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Panama hats stacked high. The Panama Canal expansion has forced ports in Chile and Peru to cater to larger vessels amidst a backdrop of increased throughput

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PORTS & HARBORS

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Trading futures

Protectionism could prove counterproductive to the uptick in trade that started in 2018



Susumu Naruse

Secretary General – The International Association of Ports and Harbors



The trade war that has escalated between the world's two biggest economies, the US and China, has led to a hike in tariffs. The US has slapped tariffs on USD200 billion of Chinese imports and China responded by imposing tariffs on USD60 billion-worth of US goods. The US is also in trade disputes with Canada, Mexico, and the European Union. I fear that escalating trade disputes could derail recovery, reshape global maritime trade patterns, and dampen the future course.

UNCTAD's *Review of Maritime Transport 2018*, published at the beginning of October, states that global seaborne trade expanded by 4% in 2017, the fastest growth in five years, with container trade having increased by 6.4% and dry bulk by 4.0%. It predicts a volume increase of 4% in 2018, and a 3.8% compound annual growth rate between 2018 and 2023.

It also pointed out, however, that “while the prospects for seaborne trade are bright, downside risks such as increased inward-looking policies and the rise of trade protectionism

“I hope other new trends will offset the negative impact of protectionism”

are weighing on the outlook.” I hope other new trends such as digitalisation, e-commerce, and the Belt and Road initiative will offset these negative impacts.

The opportunities for digitalisation in the shipping and port industry include autonomous ships and drones. We don't know yet whether the autonomous ship

concept will be fully accepted by the public, as they are mindful of safety issues. IAPH's Port Development and Planning Committee has created a project on 'Autonomous driving – requirements to port infrastructure'. We hope this will generate much discussion when presented at the IAPH Guangzhou Conference next year.

When autonomously driven ships and port vehicles get regulatory approval, they will greatly contribute to solving issues such as port labour shortages, performance, and safety.

In September, IAPH had a very successful regional meeting in Africa, organised by the Nigerian Ports Authority. It was the first IAPH meeting dedicated to IAPH affairs held in Africa since the IAPH World Ports Conference in Durban in 2003. In November, a meeting for the Asia, South/West, East, Middle East region will take place in Kobe, Japan, alongside the Asia Ports Business Forum in November. All members in the region are encouraged to attend. I hope that every IAPH region will hold its own regional meeting before the Guangzhou Conference. PH

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Port updates

▶ MANDALAY MODERNISES

Japan International Cooperation Agency has allotted a JPY6,033 million (USD53 million) grant for modernisation of the river port of Mandalay in Myanmar.

The port, which is currently a centre for domestic cargo transport despite having no cargo-handling equipment, will cover an area from the Amarapura and Mahaangmyay townships to the banks of the Ayeyawady River. Scope of development includes a 180 m jetty with a container yard, warehousing, and offices, as well as cargo-handling machinery and a 100 m approach road.



▶ LAVNA CONCESSION

The Russian government has signed a concession agreement whereby Sea Commercial Port Lavna will build a coal terminal and supporting rail infrastructure at Lavna, in Kola Bay, near Murmansk.

The first phase involves construction of buildings, facilities, and 6 million tonnes of handling capacity by the end of 2020. The second phase will add bulk handling equipment and will bring capacity up to 18 million tonnes/year. The facility will act partly as a transshipment hub for dry bulk cargoes heading to Europe.

▶ ANAKLIA ACCESS

Work has begun to improve access for larger vessels at Georgia's Anaklia Deep Sea Port, on the eastern coast of the Black Sea. More than 5 million m³ of sand will be removed from the access channel and harbor area and a new vertical drainage system will be installed.

By the end of 2020, the new port should be operational, allowing 10,000 teu vessels to moor alongside for the first time anywhere in Georgia.



Panama's MIT will face increased competition

Overcapacity felt by Caribbean ports

Port terminals competing to attract shipowners in the Caribbean Basin are about to see competition intensify as more capacity comes online in the form of APM Terminals' new facility in Moín, Costa Rica.

APM Terminals' Latin America regional media relations manager, Freddy Serrano, told *P&H* sister-publication *Fairplay* that the first of three phases would begin operation in February 2019 with six ship-to-shore cranes, 29 rubber-tyre gantry cranes, 2,500 reefer plugs, a 14.5 m draught, and 1.5 million/year in capacity.

Moín is a domestic facility with a heavy focus on the nation's fruit exports, not a transshipment facility. "Moín Container Terminal [MCT] will handle more domestic cargo than transshipment cargo," Serrano said. However, regional executives have long expressed concern about the medium and long term [and] transshipment business will be added.

Michael Kristiansen, president of consultancy CK Americas, believes Moín's domestic business could have a negative effect on

regional transshipment. "Simply because it will be able to take bigger ships, it may favour direct shipments over transshipment [to and from Costa Rica] from elsewhere. The same thing happened on the Pacific side at Port Quetzal in Guatemala, where you now have Asian and European services coming in directly because of the 14 m draught."

Asked about this possibility, Serrano said Costa Rica currently had almost 12,000 container moves per week and the terminal is expected to boost trade by 23%. He said Moín's direct business could supplant Caribbean transshipment "only if shipping lines berth at MCT with bigger vessels".

A second major APM Terminals project in the region is the Compas Cartagena Terminal Operator facility in Colombia. In 2015, APM Terminals purchased a 51% stake in the multipurpose terminal, with local partner Compas retaining 49%. The facility has an initial capacity of 250,000 teu/year and a USD200 million expansion plan has been announced.

Beyond the two APM

Terminals projects, capacity is being added by Chinese interests in Panama. A new transshipment project, Panama Colón Container Port, which has been under construction since last year, is being developed by Shandong Landbridge Group and partners, with piers designed by Port Design Institute, based in Beijing, China. Including all phases, capacity would be 2.5 million teu/year.

Even more capacity is being built elsewhere in the Caribbean. In the Dominican Republic, DP World Caucedo is moving ahead with a long-discussed expansion. In an interview, DP World Caucedo CEO Morten Johansen confirmed, "We are adding 400 m of mainliner berth, which is already dredged to 17 m, bringing the total to 1 km of mainliner berth. We have already ordered three additional cranes, which will be delivered at the end of 2019, and we will start [operations at the new berth] in early 2020. Capacity would go from 1.4 million [teu/year currently] to about 2 million."

Capacity is also rising at CMA CGM-operated Kingston Freeport Terminal in Kingston, Jamaica. The first 600 m of new berth at its South Terminal was completed in February and it can now accommodate ships of up to 14,000 teu. The remaining two 300 m sections were scheduled to be completed by the end of this year. *Fairplay* was previously told that the work would increase the terminal's capacity from 2.1 million teu/year to 3.2 million teu/year.

On top of all these capacity additions, there is more space now available at Hutchison's Freeport Container Port (FCP) in the Bahamas. Its facilities were devastated by Hurricane Matthew in 2016, but it has since been rebuilt to its pre-hurricane capacity, bringing three new super-post-Panamax cranes online in July.

Singapore explores maritime 3D printing

The Maritime and Port Authority of Singapore (MPA) recently signed two memoranda of understanding to explore maritime applications for 3D printing technology, also known as additive manufacturing (AM). "As a leading maritime hub, Singapore firmly believes the maritime industry should embrace new technologies such as AM," MPA CEO Andrew Tan said. "The digitalisation of the maritime sector in all its aspects is not a matter of how, but when."

The first agreement was with port operator PSA Corporation, the National Additive Innovation Cluster (NAMIC), and local 3D printing firm 3D MetalForge to establish the world's first on-site AM production for port applications.

The AM rapid production facility will be at Pasir Panjang Terminal, where PSA is testing port technologies for current and future terminals. It will have state-of-the-art printers capable of producing AM parts for port equipment and will use a specialised maritime digital cloud supported by blockchain technology for more secure file transfers.

Singapore's port operations will eventually move to Tuas mega port, scheduled to come online in 2040. This will double the country's handling capacity to 65 million teu. The AM facility's location also leverages PSA's parts supplier base and facility operations to support just-in-time inventory. The move towards digitised inventories reduces the need to hold

excess stock, thus lowering storage costs while shortening turnaround time from weeks to days.

Highlighting the role of 3D printing in industry transformation, Ong Kim Pong, regional CEO for southeast Asia for PSA International, said, "Within our maritime sector, we foresee widespread adoption. I am heartened that PSA, alongside MPA, NAMIC, and 3D MetalForge, can be pioneers of this technology for use in our industry. Co-creating innovations including digitising inventories will create opportunities to raise maritime productivity to the next level."

The second memorandum of understanding was signed with NAMIC and the Singapore Shipping Association to collaborate on an AM joint industry programme for marine parts. The programme focuses on establishing the commercial viability, technical feasibility, and regulatory compliance of the use of AM technology for marine parts.

This collaboration will strengthen Singapore's role as a hub for ship supplies and provide the maritime industry with clarity on the challenges, opportunities, and potential test cases for deploying AM for marine parts, the groups said in a joint statement.

"Digitalisation with on-demand manufacturing will continue to accelerate," Ho Chaw Sing, NAMIC's managing director, said, adding that the collaboration leveraged Singapore's ecosystem for robotics and blockchain technology.

Port updates

► IRISH INTENTIONS

The Irish government is making plans to upgrade and improve physical infrastructure at ports in advance of the UK's planned departure from the EU in March 2019. Ministers are reported to be considering hiring more customs officers and veterinary inspectors in addition to the possible upgrade of IT systems at the country's ports.

The government has reportedly already allocated a share of the 2019 budget for the improvements, although spending plans may change in response to the deal arranged by the UK prime minister, Theresa May, with EU representatives – particularly if Britain leaves the single market without an agreement in place.



► POLLUTER PAYS

The Meissner report on port reception facilities has been adopted by the Transport Committee of the European Parliament and work is under way to finalise the text of the new law.

An aspect that gained favour from a number of ports was the effort to strengthen the 'polluter pays' principle by doing away with the fixed fee for waste disposal. The use of a fixed fee arguably gave a financial incentive to vessels to build up large quantities of garbage by skipping disposal at some port calls and transfer the disposal costs to receiving ports.

The parliament also opted to make rebates mandatory for green management of waste on board ships, which the European Sea Ports Organisation feels disempowers the individual ports.

Gunsan port to expand grain terminal

South Korean logistics firm Sunkwang is to expand its grain terminal in Gunsan port in anticipation of an increase in grain volumes. The expansion of the third and fourth silos at the facility was scheduled to start in November and to be completed by the end of 2019 at a total cost of about KRW51.55 billion (USD45 million).

When completed, the terminal will see storage capacity increase from 500,000 to 645,000 tonnes, as the third and fourth silos' capacities rise to 85,000 tonnes and 60,000 tonnes, respectively.

Sunkwang said the expansion was to meet rising demand for grain storage, in tandem with growing grain imports. Originally built with two silos in 1999, the



Sunkwang adds grain storage

terminal caters to Supramax bulk carriers. Located in North Jeolla province, Gunsan is the hub of the western coast of South Korea and handles a significant volume of exports to China.

South Korea imports about 12 million tonnes of coarse grains annually – a significant rise from less than half a million

tonnes in early 1970s. Producing a very small amount of grain domestically, South Korea has been one of the largest markets for US coarse grains.

The US Department of Agriculture said in April that with expected increases in swine and poultry inventories, South Korea's maize imports were forecast to increase to 10.3 million tonnes for the 2018/19 marketing year, up 400,000 tonnes year on year.

Four million tonnes of these maize imports are expected to come from the United States, consisting of 8 million tonnes for compound feed and 2.3 million tonnes for food processing. In addition, South Korea's wheat imports for 2018/19 are forecast at 4.6 million tonnes.

Port updates

▶ FIJI FINANCE

Fiji Ports Terminal has given its 434 employees a total FJD450,000 (USD210,000) performance-based bonus payout in recognition of their efforts. The port, which is operated through a public-private partnership with Sri Lankan port specialist Aitken Spence, used a new performance management system that maps individual key performance indicators to determine an employee's allocation of the payout. It hopes the system will incentivise workers to work harder and participate in strategic developments, including the complete automation of the port by the end of 2018.

▶ TWIN TESTING

Singapore is using artificial intelligence (AI) to test its upcoming Tuas mega port, a multibillion-dollar project that will open progressively from 2021. When fully operational in 2040, it will double Singapore's handling capacity to 65 million teu. The authorities are developing a 'digital twin' of the facility to help researchers evaluate different layout designs and concepts and how they affect the efficiency of port operations, as well as potential disruption to operations by natural disasters and extreme weather events.



▶ INDONESIAN INVESTMENT

Indonesian ports have benefited from CMA CGM's decision to bypass Singapore on its direct liner services to the Asia Pacific and connect Indonesia directly with the US, Europe, and Australia. Following the country's investment of USD50 billion in ports, CMA CGM set up three direct shipments out of Jakarta's Tanjung Priok port.

US ports viewed as offshore wind hubs

America's Water Infrastructure Act of 2018, the first major infrastructure bill to pass the US Congress in two years, could benefit certain US ports as it contains a plan to identify at least three that have the potential to develop into major hubs for offshore wind projects.

The bill authorised USD3.7 billion in federal funds for 12 federal port dredging and flood protection projects and passed the Senate on 10 October with near unanimous support.

In addition to allocating more federal money for the Georgia Port Authority's Savannah Harbor Expansion Project, as well as easing the ability to dredge the Delaware River for the expansion of Port of Wilmington, the bill contains a less heralded section, entitled 'Study on innovative ports for offshore wind development', which could initiate more lucrative and longer-term benefits for ports that qualify.

Beginning within a year of the bill being signed into law, the secretary of the army is to conduct a study of the Mid-Atlantic, Gulf coast, west coast,

Great Lakes, and New England regions "to identify no less than three suitable federally authorised ports and harbors in those regions that could become innovative ports for offshore wind development", according to the bill's text.

The legislation further defines those qualifications to include any port that could accommodate the assembly of the majority of an offshore wind facility, including the foundation, tower, turbine, blade, and electrical components.

Qualifying ports should have an assembly area, an overhead clearance for the assembly of offshore wind turbines with a capacity of up to 20 MW each, a heavy-lift quay, and more than 10 ha of port storage.

"It's the first time I've seen Congress try to have a say in port-related infrastructure for offshore wind farms," Joan Bondareff, a lawyer specialising in offshore wind development with law firm Blank Rome, told *P&H* sister publication *Fairplay*. "I'll be looking forward to the results of the study."

