue to grow, but we want to try to assess at what speed this will happen. We also feel that the developing markets, such as Asia and Latin America, will see much more growth than those of the mature markets, such as Western Europe and the USA.

Depending on the models used and the assumptions made, these four studies

of global container transport differ in the annual growth rates they predict. The lowest is showing a 5.4% growth and the highest a 9.7% increase per annum.

In two, they coincide to show a growth rate of 6.7% per annum, which is almost equivalent to a doubling of trade within ten years. It may even turn out to be a modest assumption to say at this stage that the global container trade can be expected to more or less double in the next ten years.

The committee is now trying to increase the number of global forecasts we examine. Moreover, we will augment forecast examples to include those on a regional basis, such as forecasts for Asia, Europe and the Americas. By collecting and reviewing various forecast examples, we will try to identify the most likely scenarios for future container demand.

I am sure it will be of a great help to get this kind of a bird's eye view on global container transport as it will help IAPH member ports consider the container demand for their individual facilities.

I would like to ask members to help committee members with their task by providing us with any information they may have. Such assistance would be much appreciated!

成瀬 進

“The bottom line is that global container transport will continue to grow, but we want to try to assess at what speed”

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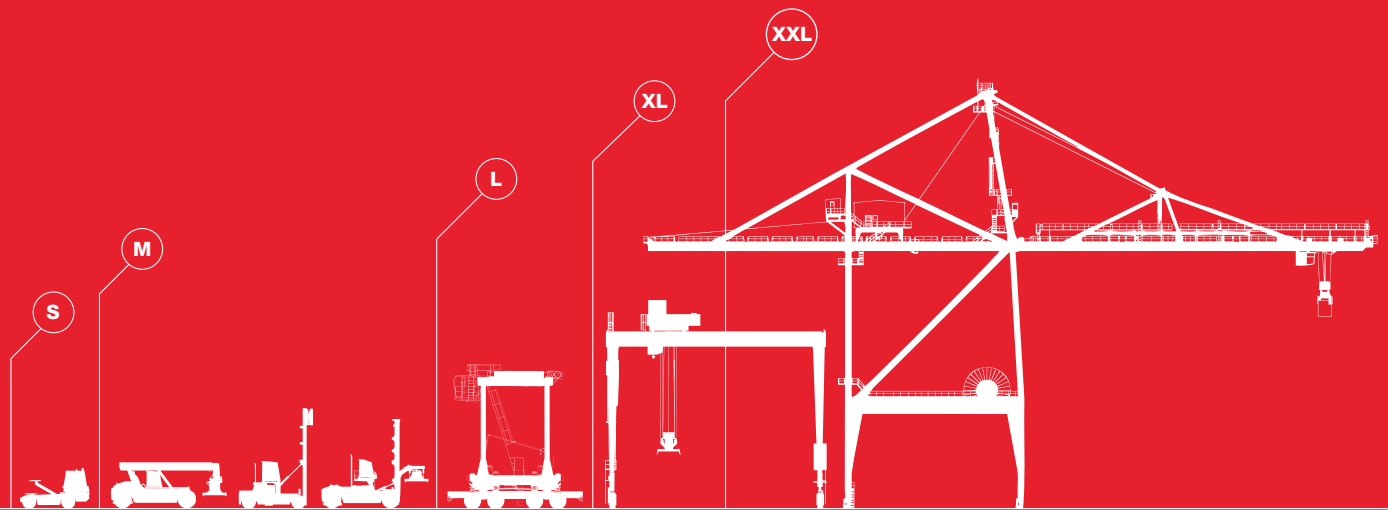


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