The International Association of Marine and Shipping Professionals (IAMSP) is the professional body for Marine and Shipping professionals world-wide, formed in 2015. The association is an independent, non-political organization aims to:

Contribute to the promotion and protection of maritime activities of the shipping industry, the study of their development opportunities and more generally everything concerning these activities.

Promote the development of occupations related to maritime and shipping; serve as a point of contact and effective term for the business relationship with the shipping industry (charter brokers, traders, shipping agents, Marine surveyors, ship inspectors, ship-managers, sailors, and stevedores etc.).

Ensuring the representation of its members to the institutions, national and international organizations as well as with governments, communities and professional groups while promoting the exchange of information, skills and the exchange of experience.

Develop the partnership relations sponsorship, collaboration between IAMSP and other associations, companies, national and international organizations involved in activities related to Maritimes and shipping.

Contribute to the update and improvement of professional knowledge of its members and raise their skill levels to international standards.

Progress towards a comprehensive and integrated view of all marine areas and the activities and resources related to the sea.
China's abrupt decision to place stricter quality thresholds on a range of waste imports puts as much as 5 million teu at risk from becoming landfill.

Having given notice in July of last year, China has followed through on its pledge to turn away “foreign garbage” by adopting much stricter quality thresholds for a range of waste products (see Table 1). The new rules were implemented on 1 January and will become enforceable on 1 March.

**Table 1: New Chinese impurity thresholds for waste imports**

<table>
<thead>
<tr>
<th>Banned list</th>
<th>New standard</th>
<th>2016 Tonnes ('000)</th>
<th>Est. TEU ('000)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsorted waste paper</td>
<td>n/a</td>
<td>5,686</td>
<td>517</td>
</tr>
<tr>
<td>Vanadium slag</td>
<td>n/a</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Waste textile materials</td>
<td>n/a</td>
<td>644</td>
<td>59</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td></td>
<td>6,330</td>
<td>575</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Restricted</th>
<th>New standard</th>
<th>2016 Tonnes ('000)</th>
<th>Est. TEU ('000)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressed piece of scrap automobile</td>
<td>0.3%</td>
<td>2,058</td>
<td>187</td>
</tr>
<tr>
<td>Metal and electrical appliance scraps</td>
<td>0.5%</td>
<td>1,917</td>
<td>174</td>
</tr>
<tr>
<td>Non-ferrous Metal Scraps</td>
<td>1.0%</td>
<td>3,361</td>
<td>306</td>
</tr>
<tr>
<td>Smelt slag</td>
<td>0.5%</td>
<td>2,099</td>
<td>191</td>
</tr>
<tr>
<td>Vessels and other floating structures for breaking up</td>
<td>0.05%</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Waste and Scrap of Iron and Steel</td>
<td>0.5%</td>
<td>101</td>
<td>9</td>
</tr>
<tr>
<td>Waste and Scrap of Paper or Paperboard</td>
<td>0.5%</td>
<td>22,814</td>
<td>2,074</td>
</tr>
<tr>
<td>Waste and scrap of plastics</td>
<td>0.5%</td>
<td>7,347</td>
<td>668</td>
</tr>
<tr>
<td>Waste electric motors</td>
<td>0.5%</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Waste wires and cables</td>
<td>0.5%</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Wood and wood articles wastes</td>
<td>0.5%</td>
<td>60</td>
<td>5</td>
</tr>
<tr>
<td><strong>Sub-total</strong></td>
<td></td>
<td>39,758</td>
<td>3,614</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>46,088</td>
<td>4,190</td>
</tr>
</tbody>
</table>

* After conversion rate of 22 tonnes per FEU
The move has shocked a lot of people around the world involved in the waste management and recycling business, who have become accustomed to China taking their products of their hands. Finding alternatives won’t be easy. China imports around 30 million tonnes of waste paper each year, along with some 8 million tonnes of waste plastics, roughly the same as the rest of the world combined (see Figure 1 and 2).

**Figure 1: Waste paper imports (million tonnes)**

![Waste paper imports chart](source)

**Figure 2: Waste plastics imports (million tonnes)**

![Waste plastics imports chart](source)

Other markets in places such as India, Vietnam and Malaysia will be asked to pick up some of the slack (potentially offering carriers a bonus extra shipment if the cleaned product is transited to China thereafter),
but between them they lack anything like the sort of capacity required to do the same job as China used to do. Fearing piles of rubbish building on their doorsteps, numerous lobby groups and vested interests have pleaded with China to ease its stance, calling for more lead time and to relax the tolerance levels, which many say are impractically strict. However, for the time being it seems that China is determined to clean up its house and won’t back down.

So swift have things moved that some governments were caught completely unprepared. Only two weeks after the 1 January rule change did the UK government, which ships over 6 million tonnes of used paper and plastics to China (including Hong Kong) each year, finally cotton on to the problem and launch an inquiry to assess the situation.

China’s policy shift is also bad news for ocean carriers that are tasked with moving the waste materials. The market reacted when the initial notice was delivered in July, with some shippers nervous about despatching orders until it became clearer what constituted a legitimate shipment, while Chinese importers cut back purchase orders in fear of being heavily fined by the authorities or losing their operating licences, or both.

The panic got to the carriers too: concerned that laden boxes of waste paper might stand on the quay in China for lengthy periods of time, pending further investigation of contents, several lines decided to tighten up their procedures for the acceptance of bookings in the first place.