There is currently just one operational offshore wind

project in the United States, a 30 MW, five-turbine facility located approximately 5 km southeast of Block Island, part of the state of Rhode Island, in the Atlantic Ocean. Developed by Deepwater Wind, the Block Island wind farm became operational in December 2016 after taking two years to build.

Deepwater Wind, which has been planning offshore wind projects to serve multiple east coast markets, recently entered an equity agreement with Denmark-based Orsted, the world's largest offshore wind developer, whereby Orsted will purchase a 100% equity stake in the company for USD510 million.

Orsted plans to build two 6 MW wind turbines for phase one of Dominion Energy's Coastal Virginia Offshore Wind demonstration project, 43 km off the coast of Virginia Beach, Virginia. A preliminary agreement gives Orsted exclusive rights to discuss potential development of up to 2 GW of offshore wind capacity in the state.

The Norfolk-Hampton Roads port region, overseen by the Virginia Port Authority (VPA), is the closest port area to the project site. VPA is anxious to take advantage of the offshore wind market and further develop its ports to accommodate it.

"Port of Virginia is well positioned to establish itself as a location that meets the criteria for innovation needed for the emerging US offshore wind industry's success," John Reinhart, VPA's chief executive officer and executive director, said.

He said VPA's Portsmouth Marine Terminal and Newport News Marine Terminal both had the potential as staging and storage sites to handle large components used to build offshore wind turbines. Both are served by deep water, each has the necessary lift capacity and ample, secure space for upright assembly and storage, he noted.



VPA sees its Portsmouth Marine Terminal as a potential offshore wind hub

VPA-822890



PHOTO: AP/WIDEWORLD

Port of Los Angeles says tariffs have put 22% of its container volume at risk

Ports hurt by tariff dispute

US ports are bracing for more cargo fallout as the trade war continues between the United States and China, with both countries ratcheting up levies on each other's imports.

The battle got particularly heated in September, when the US released a list of another USD200 billion worth of Chinese imports subject to tariffs of 10% from 24 September and increasing to 25% on 1 January 2019. China retaliated the next day with tariffs of 5–10% affecting USD60 billion of goods originating in the United States, effective from 24 September.

The American Association of Port Authorities (AAPA) asserts that the ongoing retaliation in kind between the two countries has put the USD4.6 trillion/year in estimated economic activity generated by US seaports at risk.

"The impact of expanding tariffs on cargo and equipment moving through American ports is already proving to be significant," said AAPA president and CEO Kurt Nagle. "Including the additional [USD200 billion] just imposed, the total Section 301 tariffs on Chinese commodities and China's response in retaliation responses

covers about 10% of all trade that moves through America's ports by value, which is concerning."

For all the worry from US port officials, they acknowledge that the most recent tariffs could have been even worse. After listening to industry concerns during a week of testimony in August, White House-agency US Trade Representative (USTR) removed 297 of the original 6,031 products subject to the latest tariffs, including ship-to-shore gantry cranes – equipment in which Chinese manufacturers specialise, and cost USD12–15 million each.

US container ports, including Los Angeles, New York-New Jersey, Norfolk, Seattle-Tacoma, Philadelphia, and Wilmington, North Carolina, all testified to the agency about the millions of dollars of added costs the tariffs would have placed on planned purchases of new gantry cranes as they look to take on larger post-Panamax container ships.

Despite the crane exemption, the effect on cargo moving across the docks will continue to be a significant concern, according to the US-based National Retail Federation (NRF), the world's largest trade association representing household goods and specialty stores.

Kiel expands vehicle logistics offerings

Port of Kiel has begun a EUR7.25 million (USD8.7 million) project at its Ostfuhafen freight and logistics terminal to free 2.8 ha of port area for logistics use.

The announcement follows a EUR7.5 million investment in a new passenger and baggage handling centre at the German port's Ostseekai cruise terminal.

The new logistics area will be used for cars, trucks and trailers, supporting ferry company DFDS, which operates ro-ro and lo-lo services between Kiel and the Baltic States, west Sweden, and Russia.

Contractor Bodo Freimuth group will undertake the project, which involves the demolition of three warehouses formerly used as grain storage facilities before their acquisition by the port in 2016.

The 13,000 m² space created by the demolition

will be integrated with surrounding areas to create the 2.8 ha of hard-standing port area.

The operation is complex and includes sweeping the area for unexploded Second World War ordnance – a real possibility in an area that was heavily bombed during the war – as well as dousing the structures with water to prevent large clouds of dust being stirred up during their demolition. Clearing the warehouses and their concrete foundations is due to be completed in November 2018. The concrete will be processed on-site and eventually reused.

Dirk Claus, managing director of Port of Kiel, said, "The new access area will mean we can optimise logistics, accommodate the needs of forwarders for more space, and handle more cruise shipping passengers."

Port updates

► BLOCKCHAIN PARTNERS

Abu Dhabi Ports subsidiary Maqta Gateway and the Belgian port of Antwerp will jointly implement an international blockchain pilot testing project. The Silsal project, which is considered to be the first blockchain-based solution to be developed locally in Abu Dhabi, aims to provide full cargo visibility and streamline trade flows and supply chains using the electronic ledger system. The pilot project will test the capabilities of the technology to exchange, identify, and acknowledge cargo documents and certificates between the two ports.

► BPA DEPARTURE

The chief executive of the UK's Port of Milford Haven, Alec Don, is stepping down from his position and as chairman of the British Ports Association. Don has been with the port for eight years. BPA deputy chairman Martin Lawlor, CEO of Port of Blyth, will become interim chair.

► AAPA HEAD RETIRES

Kurt Nagle, president and CEO of the American Association of Port Authorities (AAPA), is retiring after 33 years with the organisation. He started in 1984 as membership services director, following seven years at the National Coal Association and Coal Exporters Association.

► STOCKHOLM NUMBERS UP

Ports of Stockholm has seen freighted goods transported via Nynäshamn during the first eight months of 2018 increase by 15% and freight volumes to and from Poland rise by 60%. In the same period, ro-ro freight grew by 5%. "The largest increases were at ports located outside the heart of Stockholm, in line with the strategy to concentrate passenger services in the city's central ports and move freighted goods to peripheral ports," the port said.

Essential but often overlooked
– ports must be aware of their
obligations to seafarers



Danny Cornelissen: 674684

Standing up for seafarers' welfare

Katie Higginbottom, head of the ITF Seafarers' Trust, explains how ports can be proactive in improving the wellbeing of crew

As actors in the global logistics chain, shipping and ports have a responsibility to the people who crew ships and keep trade moving. They are a vital but often invisible workforce that are all too easy to overlook.

Responsibility falls to all ports at an individual level to recognise the importance of seafarer welfare and provide the right kind of access to essential supplies and services and contact with their families.

The main issues facing today's seafarers are lack of time and access to shore leave. It is now rare for seafarers to have several days

in a port. Instead, fast turnarounds make relaxation incompatible with time spent in port. More inspections and paperwork eat into berth time, leaving little or no time for rest. Fatigue is a big issue in some trades.

For some time now, we have also been concerned about the impact of heightened security on seafarers and this has been compounded by sensitivities in some parts of the world about migration. Sadly, in some ports, seafarers of certain nationalities are banned from leaving the ship and companies tend to take precautionary positions that do not always

prioritise the wellbeing of those individuals.

The level of support available varies from port to port. There are many excellent centres with a long tradition of supporting seafarers' welfare. That said, there needs to be a will to co-ordinate between port authorities, welfare providers, and seafarers' unions to ensure that services are properly resourced and well-placed to meet the needs of foreign crew.

When seafarers are allowed access to shore, there is a great deal that ports can do to help them maximise this time. If they do not already have them, ports can establish port



Responsibility falls to all ports at an individual level to recognise the importance of seafarer welfare

Katie Higginbottom

Head of the ITF Seafarers' Trust



ITF Seafarers' Trust: 509038

welfare committees to better organise the provision for seafarers and supply a forum for the various agencies that come into contact with ship crews. They can establish port levies to fund decent facilities and ensure that seafarers are not isolated.

Where ports are far from towns, they can facilitate cheap transport and, most fundamentally, they must give permission to all seafarers to come ashore. The International Seafarers' Welfare and Assistance Network (ISWAN) runs an excellent International Port Welfare Partnership programme that provides information and guidance for stakeholders interested in starting up welfare committees in their ports.

Access to reliable Wi-Fi is another area that surveys have highlighted as essential to seafarer welfare. To help ports and others with an interest in seafarer welfare provide such facilities, the International Transport Workers' Federation (ITF) Seafarers' Trust is piloting the

Portable Communications Pod project.

The pods are built from converted standard 20-foot containers and are kitted out with five in-built tablets, a TV screen, charging points, and seating. They can connect to the internet either directly through a broadband router or through Wi-Fi and can be powered entirely by solar panels, although it is possible to connect to the grid if solar energy is insufficient.

One of the five pods has been shipped to Singapore to be displayed during the ITF's 44th international congress. The rest are awaiting confirmation of their final destinations. We are in discussion with unions and welfare providers in a number of countries to identify where there is the greatest need combined with local support and a secure location.

Although there has been a lot of interest in the pods, the logistics and permissions are providing us with an interesting learning curve.

Rollout of the pods is in its initial phase. As part of the project review, we will be

monitoring how the pods are meeting the needs of seafarers and seeking to ensure the long-term sustainability of the services. This is especially important in ports that currently lack a developed infrastructure for foreign seafarers visiting their shores.

The ITF Seafarers' Trust looks forward to continuing its work with port authorities to facilitate seafarers' shore time and to offer access to friends and family through the modern technology that we on shore take for granted. **PH**

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More info: *The International Transport Workers' Federation Seafarers' Trust supports the provision of services to maritime workers, invests in long-term programmes that improve seafarers' and their families' health and wellbeing, and acts as a catalyst for positive change in the maritime community.*



Getty Images: 5093987

Trade will find a way

Penny Thomas talks to IAPH's managing director-policy and strategy Patrick Verhoeven and the International Chamber of Shipping's new secretary-general Guy Platten about carbon cuts, technology, and the importance of trade to a sustainable future

At the Baltic Exchange in London on 21 September, the first roundtable for eight port-related representatives to the International Maritime Organization (IMO) took place (see p36). The idea to form this group came from Patrick Verhoeven, IAPH's managing director-policy and strategy, who wants to make the voice of ports more prominent within the IMO.

The group felt that before it started presenting its viewpoints, it should seek the perspectives of those in the shipping industry so that together they could present a more aligned approach between shipping and ports. For this reason, Guy Platten was invited to join the first roundtable in his capacity as secretary-general of the International Chamber of Shipping (ICS), which represents the shipping industry at international organisations, including the IMO. He joined the ICS in August, having previously been secretary-general of the UK Chamber of Shipping.

What became clear when speaking with Platten and Verhoeven is that, although their organisations' members are driven by different needs, goals, and incentives, when it comes to basic values they have a lot in common. As Platten said, we are all a "part of the same supply chain".

He considered the ambitious targets that the IMO has set for CO₂ reduction – 50% by 2050 compared with 2008 levels – and the 0.5% sulphur cap, which will

start in 2020, and said that it is very difficult to predict how the shipping and port landscapes will be affected. Ports, he said, will play a major part in the low-sulphur, and eventually low- or no-carbon, fuel rollout, adding that CO₂ reduction will drive significant changes over the next 10 years, some of which will be "unintended consequences. We can't even imagine what they are going to be".

To face these changes, Platten sees value in ships and ports working together in a more integrated way. "To me, everything seems a bit standalone and very siloed. How can we all work more efficiently together to deliver?" he asked. To reduce emissions within the industry, "ports will need to invest in their facilities, as will shipping companies investing in their own sets of assets", he said.

Technology and automation will play their part and help streamline a number of processes, he said. "It seems almost archaic that we still operate in a system where ships sail at whatever speed to get to port, declare themselves ready to go to berth, and then sit at anchor, sometimes for a number of days, until a berth is available," he added. "Surely there's a way now, with technology and the way we all work together, to optimise this process, so that ships sail at the right speed they need to get to the port when the berth is available. We would get a more efficient logistics chain that way."



He added that using assets as efficiently as possible would be a win-win situation for everyone, plus it would result in greater environmental benefits.

Verhoeven agreed. However, he is optimistic that this challenge is now starting to be addressed through the Port Call Optimization International Taskforce that was established in 2014. Initiated by a number of leading world ports and shipping companies, including Maersk Line and Port of Rotterdam, and endorsed by IAPH's World Ports Sustainability Program (WPSP), the taskforce is focused on three key areas: simplification, unification, and standardisation (see p23). The taskforce wants to see standardised master and event data used to maximise port calls and has reached a consensus on a data model. It wants to "get a conversation going between shipping and ports so that there's a platform between the two and to get them working together", Verhoeven said, adding that there seems to be momentum between participating parties in the taskforce to get this done.

Data and data-sharing is a common thread when discussing the challenges associated with automation and digitisation. It is proving to be the case with the updated version of the Facilitation of International Maritime Traffic Convention, which calls for the electronic exchange of information. Platten and Verhoeven took the view that, in principle, it is a great idea and would help to reduce the administrative burden, which is an issue that currently plagues ships' officers at sea.

Platten said, "The idea that you don't have to do tasks multiple times – what's not to love about that? But how it actually works in practice, I think, is the challenge here. The devil is in the detail." Verhoeven picked up on that point. "It would appear to be simple, but you know it isn't" he said. Legislation and laws surrounding data protection vary between countries and trying to find a common ground is one of the sticking points for a maritime single window. Verhoeven considered the case in Europe, where "they are struggling to create a maritime single window, and in that region they operate under the same legislation".

It is an issue that the IMO can only support so far. Verhoeven noted that on the single-window debate, it can make recommendations but it cannot impose legislation. He also sees the views from both sides. Both shipping and ports have invested in their own specific systems, "and they want to retain that infrastructure", he said. "What is missing is a good interface that both sides can access and that shouldn't really be too difficult to achieve. It's not a technological conundrum," he emphasised. "It's a procedural one."

It is ironic that efforts from the industry to break down barriers and create smoother trade flows is being played out against a backdrop of growing protectionism. This is of concern to Platten, who noted that when it comes to one of the 17 sustainable development goals identified by the UN – no poverty – the best way out of poverty is trade. This has been proven by numerous studies, he said. "What worries me is seeing trade wars or trade barriers



Guy Platten from ICS (right) and Patrick Verhoeven from IAPH at the first IMO ports roundtable at the Baltic Exchange

Penny Thomas/IPS Market 5093042

What worries me is seeing trade wars or trade barriers going up, as this is an impediment to trade. Trade is vital

Guy Platten, *secretary-general, International Chamber of Shipping*

going up, as this is an impediment to trade. Trade is vital. If you want to be sustainable, then at the heart of it is trading with each other. And then optimising how you move that trade, that's a secondary issue but you need that trade start with."

Verhoeven agreed, but pointed to initiatives such as China's Belt and Road that run counter to the protectionist movement. "We see at the same time two developments. We see one creating restrictions, but at the same time, another is creating new opportunities. Trade is a bit like water, you know. It runs where it's easiest. It may well have an impact on shipping routes, and the competitive position of ports may shift. But history has shown us that trade will shift its routes. The Atlantic trade used to dominate and now it's Asia."

Verhoeven and Platten are striving for outcomes at the IMO that work for the members they represent, and this is one of the main reasons why Verhoeven initiated the ports roundtable. Platten explained that the ICS "tries to strive for what we call proportionate regulation that allow shipping companies to thrive and to move forward and not hold them back, while recognising the wider impact of what they do".

Verhoeven and Platten are clear that the alliances between ports and shipping have never been more relevant and may well prove to be the lynchpin that helps the industry navigate a sea of uncertainties. **PH**

Expansion brings rewards for Panama's neighbours

Two and a half years on since the expanded Panama Canal opened, **Michele Labrut** considers the impact on ports in Chile and Peru

Ports on the west coast of South America are beginning to see the benefits of the Panama Canal expansion through growth in cargo volumes. It has won trade from the Suez Canal, with the Panama Canal administrator citing cost savings: the higher cost of fuel associated with the upcoming global low-sulphur rule can be reduced by taking the shorter route through the Panama Canal.

The new-Panamax vessels now arriving in Chile as a result of the canal widening have forced ports

to adapt their terminals and operations in order to welcome them, and many have embarked on expansion projects in the past three years.

The Chilean port of San Antonio Terminal International (STI) was in 2011 the first to pass the 1 million teu mark and has continued to grow volumes ever since. While overall cargo volumes in 2017 were slightly below those registered the year before, container cargo increased from 1,207,465 teu in 2016 to 1,074,983 teu in 2017.



“The Panama Canal is very important for South American west coast shipping”

Raimundo Alegría, *general manager, Intermar*

Overcapacity in the region of Valparaiso, which includes the second-largest metropolitan area in Chile and where STI is situated, has brought strong competition among ports but despite this, “we have been able to maintain 45% of the market share”, said STI general manager José Iribarren, who expects to see similar figures in 2018 to those of 2017 – possibly more, after the addition of new services.

The alliances established by major liner operators have concentrated their cargo on new-Panamax vessels – the largest that can transit the Panama Canal, with a length of 366 m, width of 49 m, and draught of 15.2 m. As a result, many services have been modified

and others added. Two new services between the Far East and west coast of South America have been introduced: COSCO Shipping's WSA (South America west coast) 3, and CMA CGM's WSA 4.

According to Raimundo Alegría, general manager of Chilean shipbroker Intermar, “The Panama Canal is a very important artery for South American west coast shipping, as [almost] all cargoes going to the US/Caribbean and Europe use the facility. The same goes for container services. Chile is the fourth-largest user of the canal and, if we combine its volumes with those of Peru and Ecuador, that bloc would be one of the largest users,” he said.

At Port of Valparaiso, 90 km north of the Chilean city of San Antonio, Terminal Pacifico Sur (TPS) Valparaiso terminal saw cargo volumes of 1,061,671 teu in 2017, up from 866,789 teu the previous year.

It was the first time TPS passed the 1 million teu mark in just over 11 months and port officials expect volumes for 2018 to be close to 1 million. TPS has, like other ports in the region, seen liner services relocate and change.

TPS-Valparaiso's main front quay has been extended

Port of Valparaiso has seen liners services relocating and changing

Stock/Getty Images/5093877





Peru’s container cargo nationwide increased by 9.4% in 2017 to 2.5 million teu, up from 2.3 million teu the year before. Foreign trade maintained steady growth over the past year, reflected in the increase in unloaded containers, 8.2% up at a record 975,070 teu. Containers shipped exceeded 981,706 teu, 7.4% more than in 2016.

Both DPW Callao and APMT Callao are expanding their container yards to accommodate more cargo.

DP World is becoming more involved in Peru. In March this year, along with Andino Investment Holding, it paid USD315.7 million to buy logistics agency Cosmos Agencia Marítima (CAM). The deal also brought with it a 100% share in Triton Transports and Neptunia and a 50% stake in Terminales Portuarios Euroandinos at the port of Paita, the second-largest container terminal in Peru. Cosmos Agencia Marítima is one of the largest logistics companies in Latin America.

“We are delighted to add Cosmos Agencia Marítima to our Americas region interests,” said DP World group chairman and CEO, HE Sultan Ahmed Bin Sulayem, in a statement. DP World Peru has also opened the first smart logistics centre in Lurín, near the capital, Lima. The centre is based on the group’s successful DP World Caucedo model in Punta Caucedo in the Dominican Republic. Bin Sulayem commented, “Latin America is a very important market for us and this move adds value for our customers in the region with logistics services to our existing container terminal in Callao and inland container terminal in Lurin.

“The [Cosmos] acquisition underlines the confidence we have in Peru and the potential of its economy. As leaders of global trade, we believe the logistics sector in the country has great potential.”

Panama continues to be the largest terminal complex on the west coast of South America, moving 6.89 million teu in 2017, up 10.1% on 2016, but cargo movement fell during the first half of 2018 by 3.1% to 3.30 million teu.

Since PSA Panama’s expansion, including an 800 m quay wall and an increase in handling capacity from 450,000 to 2 million teu, MSC has moved from Balboa at the east end of the canal to PSA Panama on the west coast, which offers more windows to its customers.

The construction of a 2 million teu container terminal on the Atlantic side, by Chinese company Panama Colon Container Terminal is seen by its neighbours – SSA’s Manzanillo International Terminal (MIT), Evergreen’s Colon Container Terminal (CCT), and Cristobal, administered by Hutchison’s Panama Ports – as a prelude to a future war on prices since there is already overcapacity in Panamanian terminals. Those new developments have been the death sentence of Port of Corozal, a project of the Panama Canal Authority.

However, Quijano expects the frequency of container ship transits to increase as carriers seek the shorter route to mitigate rising fuel costs driven by the International Maritime Organization low-sulphur emissions regulation that comes into effect in 2020. **PH**

Latin America is a very important market for us and this move adds value for our customers in the region

Sultan Ahmed Bin Sulayem, DP World chairman and CEO

by 120m, including 740m of straight quay, in order to attend to two post-Panamax vessels simultaneously.

The effects of bigger ships have been felt in Peru as well. The country moved 3.4 % more containers in the first half of 2018 than in the same period in 2017, with Container Terminal South Zone at Port of Callao leading, with 603,001 teu. During this period, container movements at Callao grew to 1.2 million teu. This was mainly due to the increase in the number of containers shipped (494,561 teu) and unloaded (490,084 teu), which represented a growth of 2.8% and 7.8%. Among the main terminals involved in the movement of containers, Container Terminal South Zone, managed by DP World Callao (DPWC), led volumes with 603,001 teu.

It was followed by North Terminal Multipurpose del Callao, managed by APM Terminals Callao (APMTC). The terminal handled 501,868 teu in the first half of 2018. These two heavyweights strode ahead of other terminals at Callao.

Competition is on to capture growth

An expanding middle class and an increase in containerised bulk cargoes have driven APM Terminals' decision to invest in Latin America, writes **Michele Labrut**

APM Terminals' Lazaro Cardenas terminal in Mexico

APM Terminals' interests in Latin America are substantial: 10 terminals in Mexico, Guatemala, Colombia, Peru, Argentina, Brazil, and, by the end of 2018, Costa Rica. It also operates a "large inland services business in Chile, Peru, Argentina, Brazil, Mexico, and Costa Rica", said Mogens Wolf Larsen, head of its Latin America operation.

Larsen sees it as an interesting market, with growth coming from "a combination of a number of new entrants, interest from governments in upgrading and expanding existing facilities, and private promoters looking to position their projects as best as possible.

"Most of Latin America continues to grow fast and will do so for years," he maintained. "Container volumes will be driven by increased local consumption as the middle classes expand, as well as more exports of commodities and containerisation of cargo previously moved in bulk. Clearly, some markets, such as Buenos Aires and Pacific Mexico, have overcapacity. In other markets, it is a more short-term capacity excess. The other side of the coin is that very few markets have too little [port] capacity at this time.

"Typically, we look for countries where there is an opportunity to provide a unique value proposition, as we are doing in Puerto Quetzal [where APMT opened a new terminal in 2017] on the Pacific coast

of Guatemala. Here, we've opened up for direct calls from Asia with much larger vessels, thereby lowering the unit costs for local exporters and importers."

The terminal had been administered by the government for some time. It was opened in May 2017 and is "already at full capacity", said Larsen. "We would like to put in additional equipment and increase investment ... but we need a legal and permanent status and long-term stability."

Commenting on the overall rise in competition in Latin American ports, he explained, "First, the consolidation of shipping lines into a few alliances has increased competition among terminal operators. Whereas, in the past, there were maybe 6 to 10 different services you could tender for in any port, now it may be one, two, or three consortiums – and if you don't get them, then you've lost a big chunk of your business.

"Another issue is that the consortiums deploy fewer and larger ships, so the call sizes are bigger. A couple of weekly calls may provide all the volumes to the terminal and it makes it more difficult to plan the yard and the gangs working the cranes, and expedite a continual flow in and out of the gate."

In addition, some countries have traditionally bet on transshipment. But with bigger ships and expanded terminals, transshipment could suffer. Larsen noted that "many countries want to be logistics hubs and invest in transshipment capacity, but if the geography does not offer a unique advantage, a neighbouring country can do exactly the same. At the same time, most new ports are built with a deepwater draught and large cranes so, even though they are built to serve gateway cargo, they can compete on transshipment."

Asked if APM Terminals was looking at new developments in the region, he responded, "If we need something in Latin America, it needs to have scale."

But are there prospects for a new terminal in Corozal, on Panama's Pacific coast, considering the existing nearby capacity at Balboa and PSA Panama? "Good question," he responded. "APM Terminals is not active in this market but, as a global port operator, we have and will continue to follow the developments closely." **PH**



The Jones Act bottleneck

P&H considers how the Jones Act has been used in the relief programme in Puerto Rico following Hurricane Maria

The 2018 hurricane season so far has been a devastating time for the United States. At the time of writing, the known death toll for hurricanes Florence and Michael stood at 51 and 32, respectively, and thousands of homes and businesses had been left in ruins. But this destruction pales in comparison with the effects of category 5 Hurricane Maria, which made landfall in Loíza, Puerto Rico, on 19 September 2017, levelling much of the island.

According to the latest estimates, Maria claimed the lives of 2,975 people and the damage left “zero communication, zero energy, zero highway access”, according to the island’s governor, Ricardo Rosselló, as well as left thousands of people without access to drinking water, food, and medical care. Some 300,000 Puerto Ricans have emigrated to the mainland in the months since the disaster.

In response to the crisis, the United States called on its merchant fleet operators – Crowley, Tote, and others – to carry vital supplies, including medicines, food, and drinking water, from the mainland to the island. But in the year since, the incident has become a political hot potato, with many comparing the US approach to Maria with its response to hurricanes Harvey and Irma, which struck the mainland.

While critics cite the relatively small number of relief personnel and generators supplied to the island, the US president, Donald Trump, has defended his administration’s response to the crisis with the allegation that the official death toll was artificially inflated as a part of a plot against him, arguing that “Puerto Rico was, actually, our toughest one of all because it’s an island. You can’t truck things on to it. Everything is by boat.”

This fixes the spotlight on a key defining feature of the US maritime industry: the almost-century-old piece of legislation known as the Jones Act. It decrees that vessels carrying freight from and to the US must be built in its own shipyards and crewed by its citizens. Critics of the act argue that it vastly inflates the cost of trading in the US and its territories since it imposes a ban on the use of more cheaply built foreign-flagged vessels with inexpensive foreign crews.

Enacted in 1920, the Jones Act was initially intended to create a standing reserve of cargo vessels that would trade normally during peacetime but be requisitioned and used in the event of a conflict. These vessels and their crews would supply the US Navy and keep vital trades such as food and medicine available, while taking on associated risks. Having a home fleet of merchant vessels also guarantees that shipyards, which the US

government considers critical to national security, remain open for business, since the act mandates that vessels must be built in the US. But, few experts said that productivity at US yards is poor, with vessel construction sometimes measured in years instead of months.

In the months following Hurricane Maria, the main criticism levelled at the Jones Act from all quarters was that it ultimately limited the available pool of vessels that could carry vital supplies to Puerto Rico in its hour of need. In an apparent acknowledgement of this, the Jones Act was repealed for a 10-day period, after eight members of Congress issued a joint letter petitioning Elaine Duke, secretary of the US Department of Homeland Security, to suspend the legislation and allow foreign tonnage to be made available to carry cargoes from the mainland to the stricken island. However, after the 10-day repeal was over, the government elected not to renew it.

In September, news reports showed more than 10,000 containers, loaded with supplies, including food, drinking water, and medicines, sitting idle at the port of San Juan, not because of shortcomings in the freight capacity of the Jones Act fleet, but because of Puerto Rico's inability to deal with the supplies once they had arrived. With broken infrastructure, widespread fuel shortages, and telecommunications blockages making only 20% of the island's truck drivers contactable, aid was not getting to where it was needed.

A spokesperson for the federal Maritime Administration (Marad) told *P&H*, "The Jones Act does not prohibit foreign vessels from transporting supplies to Puerto Rico. In fact, nearly two-thirds of the vessels calling on Puerto Rico are foreign flag and nearly all the fuel transported to Puerto Rico is delivered aboard foreign-flag vessels. US-flagged vessels delivered a mountain of containers;

critical supplies – food, medicine, water, and fuel – at the port that could not be moved to local communities due to damaged inland infrastructure."

In August 2017, Retired US Navy Rear Admiral Mark Buzby, sworn in as head of Marad, defended the Jones Act, citing its critical importance for national security. Speaking at the International Workboat Show in December, Buzby condemned what he described as a "barrage of false narratives and uninformed reporting", claiming that "the vital contribution of US-flagged Jones Act shipping was obliterated by false accusations in the media of delaying the flow of relief supplies".

Various scientific studies point to an increase in ocean temperatures imparting large volumes of additional energy to hurricanes, adding to their frequency and ferocity. According to the study *Hurricane Harvey Links to Ocean Heat Content and Climate Change Adaptation*, published in May 2018, human-induced climate change "continues to warm the oceans ... [so] the resulting environment, including higher ocean heat content and sea surface temperatures, invigorates tropical cyclones to make them more intense, bigger, and longer lasting and greatly increases their flooding rains".

There may well be lessons to learn in Puerto Rico about emergency response procedures in the aftermath of events such as Hurricane Maria. However, some may say that it could also be time to review the workings of the Jones Act during times of emergency, and that more than 10 days of repeal is needed following a storm of such severity. But at a more fundamental level, the way the Merchant Marine Act of 1920 – the proper name of the Jones Act – has been administered recently, it is not necessarily fit for purpose in the way Senator Wesley Jones originally intended. **PH**

In the wake of the storm. The Jones Act was repealed for 10 days after Maria hit Puerto Rico



Good vibrations

Excessive port noise can damage local communities and marine life, and there are indications that it is getting worse. Effective noise monitoring and management and investment in sound-dampening technologies, however, can bring peace without hindering prosperity, **Stephen Cousins** reports

Excessive or annoying sound has become a significant environmental issue for many port authorities as noisy ship engines, the clatter of ramps, containers, and port equipment, and the constant rumble of trucks on tarmac irritate local residents and affect the lives of underwater mammals.

Noise pollution is not new, but it has soared up the environmental agenda at the European Sea Ports Organisation (ESPO) from ninth place in 2009 to third place today. The DCMR Environmental Protection Agency for the greater Port of Rotterdam area received 2,760 citizen complaints about noise in 2017, with 908 about low- and high-frequency noise and the rest described as 'roaring' or 'throbbing' sounds.

"There is a definite rise in complaints regarding noise from moored ships," said Rob Witte, senior consultant for industry, traffic, and environment at DGMR, who has advised the ports of Amsterdam and Rotterdam on noise management. "The problem is a few ships make a large amount of noise, which 'triggers' people, so they feel compelled to complain when they hear noise."

Moored ships typically generate electricity using onboard auxiliary engines and the power of these engines has escalated. For example, the mighty container ship *Emma Maersk* has a 21 MW engine and the world's third-largest cruise ship, *Allure of the Seas*, has a 98 MW engine. Funnel noise, which can have very loud and low frequencies, can travel through the windows of nearby houses. Calculations of yearly average noise levels around Port of Amsterdam have shown that ships are now the main contributing noise source in the port area. Ports today have evolved into highly significant logistic nodes at which the functions of cargo handling, warehousing, and modal transfer take place, and this introduces a broader spectrum of potential sources of noise.

A spokesperson for Ports of Auckland in New Zealand told *P&H*, "Our peak noise incidents are caused by bangs and crashes during some bulk cargo operations and generator noise, mainly from container ships. We also get complaints about noise from trucks travelling to and from the port, particularly engine braking."

According to Witte, container gantry cranes are becoming noisier owing to the increasing size of box ships. The arms extend further and must therefore run at higher speeds to achieve the same levels of productivity.

The International Maritime Organization (IMO) and Environmental Ship Index (ESI) set no limits on noise pollution from ships, but shoreside, noise guidelines and regulations are well established for ports and terminals.

Ports in Europe must comply with the Environmental Noise Directive, introduced in 2002 to gauge levels of human exposure to environmental noise and prevent and reduce it where necessary. The directive specifies that industrial port areas near large agglomerations must be included in noise maps.

In response to the directive, the Noise Management in European Ports (NoMEPorts) project was set up to develop and demonstrate a structured approach to mapping and managing noise in seaport areas. It was successfully applied to six ports: Amsterdam, Livorno, Hamburg, Copenhagen, Civitavecchia, and Valencia.

NoMEPorts' published guidance and noise-mapping based on its principles is now commonplace in the Netherlands, where it is used to identify the cumulative effect of noise and measures required to limit it. "Noise maps in Holland look at the total effect of companies and their impact on surrounding areas. Every company that wants to set up operations in a port is told what it can do to address noise issue and is required to stay within set noise limits," said Witte.

Efforts to understand and mitigate port noise continue today under various schemes and initiatives. The Noise Exploration Program to Understand Noise Emitted by Seagoing ships (NEPTUNES) project was launched early

2018 by a joint industry group involving the ports of Rotterdam, Hamburg, Helsinki, Stockholm, Vancouver, and Cork, certifiers DNV and ESI, and the umbrella organisations IMO, IAPH, and ESPO. It is being promoted through the World Ports Sustainability Program (WPSP) (see box for list of participating ports). The project is examining ship noise at participating ports and aims to produce a uniform worldwide-applicable standard to measure, analyse, evaluate, and classify individual ships in terms of their airborne noise emissions in ports. Other outputs from the initiative will include guidelines for labelling a vessel based on noise and a best-practice guide for noise pollution and noise hindrance reduction measures, including 'noise awareness' methods.

Expanding knowledge of the sources of noise and advances in dockside and container-handling technology have enhanced ports' ability to anticipate and prevent potential issues. Port of Amsterdam recently converted all vehicle-reversing alarms to an alternating white-noise sound designed to reduce disturbance outside the port. Port of Cork is planning to instal screens to contain noise from shore-based operations. Many large container-handling firms are switching to hybrid and fully electric automated guided vehicles (AGVs) with much lower decibel outputs.

In the UK, ABP has been investing in lower-noise, higher-efficiency equipment, including several Mantsinen's cranes for its shortsea and south Wales ports. "In Southampton, we invested in a fleet of electric vehicles for our portside operations on the basis of their low-noise benefits, as well as the other environmental advantages," said Alan Tinline, ABP head of environment. "Minimising noise is a primary concern when we are

Underwater-radiated noise from commercial ships may have negative consequences on marine life



designing operations and procuring equipment. From the outset, noise management is part of all our risk assessments when we plan work and operations, even when we are looking to undertake construction or decommissioning work.”

Ports of Auckland has made various changes to the way it operates in response to community concerns. Audible alarms on cranes and straddle carriers have had their volumes reduced to eliminate nuisance and vessels known to be noisy are now berthed with the funnels facing away from residential areas. The port is working with the trucking community to monitor and modify driver behaviour in the area around the port to minimise negative effects on neighbours. Recent noise management initiatives at the port have concentrated on the development of standard operating procedures for specific high-noise-risk activities such as scrap-steel loading. Its spokesperson told *P&H*, “The aim is to identify appropriate control measures, including physical barriers and hours of operation. The port is also becoming more proactive in providing updated information to the neighbouring community on port activities.”

Onshore power connections eliminate the need for vessels to run loud auxiliary generators at berth and Auckland is investigating the potential for such facilities at the container terminal. However, Witte said that onshore power was not a cure-all solution for noise. “Studies have shown that using onshore power for cruise ships resulted in little noise reduction compared with regular ships. Although the noise from auxiliary engines was eliminated, noise generated by air conditioners and ventilation systems was just as loud.”

Studies have shown that underwater-radiated noise from commercial ships may have short- and long-term negative consequences on marine life, especially underwater mammals. Sound propagates four times faster in water than in air and the low absorption rate of water means sound, especially low-frequency sound, can travel hundreds of kilometers in open sea. In 2014, the IMO approved guidelines on reducing underwater noise from commercial shipping that focus on the primary sources of underwater noise: propellers, hull form, and onboard machinery.

Recently, at its 72nd session in April 2018, the Marine Environment Protection Committee noted a number of submissions and the need for further research to

better understand the impact of underwater noise from shipping. Dredging activities have been identified as a major source of anthropogenic noise and the World Dredging Association has submitted technical guidance on underwater sound emitted by dredgers to the London Convention and Protocol Scientific Groups.

Canada has recently shown how financial incentives for shipping can encourage vessel owners to quieten their operations to protect marine life. Vancouver Fraser Port Authority has added incentive criteria to its existing EcoAction programme (originally set up to reduce greenhouse-gas emissions from ships) that include harbor rate discounts for quieter ships. It is believed to be the first scheme of its type in the world.

The programme applies only to cargo and cruise vessels calling at Port of Vancouver and covers three quiet-vessel classifications and three propeller technologies that are shown to reduce cavitation.

Orla Robinson, programme manager for the ECHO Program at Vancouver Fraser Port Authority told *P&H*, “In total, 65 vessel visits have received underwater noise incentives through the EcoAction programme since the underwater noise reduction incentives were introduced in January 2017. We are encouraged by the results and look forward to seeing more shipping companies add underwater noise quieting technologies to their fleets in the future.”

Vancouver’s Enhancing Cetacean Habitat and Observation (ECHO) programme studies the relationship between slower ship speeds, underwater noise levels, and the effects on endangered southern resident killer whales in one of their key feeding areas. Whales use sound to locate prey and ships’ noise can interfere with their ability to do so. In 2017, operators of cargo ships transiting a 30km corridor in the Haro Strait were asked to navigate over listening stations (hydrophones) and reduce their speed to 11 kt when it was safe to do so. Results from the trial demonstrated that reducing vessel speeds can measurably reduce underwater noise in nearby habitats, benefiting the behaviour and feeding success of killer whales.

The slowdown has been extended into 2018 and a second trial, in the Strait of Juan de Fuca, known as a voluntary lateral displacement trial, is also under way to determine whether moving vessels further away reduces noise in key killer-whale foraging areas.

As ports aim to strike a balance between productivity and commercial concerns and their obligations to reduce noise impact on local residents and marine life, we can expect challenges and insights to emerge in the future.

“Listen to people in the surrounding areas, examine what you are doing, and compare it with best practice. Talk to companies in the port to find out what noise you can mitigate,” Witte concluded. **PH**

More Info: sustainableworldports.org/project/port-consortium-neptunes-project

NEPTUNES project participants

- | | |
|--|-----------------------------|
| Port of Rotterdam (Netherlands) | Port of Koper (Slovenia) |
| Port of Amsterdam (Netherlands) | Port of Gothenburg (Sweden) |
| Ports of Stockholm (Sweden) | Port of Cork (Ireland) |
| Port of Hamburg (Germany) | Port of Vancouver (Canada) |
| Port of Turku (Finland) | Port of NSW (Australia) |
| Port of Copenhagen Malmö (Denmark, Sweden) | |



Port of Gothenburg: 5099537

Onshore power gets charged up

Interest in onshore power is being driven by tougher environmental legislation, a greater focus on shipping emissions, noise in ports, and rising fuel prices. The technology, however, must overcome technical and economic constraints if it is to gain more widespread use, **Stephen Cousins** explains

Port of Gothenburg has national funding to install a new OPS system in the ro-ro port

The International Maritime Organization's commitment to slash annual greenhouse gas emissions from shipping to less than 50% of 2008 levels by 2050, to bring the sector in line with goals set out under the Paris Agreement, is a landmark achievement that is spurring interest in alternative climate-friendly sources of fuel. Onshore power will be a key ingredient to achieve that target.

The European Union (EU) has set a goal for onshore power supply (OPS), also referred to as shore power or shore supply, in its largest ports from 2025 and more shipowners and ports see it as a means to cut emissions of nitrogen oxides (NO_x), carbon dioxide (CO₂), and particulate matter, as well as limit noise pollution (see p18).

Major recent installations and initiatives include Norway's first, and Europe's largest, OPS installation for cruise ships at the port of Kristiansand. Port of Gothenburg, which was responsible for the first high-voltage shore power installation in 2000, has now received national funding to instal a new system in its ro-ro port within the next two years, and is exploring options to co-operate with other ports, possibly under the umbrella of the World Port Sustainability Program (WSPS), to target installations for container ships.

Meanwhile, Port of Antwerp has identified the development of OPS for seagoing ships as a strategic priority over the next few years and has signed agreements with port community and technical partners Techelec, Schneider Electric, ABB, Actemium,

and Siemens, to develop practical solutions. The ability to shut down ships' polluting auxiliary engines and instead draw power from the electricity grid might seem an obvious solution, but a range of technical and economic obstacles still threaten to derail projects before they even get started.

Ports might suffer from poor electrical line infrastructure, requiring significant investment in upgrades, shore power is taxed, and although the environmental benefits are maximised in countries that source plenty of electricity from renewable resources, such as Sweden and Norway, for countries that rely on fossil fuels for grid power, OPS will be less attractive.

OPS is not a one-size-fits-all solution and only certain vessels will benefit from the technology. Ships that visit ports frequently, such as passenger vessels and ro-ro ferries, and those that spend a great deal of time in port, such as offshore supply vessels and cruise ships, could provide a compelling case for electrification. But long-haul, open-sea vessels that spend little time at berth, leaving expensive power connections redundant for much of the year, are unlikely to reap rewards.

There have been six rounds of applications for incentive schemes to date

Alvar Mjelde, *DNV GL – Maritime*

This was an area studied in detail by Port of Gothenburg as part of its efforts to justify investment in shore power. In a feasibility report, the port identified all existing vessels that visited the same quay a minimum number of times a year and stayed at berth for the minimum amount of time required to make a shore connection worthwhile. This ruled out most container ships but ro-ros and tankers fulfilled the requirements.

The study uncovered some unexpected results regarding estimated emissions resulting from OPS, said Edvard Molitor, environmental manager at Port of Gothenburg. "We calculated the impact if all vessels considered 'reasonable' to connect did so. The result was a possible 9% increase in CO₂ emissions compared with all other vessels at quay during the year (and this at huge cost) and NO_x emissions were equivalent to a 12.5% reduction," he added.

But even the NO_x reduction was found to be offset by high NO_x emissions within the city of Gothenburg and by vessels in the fairway close to the port. On balance, and taking into account other economic and societal factors, the report came out in favour of an OPS installation for ro-ros.

Power demand is another factor ports must consider. Cruisers and container vessels with reefers have high power consumption that may put a strain on the network, increasing the cost of electricity.

Investment in OPS has historically been held back by a stalemate situation as ports point to the lack of ships with onshore power capabilities and shipping operators blame a lack of connections on land for not installing connections on board. Norway is trying to put an end to this chicken-and-egg scenario through a funding incentive scheme, said Alvar Mjelde, principal consultant for environment advisory at DNV GL – Maritime. "If the port can show that an installation will be competitive and that the number of kilowatt hours used in port offsets the cost of installing the system, they can get up to 80% of the cost of the installation covered. There have been six rounds of applications for incentive schemes to date, with 66 projects awarded funding to establish shore power systems," he added.

According to Mjelde, there remains little financial justification for OPS installations in many countries, so encouragement needs to come from national regulation or other incentive schemes.

Network operators in Norway have introduced a special pricing policy for ship operators that agree to being cut off from supply at times of peak demand. Kjetil Martinsen, principal engineer in the environment advisory section at DNV GL – Maritime, told *P&H*, "This type of scheme reduces the risk to networks of signing up high-use shipping customers and the ships can always start up their generators if the electricity is cut off. The scheme has become a prerequisite to make many installations in the country stack up."

In Europe, taxation on alternative fuels has created a significant barrier to the uptake of shore power. Electricity produced through the combustion of marine fuel on board ships is currently tax-exempt, but ships that plug in to OPS have to pay local taxes applied to electricity. That situation looks set to change, however, after the transport committee of the European Parliament voted in September to support the removal of tax barriers for alternative fuels.

The European Sea Ports Organisation (ESPO) has welcomed the move, saying that a permanent and EU-wide tax exemption on the use of shore power, under the Energy Taxation Directive, would put OPS on an equal footing with electricity generated by marine fuel. Isabelle Ryckbost, ESPO secretary general, said, "The vote in the parliament gives a strong signal. The uptake of OPS would contribute to further improving air quality and achieving the EU climate targets. On top of that, it reduces the noise of ships at berth. We now hope that the message also reaches the [European] Commission, the national governments, and the ministers in charge of taxation issues."

Proactive initiatives like this could provide the spark that drives OPS forward, helping ports and shipping meet pressing environmental targets. **PH**



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En-route to call port optimisation

Ports and terminals are finding that digitalisation initiatives tend to yield better results when everyone gets on board rather than when carried out in isolation. **Kevin Tester** reports for *P&H*

Insights gleaned from data sharing offer a huge potential to the maritime logistics sector. Many ports around the world are investing heavily in digital applications aimed at streamlining day-to-day operations, from sophisticated sensors to advanced data analytics tools.

Such innovations also create challenges. Relying on digitalisation and deeper integration with stakeholders increases the ports' exposure to cyber-security risks, as borne out by a spate of incidents to hit the headlines in recent months.

Dependence on proprietary systems may prevent unlocking the full potential of data sharing or, according to a report published by International Transport Forum (ITF) in September, raise the possibility of future data oligopolies dominated by a small number of private supply chain integrators. The ITF urges public authorities

to support the emergence of open standards to ensure interoperability between public and private systems for the exchange of logistics information.

Rotterdam and Hamburg are among the keenest early adopters of digital solutions. Many innovations now emerging from Port of Rotterdam originate from an internal start-up, the Rotterdam Logistics Lab (RLL), which was established after preliminary investigations revealed the potential of digital technology for improving supply-chain visibility and eliminating inefficiencies in the port-call process.

It has since worked on building digital tools for smoothing the flow of ships, trains, trucks, and barges in and out of the port. Of these, the solution for port call optimisation, Pronto, is arguably the most well advanced digital application. RLL's researchers leaned on standards formulated by the International Task

Force on Port Call Optimisation, a coalition of shipping companies, ports, hydrographers, industry associations and other partners (see box) including Sea Traffic Management (STM), the EU-funded R&D initiative that pioneered the practical implementation of electronic route exchange and which was a follow-on from the Monalisa project.

A pilot project followed in 2017 with participation from several major global fleet operators and local terminals. “They immediately saw the potential,” recalls Joyce Blik, who heads Port of Rotterdam’s digital business solutions. “Most already had their own in-house digitalisation strategies and waiting times were a known bottleneck. There was a clear incentive, so they didn’t need much convincing.”

The pilot indicated reductions in vessel waiting time of about 20% were possible. To accomplish this, the algorithm at the heart of Pronto soaks up data from numerous sources, both open and closed, as well as historical records of vessel movements. Data focuses on vessel position updates and intended course, time of arrival, and berth availability, but steers clear of commercially sensitive information, such as detailed cargo manifests, which is not strictly necessary for route optimisation and risks resistance from ship operators.

Crucially, collection of this data is not limited to deepsea ships. To gain a full picture of what is happening, Pronto digests data on support vessels such as pilot boats and tugs using or supporting the port. “For this reason, we had to keep the barriers to entry low. A small tug won’t have the same IT facilities as an 18,000 teu container ship, for example, so making the system work with minimal onboard IT infrastructure was a key requirement,” Blik explained.

Terminals and other shore-based partners typically only need to instal a lightweight application programming interface (API) that takes the necessary data from their incumbent systems and converts it into a Pronto-friendly format for export.

After the resounding success of the trial, Rotterdam has wasted no time in preparing a wider roll-out: the target, Blik said, is to get 70 % of vessels calling at the port connected to Pronto by the end of 2018. Shipping



Shutterstock: 5093993

companies that participated in the pilot are eager for the system to spread its wings geographically too. Conversations are already under way with European ports, notably Hamburg and Algeciras, and Blik said partnerships further afield were being sought.

While the reduction in waiting time is determined by incoming data from vessels when they are within five or so days of the port, there are still benefits from co-operation with more distant ports. “It’s advantageous for everyone to adopt the same standards,” said Blik, “especially for the shipping lines that must interface with these systems.” She added that, historically, the absence of common standards had hindered progress.

The ITF’s standards on port calls are split between event data, which changes on a day-to-day basis as vessels come in and out of port, and master data, which is considered fixed, such as depths of approach channels. However, Blik’s team realised this fixed data was not truly fixed. “Especially here in Rotterdam, where salt and fresh water intermix, the water depth at quay walls can vary significantly according to the season. Frequent dredging introduces further variability. Water marked 10m deep on a chart might, in actuality, be 12m deep for several months, which means the port could safely receive larger vessels,” she explained.

The port is now installing sensors in quay walls in order to build a more detailed picture and incorporate these variations in ‘static’ data into its port call optimisation calculations. On the flipside, the information enables better planning of dredging operations so that they don’t disrupt customer vessel traffic. The real-time data from these and other IoT sensors will also contribute to a bigger project that envisages building a ‘digital twin’ of the port in its entirety.

Rotterdam’s digital endeavours don’t stop with Pronto. RLL has developed OnTrack, a similar system for railways serving the port – it is currently transitioning from a pilot project to full implementation – and

Port Call Optimisation task force

Shipping members:

Shell
Maersk
MSC
Vopak
Inchape
CMA-CGM

Ports authorities:

Busan
Houston
Algeciras
Gothenburg
Singapore MPA
Rotterdam
Tanger Med
Ningbo Zhoushan

Standard partners:

United Kingdom
Hydrographic Office
GS1

Endorsers include: IAPH,
Bimco, Intercargo and the
International Harbour
Masters’ Association (IHMA)



for locating the exact position of containers around the terminal. Automation moved forward again in the early 2000s at its Altenwerder terminal with containers moved by driverless transport vehicles.

Titzrath believes that despite its long history, the terminal has never lost its start-up ethos. "Today digitalisation of the entire transport and logistics chain and associated processes is essential to meeting customer demands for efficiency, speed, transparency, and flexibility," she explained. "It's also vital from a sustainability perspective."

Several initiatives are under way at the terminal. HHLA subsidiary Container-Transport-Dienst, for instance, introduced an app for container trucking in the port, which saves 100,000 litres of diesel annually by cutting out for non-productive administrative travel. "Not only does this cut costs and protect the environment, but containers are transported at higher speed and more reliably," Titzrath said.

A slot-booking process introduced in 2017 to diffuse the additional truck traffic arising from the arrival of ever-larger container ships was implemented across all container terminals in Hamburg. Now, trucks electronically request time slots to enter the port, which prevents delays at the gates and allows traffic to flow more smoothly through the terminal.

Meanwhile, on the water, the movements of these large box-ships are co-ordinated from the Hamburg Vessel Coordination Center, which this year linked its systems with Rotterdam. Exchanging data on departure and arrival times directly, said Titzrath, increases visibility and makes planning easier for ports and shipping companies alike. "If schedules change, we can react more quickly. A vessel might decide to slow-steam if its forewarned about delays, thereby saving bunkers, money, and the environment. These benefits only result by working together."

Earlier this year, HHLA embarked on a project with German truck manufacturer MAN to explore the deployment of autonomous vehicles. Trials are due to commence in 2019. The real-life test environment for TruckPilot includes the Altenwerder terminal and a 70 km stretch of the A7 autobahn. This project will enable an assessment of the conditions needed for autonomous vehicles to operate safely and their integration into the automatic container handling process.

Titzrath stressed that digitalisation should not be approached as a single undertaking "tackling all challenges in one sweep". It produced better results, she said, when used in smaller individual projects for optimising existing workflows.

The phrase 'no man is an island' expresses the idea that human beings do badly when isolated from others and need to be part of a community in order to thrive. The 17th century English metaphysical poet John Donne probably didn't realise his words would be as applicable to 21st-century global supply chains as they are to leading a spiritually fulfilling life. **PH**

Pronto, being rolled out at Rotterdam, incorporates data from all types of vessels to maximise port call times

NextLogic, for streamlining cargo handling for barges. It is also participating in efforts to implement a solution for trucks, in work being led by terminals.

The long-term vision is to join up all these systems so cargo moves from ship to end-customer in a single unbroken movement with no intermittent standing time. Blik admitted it was an ambitious objective. "It's a challenging goal but, in addition to improved efficiency, it will bring significant environmental benefits through fuel savings and reduced emissions."

Pronto by itself represents a significant achievement and a major step forward in the development of a connected port environment. Blik explained, "We have a lot feeder traffic coming through Rotterdam from Hamburg and other European hubs. The ability to exchange data with these vessels and optimise the movement of this traffic has had a tremendous positive impact. Larger shipping companies, like Maersk, benefit hugely."

She believes the industry has reached a turning point. "There's been a collective realisation that optimisation initiatives within a single organisation will only go so far. Our customers – the ships at one end and land-side transport at the other – are operating in a larger network, so it's logical that digitalisation should mirror this topology. Joint optimisation completely outweighs solitary efforts."

It is a view that Angela Titzrath, chair of the executive board at Hamburger Hafen und Logistik AG (HHLA), strongly endorses. "Traditionally companies would develop solutions in isolation, tailored to their own needs, but today the focus has widened to involve more partners," she said.

Intelligent information and automation systems have played a critical role throughout her company's development. In the 1980s it was one of the first terminals to automate the management of container handling. By the mid-1990s, satellites had replaced radio



Getty Images: 5094305

Seeking a single window to the EU

Since 2009 the EU has sought a way to let ships make a single declaration of information when calling at its ports. **Penny Thomas** reports

The International Maritime Organization's amended FAL (Facilitation of International Maritime Traffic) Convention is the latest manifestation of the ongoing drive towards digitalisation in the maritime world.

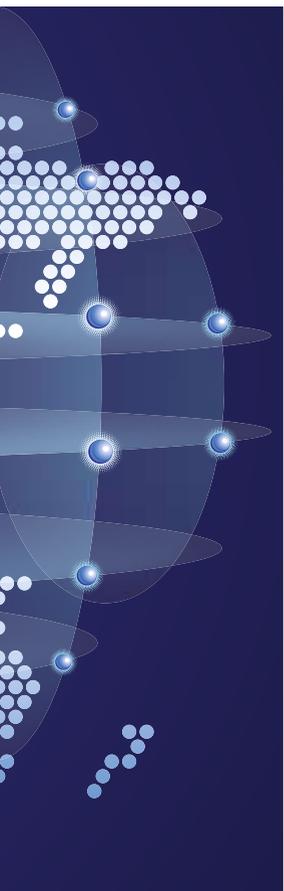
From next April, ships and ports will be required to electronically exchange port arrival and departure forms, including documents related to security and cargo information and waste delivery to port reception facilities. Documents could be transferred either electronically or on paper for a year or up to 36 months, depending on the member state, after which time all the documents will need to be transferred electronically.

While not all member states will have to comply with the convention, as not all have signed up, the amended convention has certainly spurred a significant uptick of interest in digitising the movement of information

between ships and ports. While some are seeking to implement basic data exchange systems (often to a template supplied by the IMO), many ports have invested in port community systems (PCS) that go beyond what is required by the FAL convention (see panel, right).

The single biggest hurdle when it comes to implementing a PCS is the integration of multiple systems across different regions. Pascal Oillivier, director of corporate development at Soget, has, for many years stressed the importance of getting all the players to act in concert – a task that can prove difficult when implementing a PCS even in a single port, let alone on a regional or national level. The situation is even more difficult to navigate at international level as it has to account for different countries' laws.

It's a situation that European Union countries are currently ironing out. The European Commission has



Digital dilemma: as the shipping world becomes more electronically connected, the practicalities of data sharing continue to prove challenging

been busy constructing a policy for a European single window that would allow individual vessels to move between EU countries with a single once-for-all electronic declaration, doing away with separate declarations at each port of call. However, the result has been less than successful, with each country creating its own national single window (NSW) rather than a dominant single EU window.

In May this year the European Commission published its revised proposal which, while being seen by the industry as a step in the right direction, is also considered as falling short of the requirements to create a functional single window. Known as the European Maritime Single Window environment (EMSWe), it requires information to be submitted once via harmonised IT systems by combining customs and maritime reporting procedures.

A group of north European ports and logistics players including Port of Rotterdam, Port of Amsterdam, North Sea Port, Groningen Seaports, Port of Moerdijk, Evofenedex, Portbase, Deltalinqs and ORAM, has released a joint position paper on the matter. In it, they have asked the Commission “to increase its ambitions on data harmonisation following the proposals of IMO/FAL43 and to refrain from prescribing technical solutions that would also include customs reporting procedures”.

One area of concern highlighted by the paper is the manner in which the new reporting policy would integrate with existing PCSs that ports spent considerable time and money to set up, and through which port information already flows between players. The latest proposal requires reporting from a ship to be through the country’s NSW and not via a port PCS. From this single point of entry, the data will then be disseminated to other channels such as a PCS.

“This severely reduces opportunities to reuse these data within the port community and could pose a risk for existing ‘port call optimisation’ processes being developed by European ports,” asserts the group. It argues that the proposal is at odds with what it is trying to achieve and would cause “administrative chaos on the side of the responsible authorities, which could impede the swift and efficient handling of shipping traffic in European ports”.

The paper proposes that ships and other declarants should report to channels such as PCSs and that this information is then be made available to the NSW.

Many industry representatives acknowledge that the creation of an EU single window is less of a technical enterprise and more of a legal one. Thus, in reality, the regional effort is actually seeking to establish a set of rules that all member states, ports and partners are happy with and that facilitates trade with minimum impact for ports and shipping.

Whether this can be accomplished without causing massive upheaval to established PCSs remains to be seen. **PH**

Global shift

Ports prepare for the electronic exchange of information

As the revised Trade Facilitation (FAL) Convention requires electronic exchange of information, ports are moving towards digitised strategies.

Ajai Chandrasekharan, assistant general manager for maritime business at Experion Technologies, believes this is creating a momentum that will gather pace until the implementation deadline.

Speaking to *P&H*, he said that since the IMO guidelines were issued, companies were “more receptive to us in the past 12 months. Customers are keen to try out more technologies.” Experion has also seen an increasing number of requests for yard management software that ‘talks’ in real time with access systems at the terminal and port gates.

Gary Cutress international sales director of Bolero, which offers a platform for electronic bills of lading, gets the sense that over the past five years the “whole supply chain is now more open” to digital exchange of information. He told *P&H* that, in his experience, the impetus had to start “with the buyers and sellers of the commodities, and they have to reach out to their service providers” – banks, carriers, ports and agents – and move them away from processes that have been paper-based for the past 300 years.”

This movement extends from small to large ports. In October, Papeete Port Authority said it had invested in Ci5, an intelligent cargo application that provides a single window and manages the flow of goods supplied by French-based port community system (PCS) provider, MGI.

Ci5 was also rolled out at the French ports of Marseille-Fos and Lyon. As the program is open-source technology, the code can be modified, which makes it easy to upgrade and integrate with innovations, such as Big Data, IoT, and blockchain.

Also in France, Le Havre saw the implementation of S)One, Soget’s fourth generation PCS in July. Shipping agents, terminal operators and freight forwarders processed information relating to cargoes on ultra-large container ship, *Maersk Hanoi*.

In the United Arab Emirates, Abu Dhabi Customs announced the roll-out of a single window in October. Known as MAMAR, it will provide a standardised digital process for trade across sea, land and air. Abu Dhabi ports, along with 23 other government entities, will use the system for customs and port community systems services, Abu Dhabi Customs said in a statement. MAMAR will be operational by 2018 and integrate with nine ports in China and a further two in Europe. **PH**



Alan Dooley: 5093530

A prosperous future

With federal funding approved, river ports in the United States are upgrading facilities to cater for a busy future, writes **Scott Berman**

Several converging factors seem to be encouraging river ports across the US to renovate, expand, and build anew. The expansion of the Panama Canal, the environmental and economic benefits of waterborne transport, and the need to relieve pressure on crowded US roadways are creating new prospects for river ports of different sizes and types.

US inland waterways are in critical need of investment. According to a report by the American Society of Civil Engineers, the country has 25,000 miles of inland waterways and 239 locks, and “most locks and dams on the system are well beyond their 50-year design life, and nearly half of vessels experience delays.”

At the same time, industry groups point to the need for the federal government to maintain river infrastructure and waterways, which in the US are frequently ageing and in need of repair. The National Waterways Conference (NWC) and the Waterways Council are encouraged by US Congress approval of what NWC calls “robust funding” levels for civil works programmes. The funding totals USD7 billion, including

USD3.7 million, an increase of almost 25% from the previous year, for operations and maintenance projects and USD2.1 billion for construction. It all indicates that “Congress has recognised the critical importance of our national waterways in terms of global trends and the national economy”, said Amy Larson, president of NWC.

USD326.5 million in funding has been allocated for inland waterways, including lock and dam projects that regulate river levels for navigation, mostly for barges. This funding comes in the wake of the US Army Corps of Engineers completing its massive USD3 billion Olmsted Locks and Dam project on the Ohio River in August 2018.

Officials in Pennsylvania were heartened in September when Congress approved USD326.5 million for the long-running Lower Monongahela River project near Pittsburgh, which has been slowed by inadequate funding. That had led to piecemeal construction of replacements for ageing, deteriorating locks and dams at Charleroi, Braddock, and Elizabeth. This work will take place in addition to the Chickamauga Lock and Dam and other infrastructure works around the country.



Kaskaskia Regional Port bulk terminal in Illinois

Maintenance dredging of navigation channels in 2018 by various districts of the US Army Corps of Engineers has included work on the Ohio, Arkansas, and Columbia rivers and tributaries, as well as the Mississippi. On the Columbia River alone, dredging this year is expected to clear 3 million m³ of material. Meanwhile, a USD238 million plan is advancing to deepen stretches of the Lower Mississippi to 15 m in proximity to a number of river ports, including Baton Rouge.

Alongside such progress, some river ports, in addition to rail or road projects that may directly or indirectly help them, have attracted coveted federal Transportation Investment Generating Economic Recovery (TIGER) grants in recent years. These include USD13 million awarded in 2018 for a wharf project at the St Bernard Parish Port on the Mississippi River in Louisiana, USD6 million for dock and rail work by the Little Rock Port Authority on the Arkansas River, and USD10 million, awarded in 2015, for multimodal cargo and rail work at Port of Indiana-Jeffersonville on the Ohio River. On the east coast, Port of Albany, on New York State's Hudson River, in 2016 received a USD17.6 million TIGER grant towards its ongoing USD49.7 million wharf, warehouse, and roadway construction project.

Other federal grants are supporting container-on-barge initiatives by Port of Baton Rouge and Port of New Orleans, and by Paducah McCracken County Riverport in Kentucky. Elsewhere, the Kaskaskia Regional Port District, a growing bulk facility on a Mississippi tributary in southern Illinois, is developing a 52 ha terminal. State officials are exploring the construction of a port on a brownfield site on an Ohio River tributary in Indiana. Aimee Andres, executive director of industry group Inland Rivers, Ports & Terminals (IRPT), attributes the activity to "the hard work and determination of our members".

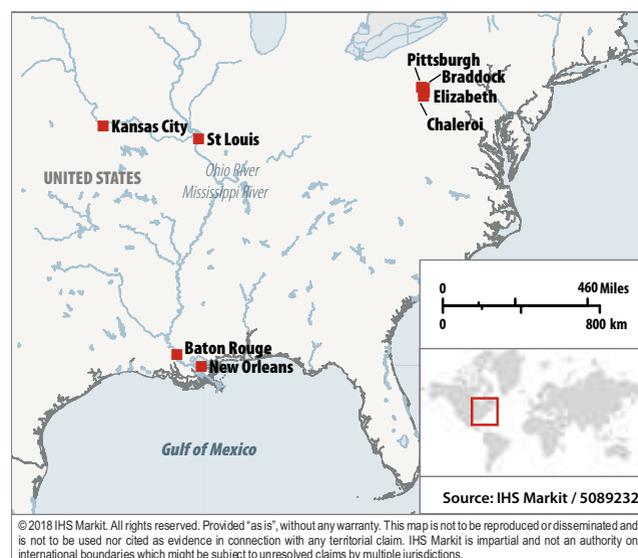
While the list of projects with shovels in the ground at time of writing seems to be short, projects at ports have recently been completed or are being prepared. Along the Mississippi River and its tributaries, for instance, Louisiana's Department of Transportation & Development has recommended funding in the 2018/19 fiscal year for 22 port projects, including six new construction works. Plaquemines Port in Louisiana has announced a liquefied natural gas facility to be built by Venture Global and a crude oil export terminal that may be operating by 2020. The port is also marketing a container-on-barge service and reportedly plans a terminal for it.

Things have been happening in the St Louis region, where the Missouri flows into the Mississippi. In recent years, the St Louis Municipal River Terminal, a bulk barge operation on the Mississippi, underwent a USD19.5 million wharf reconstruction, including an alongside dredging campaign completed in 2013, and subsequent USD466,000 upgrade of a riverside warehouse. Susan Taylor of St Louis Port Authority said, a USD700,000 rail upgrade expected to start in 2019.

Rail upgrades are also planned across the river in Illinois by a liquid and dry bulk facility, America's Central Port, which recently completed a USD45 million expansion. There is other activity in the region. According to a local report in September, a feasibility study for the Jefferson County Port Authority on the Mississippi River, south of St Louis, has identified a possible riverfront port site in Herculaneum – already the site of a barge port that opened in 2014 – with the county estimating that it may cost as much as USD600 million to develop. Two nearby sites are also being considered for additional ports.

In another development, this time in Kansas City on the Missouri River, Port KC reopened for business in 2015. This exemplifies what is seen as a re-emergence of port commerce on the Missouri. The reason is more stable river levels after the recent drought subsided, coupled with stable commodity prices. Nearby, St Joseph Regional Port Authority in January 2018 completed construction of a storage facility and has made rail repairs. Also on the Missouri, officials are eyeing river port potential in Jefferson City, about 240km east of Kansas City. There are reported to be intensifying discussions about building a dry bulk river port, albeit that this is years away from possible operation. A study estimates that it could cost USD59.5 million and generate as much as USD581 million of economic activity.

A number of joint initiatives by river port authorities, local governments, and port districts are unfolding. These work to draw business, define river assets of regions, share information, and co-ordinate activities. For example, a public-private organisation called St Louis Regional Freightway campaigns for river and other transport infrastructure and provides information. Other river ports, most recently Cincinnati in 2015, have led collective efforts to statistically redesignate their districts in order to encompass more river facilities for co-ordination and marketing. **PH**



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A copper mine in Lubumbashi, DRC. Banana Port will facilitate exports of such valuable natural resources



DRC positions itself for sea trade independence

The Democratic Republic of the Congo in central Africa is developing its Atlantic coast port of Banana under a plan to handle more of its own imports and exports, writes **Shem Oirere**

The Democratic Republic of the Congo (DRC) moved a step closer towards controlling its seaborne trade in March when it signed a deal with DP World to develop a deepwater port at Banana at the mouth of the Congo River on the Atlantic Ocean.

The USD350 million agreement involves construction of the first phase of a deepwater greenfield port at the existing smaller Banana Port, which is currently being used to export about 260,000 bpd of the country's crude oil.

The port will be owned by DP World and the DRC government on a 70/30% share basis. The

terminal operator signed a 30-year concession for the development and management of the port, with an option for a 20-year extension.

The new development will be the first deepwater port on DRC's 37 km-long coastline.

The country only has one other big port, the ICTSI-operated river port of Matadi, situated 230 km upriver from Banana. Moanda Oil Terminal is situated about 11 km north of Banana.

The country had an estimated GDP of USD37.24 billion in 2017 and is resource-rich, with huge deposits of diamonds, gold, copper, cobalt, and



Getty Images/50935333

oil to be found, but has, until recently, relied on its neighbours to access international markets and profit from its mineral wealth.

José Makila Sumanda, DRC deputy prime minister and minister of transport and communications, said, “The port of Banana will offer the first deepwater port to the Democratic Republic of the Congo. It will dramatically improve the cost and time of trade, as the majority of cargo is still handled by neighbouring countries.”

At present, 90% of mineral-rich DRC’s exports are extracted commodities. It relies heavily on the port of Mombasa in Kenya, especially for imports and exports to and from its northeastern Kisangani region. An estimated 4.9% of the 7.75 million tonnes of transit traffic through Mombasa in 2016/17 was destined for the northeast of DRC, according to Kenya Ports Authority.

Extracted commodities in DRC’s southeast region, especially copper, are exported through the port of Durban in South Africa. Other DRC exports and imports go through Dar es Salaam in Tanzania. These amounted to 391,457 tonnes of exports and 785,307 tonnes of imports in 2017, according to Tanzania Ports Authority.

DRC has two other ports: Matadi, on the left bank of the Congo, the world’s deepest river, with, in some places, measured depths of more than 220 m, and Boma, which has a limited draught of 7 m at the entrance because of regular sand build-up. Matadi, which is used mainly for coffee and timber exports, has a maximum draught of 8.2 m, while the draught at three-berth Boma port, also on the 4,700 km-long Congo, is limited to 6.4 m.

The shallow draughts at Matadi and Boma have limited the entry of large cargo liners. Some of these with cargoes for DRC dock at 16 m-deep Pointe-Noire in neighbouring Republic of the Congo, which also serves as a transshipment point for the Angolan ports of Luanda, Cabinda, and Soyo.

“The project will provide us with a first-class marine facility comparable with other African countries”

José Makila Sumanda, DRC deputy prime minister

The new port could open up many possibilities. “The project will provide us with a first-class marine facility comparable with other African countries in terms of capacity, draught, and ability to handle the latest generation of vessels,” said Sumanda.

DP World explained that the project was a four-phase, USD1 billion undertaking that would support DRC, the second-largest country in Africa, in connecting to global trade lanes, gaining access to a variety of global markets, and minimising its dependence on ports in neighbouring countries such as Tanzania, South Africa, and Kenya.

It added that construction was scheduled to begin this year, although no specific date has been confirmed, and that the first phase was expected to be completed within two years. Construction will begin later in 2018 and will take 24 months.

Rising container volume through Africa’s ports will only bring worsening congestion unless there is a huge effort to build up the land-side links connecting the hinterlands to the container terminals. This is something DP World understands and it has been aggressively building its African footprint. The Banana Port project falls into that plan.

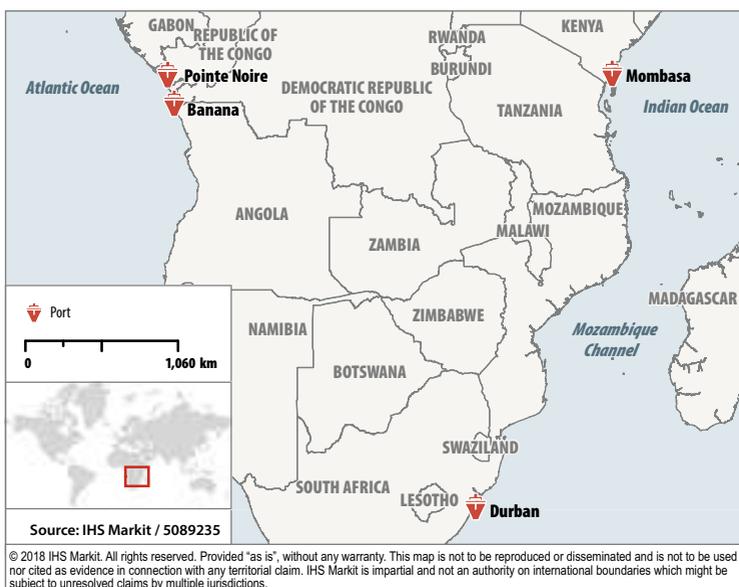
Sultan Ahmed Bin Sulayem, DP World group chairman and chief executive officer, said investment in the deepwater port would have a major impact on the country’s trade, with significant cost and time savings. It will also attract more direct calls from larger vessels from Asia and Europe, acting as a catalyst for the growth of the country and the region’s economy.

“DP World has become a major player in Africa and Port of Banana will contribute to our global network and continued growth in the developing markets,” he said.

DRC is a large country, with an area of 2.3 million km², but the US Trade and Development Agency has said its “public ground transportation is generally crowded, unreliable, unsafe, and, in many cases, non-existent”. These factors add to the high cost of moving goods into or out of the country.

DP World has indicated that the project works will include a 600 m quay and 25 ha yard extension, with a container capacity of 350,000 teu and general cargo capacity of 1.5 million tonnes.

However, according to DP World, completing all four phases of the port will depend “on market demand for the port, industrial, and logistics zone infrastructure”. PH



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Getty Images: 5093536

Former New York mayor Michael Bloomberg at the opening reception for the Global Climate Action Summit

Top ports urge shipping to deliver on Paris Agreement

Six top American and European ports have called on the shipping industry to join them in a drive to meet the objectives of the Paris Agreement on climate change. The six – Rotterdam, Antwerp, Hamburg, Barcelona, Long Beach, and Los Angeles – issued their call as they launched the World Ports Climate Action Initiative at the opening session of the Global Climate Action Summit in San Francisco, California.

The summit, organised by the state authorities of California and the United Nations, opened on 12 September. The six have called on other ports to join their

initiative but say they also want the shipping industry, which is not covered by the Paris Agreement, to work with them.

The initiative has been welcomed by the World Ports Sustainability Program (WPSP) and IAPH managing director - policy and strategy, Patrick Verhoeven, said, “These six ports are global leaders in the field of action against climate change and pioneers in energy conservation. We are very pleased that they will be using WPSP as a platform to reach out to other ports and communicate progress. This is a rallying call for all ports to join

forces and work together with the shipping industry in advancing the decarbonisation of the maritime transport sector.”

The six ports said in a joint statement, “The shipping industry has a responsibility to deliver on the Paris Agreement. Thus, any effort must include the private stakeholders who actually perform the goods movement services at and between each port. Therefore, we call upon the shipping industry to join us in our commitment to deliver on the Paris Agreement and work together with the undersigned ports [the six] and other stakeholders to ensure swift

and co-ordinated action that delivers results.”

The ports behind the initiative are drafting a detailed action plan, with the aim of increasing supply-chain efficiency using digital tools, contributing to public policy aimed at reducing emissions over large geographical areas, and accelerating the development of renewable in-port power-to-ship solutions. They pledge to speed up the development of “commercially viable, sustainable, low-carbon fuels” for the shipping industry, as well as the necessary infrastructure for the electrification of ship propulsion systems. Finally, they said they would intensify their efforts to decarbonise port cargo-handling facilities.

Port of Rotterdam, which has long campaigned for climate change, played a leading role in the launch of the initiative. Its chief executive, Allard Castelein, said, “The Paris Agreement has set a clear target. We need to limit global warming to well below 2°C.”

The Paris Agreement, part of the United Nations Framework Convention on Climate Change, was concluded at the COP21 climate change conference in Paris in December 2015. It aims to limit the global average temperature to less than 2°C above pre-industrial levels. Earlier this year, the International Maritime Organization agreed on a strategy to reduce greenhouse gases in shipping by 50% by 2050 compared with 2008 levels. This objective has been criticised by some countries as insufficiently ambitious, while others, such as the United States, which is planning to withdraw from the Paris Agreement, opposed it.

Notable numbers



USD 3.7 million MPA allocation to alternative fuels

6

Ports urge shipping industry to meet Paris Agreement objectives

Shipping CEOs back IMO's carbon strategy

Leaders of some of the biggest names in shipping have agreed at a meeting in Hong Kong to support the International Maritime Organization's (IMO's) climate strategy to reduce greenhouse gas emissions to less than 50% of 2008 levels by 2050.

In what was described as the biggest technology challenge for shipping in 100 years, they said a shift to a low-carbon economy by 2050 had the potential to create opportunities for business through technological innovation.

Claus Hemmingsen, vice-chief executive of Maersk Group, Paddy Rodgers, Euronav chief executive, and Jeremy Nixon, chief executive of Ocean Network Express, are among 34 top maritime executives who signed a call to action at the two-day Global Shipping Forum in Hong Kong that ended on 4 October.

They recommended that the IMO's roadmap to a decarbonised future be aligned to seven core principles: ambitious, predictable, market-oriented,

technology-enabling, urgent, coherent, and enforceable.

"The IMO has, after consultation, laid a pathway that requires a fundamental change in the way we fuel our ships. Shipping must embrace these targets, so let's take our responsibility to make sure our industry is heading towards a sustainable future for ourselves and the next generations, in line with the expectations of our global stakeholders," Rodgers said.

Hemmingsen added, "Global seaborne trade's transition to a low-carbon future will propel both technological and business-model innovation. The right incentives for accelerated investment in research and development can only come about if we get a global IMO-based regulation."

Outlining the requirements of the seven principles, the forum said regulations should provide long-term certainty for financiers, builders, owners, and charterers to make the required investments in low-carbon technologies.

Emissions-reduction objectives should be met at the lowest possible cost and the industry should explore the use of carbon pricing and other mechanisms that can create economic value from greenhouse-gas emission reductions. The use of low-carbon technologies and fuels should be accelerated, with more money allocated to research and development.

Pointing to the urgency of meeting the 2050 target, the forum said certain medium- and long-term measures would require work to start before 2023, including the development of zero-emission fuels to enable the implementation of decarbonisation solutions by 2030.

Others who signed the roadmap included Jeremy Weir, chief executive of commodities giant Trafigura, Jan Dieleman, president of Cargill Ocean Transportation, John Hadjipateras, chairman and chief executive of Dorian LPG, Jan Rindbo, chief executive of DS Norden, Paul Wogan, chairman of

GasLog, Mohammad Saeidi, chairman and managing director of Islamic Republic of Iran Shipping Lines, and Mats Berglund, chief executive of Pacific Basin Shipping.

Few details emerged from the behind-closed-doors forum on how the 2050 targets would be met, but marine biofuels have previously been mentioned as a way forward.

The International Transport Forum, part of the Organisation for Economic Co-operation and Development, published an 86-page report earlier this year forecasting that maximum deployment of currently known technologies could make it possible to reach almost complete decarbonisation of maritime shipping by 2035.

It highlighted alternative fuels, changing trade patterns, a decline in oil and coal use, and a greater shift to shore-based power systems, as the four potential decarbonisation pathways for shipping. It forecast that the four pathways would cut carbon dioxide emissions by between 82% and 95% of the currently projected 2035 level.

Beijing urged to rethink Belt and Road

China's 'Maritime Silk Road' needs a fresh approach to realise its objectives outlined by the central government, according to a study from a leading China-focused global research company.

The report by GavekalDragonomics on China's expanding maritime project portfolio across southeast Asia says there are solid economic and commercial reasons for China to

expand its presence in the region and that host nations can benefit from Chinese funding, expertise, and infrastructure projects.

However, the study gives a stark warning of the dangers of poor project planning and weak due diligence as a result of heavy political pressure on state-controlled companies to invest in Belt and Road countries. "Once decisions have been made on a government-

to-government basis, it is impossible for banks and construction firms to say no. Under the current model, Chinese investors will experience heavy losses when projects go wrong," it warned.

The 'Belt' is a planned network of overland road and rail routes, oil and natural gas pipelines, and other infrastructure projects running from central China to Europe. The 'Road' is a network of port and coastal infrastructure projects from south and southeast Asia to east Africa and the Mediterranean.



8

Members of IMO ports roundtable

2025

SDG 14 calls for reduction in ocean pollution by this date

Singapore to focus on 2020 preparation



Singapore LNG Corporation: 5062059

SLNG in Singapore. Singapore has been conducting truck-to-ship LNG bunkering operations

Singapore, has announced several initiatives to ready itself for the IMO's upcoming global sulphur cap on marine fuels.

At the Singapore International Bunkering Conference and Exhibition (SIBCON) in early October, several bunker suppliers and oil majors said they were ready to supply fuels that comply with the 0.5% sulphur limit by the 1 January 2020 deadline. These include Shell, ExxonMobil, and BP, all of which have a significant refining and/or trading presence in Singapore.

Local regulator the Maritime and Port Authority of Singapore (MPA) will publish an information sheet, along with a list of licensed bunker suppliers of low-sulphur fuels in the city-state, by mid-2019. These will be available online.

MPA is collaborating with industry figures to map out the future of Singapore's bunker industry through drivers such as digitalisation and innovation, transparency, and productivity. It is expected to be completed in late 2019.

Previous efforts by the MPA include a Singapore-initiated focus group aimed at bolstering liquefied natural gas (LNG) bunkering efforts. The group was formed in 2014 and had 11 members by 2017. It gained an additional member this year, the Suez Canal Economic Zone Authority, which was also the first Middle Eastern member to join the group.

Besides LNG, the MPA supports the development of other alternative marine fuels and has allocated SGD5 million

(USD3.7 million) to the Green Energy Programme for this purpose. Companies can tap the funds for research and development of cleaner marine fuels in Singapore.

Concurrently, the MPA has joined SEA\LNG, a global coalition of players in the LNG shipping value chain. They collaborate on driving the widespread adoption of LNG as a marine fuel. By joining SEA\LNG, MPA hopes to foster greater confidence in the availability and reliability of LNG.

Meanwhile, the authority is also on track to implement mandatory use of mass flowmeters on all bunker tankers delivering distillates by 1 July 2019. It has begun acceptance tests of the meters on bunker tankers for the delivery of distillates.

The first was successfully completed in September and MPA is working closely with shipowners to schedule tests for all distillate bunker tankers.

In the coming months, the MPA will pilot electronic bunker delivery notes to provide greater productivity, efficiency, and transparency in the bunkering process. The electronic notes enable important bunkering information to be transmitted almost instantaneously to buyers and sellers. MPA will continue to work with the industry to roll out this initiative as early as 2020.

Separately, the MPA and the Singapore Shipping Association have formed a joint industry working group to enhance the integrity and transparency of the bunker supply chain in Port of Singapore. The group's efforts are geared towards providing greater assurance and confidence in preventing marine fuel theft. These revolve around developing and recommending pragmatic measures in the short and long term.

"In light of the International Maritime Organization's global sulphur limit from 1 January 2020, Singapore is committed to ensuring a sufficient and broad range of solutions is available to shipowners," said MPA chief executive Andrew Tan.

"As the world's leading bunkering hub, the MPA will continue working closely with all stakeholders to ensure that Singapore is well-positioned for 2020 and beyond."



70%

Rotterdam's target for vessels connected to Pronto

1 million

Projected 2018 teu throughput at TPS-Valparaiso

Bernhard Schulte backs LNG for the long haul

Bernhard Schulte Shipmanagement (BSM) expects liquefied natural gas (LNG) to emerge as the mainstream option among clean fuels, especially when taking a big-picture view of sustainability in shipping.

The focus at present is on sulphur and, beyond that, shipping's carbon footprint will be key. This is where LNG comes into the picture, Angus Campbell, corporate director of energy projects at BSM, told *P&H*.

Ahead of the IMO's global sulphur cap on marine fuels in 2020, ship management and integrated marine solutions provider BSM expects LNG to emerge as the mainstream solution, especially in deepsea shipping, where energy requirements are high. "There is a wide recognition that natural gas is the transition fuel between the hydrocarbon and hydrogen economy," Campbell said.

While this may suggest that the role of natural gas will be brief, the transition period could span decades. This is evident from the time taken to develop existing LNG infrastructure, as well as considering the lifespan of modern vessels. Nobody knows what the future looks like, Campbell said. In the meantime, prospects for LNG as a marine fuel look very good and it is a logical transition to whatever the carbon-free future may be.

A key criticism of LNG is the issue of methane slip – the emission of unburned methane – which, like carbon dioxide, is a greenhouse gas. The industry is taking the methane slip issue seriously, Campbell said. Every party has an obligation to make such operations as efficient as possible, he added, and methane slip is a key consideration for BSM in developing its bunkering operations.

The technology for LNG bunkering operations is not new, although the operations require a fresh approach. As such, training and preparation are essential. BSM aims to ensure that training is available, not only to its seafarers but also to third parties, Campbell said.

"The industry is going to have to develop solutions and new equipment. We don't see it as too much of a challenge as long as people invest the time and effort to comply with the IGF Code [International Code of Safety for Ships using Gases or other Low-flashpoint Fuels], which is quite specific. At the end of the day, it all comes down to price. We live in an industry that has to be competitive, and most [shipping] sectors are challenging. So whatever solution is used to move the shipping industry into a cleaner future, it has to be competitive and it has to be sustainable," Campbell said.

Stena and Scorpio opt for scrubbers

Stena Bulk and Scorpio Bulkers announced plans in October to fit scrubbers on their vessels in preparation for the 1 January 2020 sulphur cap.

Stena Bulk will fit scrubbers to its 15 Suezmax and IMOIIIMAX tankers, while Scorpio will fit scrubbers to most of its owned or financed 57-strong fleet of dry bulk vessels. Scorpio said it would cost about USD1.5–2.2 million per vessel to purchase and instal each scrubber. Stena Bulk said it was looking at a price tag of about USD3–4 million per ship.

Stena Bulk president and chief executive Erik Hånell said the



A DFDS vessel is installed with an Alfa Laval scrubber

actual cost would depend on the type of ship, where installation takes place, and the possibility of retrofitting some parts while the ship is in service.

Scorpio Tankers said the work would be done between the second quarter of 2019 and second quarter of 2020, while Scorpio Bulkers installation

will be carried out from the second quarter of 2019 to the third quarter of 2020.

Scorpio chairman and chief executive Emanuele Lauro said in a statement, "We have long maintained that the IMO 2020 regulations are both disruptive to the shipping industry generally, as well as a powerful demand catalyst for product tankers. Although many well-capitalised and publicly listed shipowners can source capital and publicise their intentions to pursue scrubbers, most of our industry cannot and will rely on cleaner fuels to the benefit of tonne-mile demand for product tankers."

USD1 billion

Port of Banana four-phase project cost



26 November Next IAPH regional event in Kobe



IHS Markit/Penny Thomas: 5093415

Around the table on 21 September, from top left: Nick Cutmore (IMPA), Spencer Eade (ISSA), Ole Krebs (IPCSA), Jonathan Williams (FONASBA). From bottom left: Patrick Verhoeven (IAPH), Guy Platten (ICS), Rachael White (ICHCA)

Verhoeven recognised the growing engagement of the IMO in port and shore-based activities. To make the voice of ports stronger at the IMO, he saw the need for these port-related organisations to work together to co-ordinate their views and messaging.

Although still in its infancy, eight industry bodies have so far joined the round table. They are: the International Cargo Handling Coordination Association (ICHCA); the International Dry Bulk Terminals Group (DBTG); the International Harbour Masters' Association (IHMA); the International Port Community System Association (IPCSA), the International Maritime Pilots' Association (IMPA), the Federation of National Associations of Shipbrokers and Agents (FONASBA); the International Ship Suppliers and Services Association (ISSA); along with IAPH.

The inaugural meeting of the group was also attended by Guy Platten, the new secretary-general of the International Chamber of Shipping, which represents national shipowners' associations. He was invited to join the discussions and act as an interface between ports and shipping (see p10).

Ports strengthen voice at IMO through roundtable

IAPH managing director - policy and strategy Patrick Verhoeven has initiated a roundtable of International Maritime

Organization port organisations, with the first meeting taking place on 21 September at the Baltic Exchange in London, UK.

IAPH and several other port-related organisations have non-governmental organisation (NGO) status at the IMO and

Working group's LNG bunker operations audit tool now available

The IAPH Working Group on Clean Marine Fuels (formerly LNG Fuelled Vessels) has issued the first version of a comprehensive audit tool for LNG bunker operations.

It ensures that the responsibilities of the bunker facility operator with respect to safe and sustainable operations are clearly defined

and that careful consideration is given to the way LNG bunker operations are organised.

The working group has built on the LNG bunker checklists developed in 2014 that were subsequently adopted as an international standard. The group is broadening its scope to include other clean marine fuels in

recognition of fast-emerging fuel alternatives such as methanol and hydrogen, and this was reflected in its name change on 1 October.

Over the coming months the audit tool will be moved to the WPSP website, but for now can be accessed through the LNG bunkering website: www.lngbunkering.org/lng/content/audit-tool.



Port optimisation approved

IAPH has given the Port Call Optimisation International Taskforce a World Ports Sustainability Program (WPSP) endorsement. The taskforce was established in 2014, and seeks to provide a framework to share standard operational information to optimise port calls.

"This project is a fine example of ports teaming with their customers, public stakeholders, and custodians to achieve port call optimisation, which in turn will lower greenhouse gas emissions. This has a direct, positive

impact on people within a port's vicinity and beyond in a supply chain," said Patrick Verhoeven, IAPH's managing director - policy and strategy.

So far the taskforce has created documentation with clear industry terms describing the minimum information needed for the process of a port call that applies to every trade and port in the world.

"We have used definitions from established international institutions, and in some cases even researched relevant international jurisprudence

to get these right first time," said Captain Ben van Scherpenzeel, chairman of the Port Call Optimisation project and director of nautical developments, policy and plans, at Port of Rotterdam.

In creating the documents, the taskforce focused on three areas: simplification, unification, and standardisation.

It is now developing two tools to facilitate the interchange of accurate information by data owners in the port call process.

The first tool, Avanti, enables harbor masters to

provide accessible, accurate information to all port users in real time in order to optimise a vessel port call.

With Pronto, the second tool, all port service providers, including terminals, bunker barges, and pilots can create a timetable for each vessel, reducing communication and duplication and making the process clearer between ports and their clients.

"The next step is to ensure they are adopted within an existing regulatory framework. We need an ISO for the industry," Van Scherpenzeel said.

Australia's ports join sustainability drive



Ports Australia became the newest member of the World Ports Sustainability Program (WPSP) in early September when it accepted an invitation from IAPH to join the programme. It represents about 80 Australian ports, including six marine or port authority members.

Inaugurated earlier this year, WPSP will focus on key areas of collaboration while growing its international membership.

Mike Gallacher, Ports Australia chief executive, said, "Australian ports operate

in a diverse range of environments and communities and each one is faced with its own unique challenges. There has been a deep-rooted understanding and respect in Australia for our unique environments and the communities that rely on our ports. This has driven port operators to constantly explore innovative ways of running their terminals".

Gallacher said Australian ports had worked on a number of sustainable initiatives, from solar energy to diversified workforces, and they wanted to share their "experiences

with the wider global port community".

IAPH managing director - policy and strategy Patrick Verhoeven, who co-ordinates the programme, agreed that a number of Ports Australia members had already embarked on initiatives to enhance resilient infrastructure, address climate change, and look at other areas. IAPH "will now actively encourage Australian ports to get involved in global projects, such as the Environmental Ship Index, where Australia is already represented by NSW Ports," he said.

Port strategy to be discussed in Kobe

The next IAPH regional meeting will take place in Kobe for the Asia, South/West, East and Middle East region and will focus on 'port strategy as a transshipment hub'.

Masaharu Shinohara, the region's vice-president and executive officer for Kobe-Osaka International Port Corporation, will chair the event, on 26 November at Kobe Portopia Hotel and Kobe

International Conference Center, in conjunction with the Asian Ports Business Forum in Kobe organised and hosted by Port of Kobe.

Presentations will be made to Sri Lanka Ports Authority and Busan Port Authority.

Participants in the IAPH regional meeting can attend sessions at the Asian Ports Business Forum free of charge. Speakers at the

forum include Takafumi Kido, president of Ocean Network Express Japan, Detlev Mohr, Fox Chu, and Yuta Murakami from McKinsey & Co, and Daniel Russel, vice-president of the Asia Society Policy Institute and a former US assistant secretary of state.

MORE INFO:
www.iaphworldports.org

Agenda for IAPH in Kobe

- IAPH Asia, South/West, East and Middle East (Asia-1) regional meeting
- Date: 26 November 2019
- Time: 13:00-15:00
- Venue: Kobe Portopia Hotel and Kobe International Conference Center, Kobe, Japan
- Registration fee: free



Hadiza Bala Usman, here speaking at the IMO, drove the agenda of IAPH Africa 2018 in September

Nigeria hosts IAPH event

The Nigerian Ports Authority has hosted the first IAPH-dedicated event in Africa since the Durban World Ports Conference in 2003. The IAPH Africa meeting was held in September.

Hadiza Bala Usman, IAPH vice-president for the Africa region and managing director of the Nigerian Ports Authority, drove the agenda of the conference in Abuja.

It was attended by Nigerian president Muhammadu Buhari, who called for African countries to improve their port infrastructure. "I want to implore participants at the conference to see themselves as people [who can] stand in positions of responsibility on behalf of Africa," he said, adding that interconnectivity would improve African countries' economic competitiveness.

At the end of the conference, it was agreed that a specific WPSP project be set up that will outline a pan-African ports agenda, with priorities in terms of infrastructure, operations, and governance. The project will be developed through the African port associations, with the involvement of the International

Maritime Organization (IMO), the World Bank and UN Conference on Trade and Development (UNCTAD), which were present at the Abuja event, and it will be facilitated through IAPH.

Also at the three-day event were representatives from World Trade Organization (WTO), European Commission, African Union, African Development Bank, and Pan-African Association for Port Cooperation, along with port representatives from Asia, Europe, and the United States.

Bala Usman told delegates in her welcome speech, "With 39 out of 54 countries on the continent endowed with littoral assets, the development of the continent is to a large extent tied to the optimal exploitation of its vast maritime resources."

IAPH's secretary general, Susumu Naruse, and managing director - policy and strategy Patrick Verhoeven have applauded Bala Usman's decision to hold the conference.

Naruse called on other ports to hold regional meetings and Verhoeven said, "The recent decade has seen investment in African port infrastructure on a scale never witnessed before in the continent's history. It is, therefore, a logical step for IAPH to hold this event and I congratulate our vice-president Ms Hadiza Bala Usman for taking the initiative."

Membership notes

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

Associate members

Korean Society of Coastal and Ocean Engineers

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-  Telephone +82-2-3474-1934
-  Fax +82-2-3473-1934
-  Email Bs.shin@gmail.com
-  Website www.kscoe.or.kr
-  Representative Park, Woosun, president

African Marine Solutions Group (Pty) Ltd

-  Address PO Box 1339, Cape Town, 8000, South Africa
-  Telephone +27 21 507 5777
-  Fax +27 21 507 5885
-  Email c.gomes@amsol.co.za
-  Website www.amsol.co.za
-  Representative Paul Maclons, chief executive officer

GloMEEP presents new set of toolkits

The GloMEEP project, an International Maritime Organization (IMO) project that aims to significantly cut greenhouse gas emissions from shipping, has rolled out two new toolkits.

The Ship Emissions Toolkit and Port Emissions Toolkit have been developed in collaboration with its strategic partners, IAPH, and Institute of Marine Engineering, Science and Technology (IMarEST).

According to a statement from the IMO, the toolkits were developed to support countries seeking to develop and strengthen national policy and regulatory frameworks related to the prevention of air pollution and the reduction of greenhouse gas emissions from ships.

"Both the ship and port emission toolkits provide practical guidance on assessing emissions so that a national emission reduction strategy for the maritime sector can be developed. The GloMEEP guides provide a wealth of information on assessment techniques and how to develop a national strategy, as well

as links to further practical guidance," said Astrid Dispert, the project's technical advisor.

The new set of toolkits includes a Ship Emissions Toolkit, which has three guides and a Port Emissions Toolkit, which has two guides.

Both toolkits include information on how to assess emissions and strategies to address them. The Port Emissions Toolkit acknowledges that ships and ports do not operate separately and so provides a plan for all port-related emissions.

Both toolkits have been developed through extensive testing and feedback from practical use of the toolkit guides during national and regional training activities that were held in the 10 lead pilot countries participating in the GloMEEP project, said IMO.

In September 2018, two further GloMEEP workshops took place, held in Batumi, Georgia, and Panama City, Panama, respectively. These were the last in the global roll-out of workshops in all 10 lead pilot countries of the GloMEEP project.

The guides are free to download at: glomeetp.imo.org/resources/publications/



We value your opinions

Do you have strong views about any of the articles in Ports & Harbors? Are there other industry issues you feel strongly about?

Email your views to ph@iaphworldports.org and we'll be happy to include them

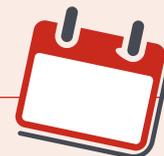
2018

2019

2020

Dates for your diary

A selection of forthcoming maritime courses and conferences



November

19-20: CEDA-IADC conference : Dredging for Sustainable Infrastructure
Amsterdam, Netherlands
cedaconferences.org

26: IAPH Regional Meeting (Asia, South/West, East and Middle East Region)
Kobe, Japan
www.iaphworldports.org

26-7 Dec: IPER Seminar: Finances Portuaires
Le Havre, France
www.em-normandie.com

27-29: 20th Intermodal Africa 2018
Accra, Ghana
www.transportevents.com

December

3-7: IMO Maritime Safety Committee (MSC) - 100th Session
London, UK
www.imo.org

3-7: TTPM: Strategic Port Policy, Governance & Stakeholders Management
London, UK
ttpminternational.co.uk

6-7: Ocean Literacy 2018
Malmö, Sweden
www.wmu.se

10-14: APEC-JNPT Seminar: Engineering & Procurement
Jawaharlal Nehru, India
www.jnptantwerpporttraining.com

11-12: JOC Port Performance North America Conference
Newark, New Jersey, USA
events.joc.com

January 2019

14-1 Feb: IHE Delft Short Course: Port Planning and Infrastructure Design
Delft, Netherlands
www.un-ihe.org

29-31: 16th Trans Middle East 2019
Safat, Kuwait
www.transportevents.com



Port of Osaka: 5093727

Multifaceted approach to sustainable ports

Hiromu Yabuuchi, director-general of Port of Osaka, considers the future challenges and opportunities facing his big city port

Port of Osaka's roots can be traced back a long way. It probably dates to the third or fourth century, but is first recorded in the eighth century in the history books *Kojiki* or *Nihon shoki*, which referred to it as an international port named Naniwa-zu or Suminoe-zu.

From the 17th to 19th century, Japan went through a period of national isolation but, despite this, Port of Osaka flourished so that "70% of national cargoes are in Naniwa [Osaka], and 70% of the cargoes in Naniwa are in ships".

In 1868, when national isolation was over, Osaka started to play a role as a modern international trade port, and in 2017 it celebrated its 150th year since opening. Port of Osaka has promoted the expansion of modern ports, and today it plays an important role supporting the production and consumption of the Kinki region, which has a population of 21 million and is one of Japan's most important international ports.

Currently, Osaka is connected with several leading ports in North America, Australia, and Asia, through 300 regular container services per month. It handles 2 million teu a year. Osaka's current focus is to expand this trade, especially with Asian ports.

In addition, we have created three large artificial islands (1,700 ha in total) and intend to use these for industries, housing, sports, and sightseeing, all of which are indispensable for the development of cities. Yumeshima, a new landfill site

currently under development, is attracting interest from international tourism entities, as well as the development of resorts that can cater to the growing number of sightseeing passengers from Asia.

The international community is working on achieving sustainable development goals in a wide range of fields including economic growth, innovation, energy, and the environment. At Port of Osaka, we believe the role of ports is essential in achieving these goals.

In order to respond to Japan's declining and ageing population and the corresponding labour shortage, we recognise that we must move quickly to improve efficiency in logistics and productivity, contribute to the environment through our evolution as a green port, build resilient infrastructure to mitigate natural disasters, such as earthquakes, typhoons, and tsunamis, and develop new industries in Japan.

We must develop big-city ports, bearing in mind the increasingly diverse and serious problems for neighbouring citizens and companies. Interaction with ports around the world, starting with information sharing, enables us to explore these challenges in a multifaceted manner and to derive the best solution. Through information sharing, feedback, and best practice, Port of Osaka would like to contribute to the development of ports around the world. 

Ports are essential to achieve the UN sustainable development goals

大阪港



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