According to one major carrier that Drewry spoke with, the company was braced for some volume loss after China gave notice to the WTO in July, but the impact on backhaul shipments has been negligible so far. That situation doesn’t appear to be limited to that single line as trade flow statistics out of the US and Europe didn’t veer off normal seasonal trends at the back end of 2017 (see Figures 3 and 4).

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**Figure 3: Container exports from US, Jan 2016-Nov 2017**

(‘000 teu)

Source: Drewry Maritime Research, derived from PIERS
However, while the disruption to shipping might have been limited thus far, the carrier source did concede that they remain concerned about the situation as waste products can make up half of backhaul voyages. The carrier is most fearful for the most heavily-exposed westbound Transpacific market.

The US is by far the biggest exporter of waste to China, shipping two-thirds of its used paper across the Pacific Ocean, sending 13.2 million tonnes of the stuff in 2016. Its next largest destinations for the commodity are India and Mexico, between them importing about 3 million tonnes. America also had the lion’s share of exports of the now banned unsorted paper to China, followed by Japan and the UK (see Figure 5).
Unless there is a dramatic about turn, carriers can kiss goodbye to those banned paper and plastics shipments. Drewry estimates that worldwide unsorted paper imports to China were in the region of 500,000 teu in 2016 (see Table 2), while the still legal other types of waste paper added another 2 million teu.

Adding in the other lower-volume commodities affected by the new ruling Drewry estimates that there could be as much as between 4-5 million teu at risk, equating to nearly 3% of world loaded container traffic.

Table 2: China’s imports of waste paper by trading region, 2016

<table>
<thead>
<tr>
<th>Region</th>
<th>Banned unsorted</th>
<th>New standard</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(’000)</td>
<td>(’000)*</td>
<td>(’000)</td>
</tr>
<tr>
<td>North America</td>
<td>2,371</td>
<td>216</td>
<td>12,016</td>
</tr>
<tr>
<td>Europe</td>
<td>1,817</td>
<td>165</td>
<td>6,970</td>
</tr>
<tr>
<td>Asia</td>
<td>1,277</td>
<td>116</td>
<td>2,859</td>
</tr>
<tr>
<td>Oceania</td>
<td>207</td>
<td>19</td>
<td>713</td>
</tr>
<tr>
<td>Latin America</td>
<td>8</td>
<td>1</td>
<td>145</td>
</tr>
<tr>
<td>Middle East</td>
<td>5</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>World</td>
<td>5,686</td>
<td>517</td>
<td>22,814</td>
</tr>
</tbody>
</table>

* After conversion rate of 22 tonnes per FEU

Source: Drewry Maritime Research, China Customs

For the carriers, this development will not break the bank as the ocean freight earnt for backhaul waste shipments is extremely low, but they do at least provide some contribution, at least to the costs of repositioning containers back to Asia.
Clearly, volumes from the US and Europe to Asia will fail to reach the heights they could have without China’s decision, but all is not lost for the backhaul trades as other rising cargoes can help fill the gap.

Chinese imports of beef, for example, have soared in recent years, reaching more than 800,000 tonnes in 2016 – compared with just 6,000 tonnes ten years before – as rising incomes have boosted meat consumption and Beijing recently removed restrictions on the import of American premium grain-fed beef, which should provide a boost.

**Our view**

It is unclear at this early stage whether China’s new waste quality thresholds can be attained, which puts significantly more tonnage at risk of being incinerated or put into landfill rather than boarding containerships. Other backhaul cargoes, particularly foodstuffs, will ease the pain for shipping lines.

[Drewry Container Insight Weekly]

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**Oceans: Moratorium prevents Arctic fishing for 16 years**

27/01/2018
By Chris Fitch
A multilateral moratorium prevents Arctic Ocean fishing for 16 years, setting aside some degree of sovereignty disputes while scientific research of the top of the world continues.

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A fishing boat in the ice-filled waters off Greenland. The agreement bans commercial fishing in the disputed waters further north in the Arctic Ocean. Credit: Yongyut Kumsri

In December, the EU, the US, Russia, China, Canada, Japan, Iceland, Denmark and South Korea – all with interests in the Arctic – agreed an official moratorium on commercial fishing across an area of 2.8 million sq km in Arctic Ocean waters. While there is as yet no commercial fishing taking place at this high latitude anyway, the 16-year moratorium insists that even as the waters become increasingly accessible for fishing
In 2016, the Arctic sea ice minimum – a measurement showing when the sea ice extent is at its lowest each year – declined to just 4.14 million sq km, the second-lowest ever recorded. While individual years may fluctuate (2012 remains the record lowest sea ice minimum, down to only 3.41 million sq km), overall the annual minimum Arctic sea ice has declined by 13.2 per cent per decade since 1980. This has created ever-larger expanses of ice-free Arctic Ocean, resulting in debates over everything from potential shipping routes to mineral exploitation. The new moratorium places a hiatus on the ownership of fish stocks also being up for debate.

‘One of the important things to realise is that [the agreement] really does only cover the central Arctic Ocean, the high seas section,’ highlights Robert Headland, a senior associate at the Scott Polar Research Institute, University of Cambridge. ‘Most of that, for much of the year – even in the height of summer – is ice-covered, and you require serious vessels to get through it.’

Headland points to both the 1920 Spitsbergen Treaty and the 1959 Antarctic Treaty as case studies where geopolitical tensions regarding which countries could claim sovereignty over the polar regions were eventually settled by agreed treaties, and believes the same could potentially be done for the Arctic. ‘The Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) is working, and could be a nice model for the Arctic,’ he predicts. ‘The Antarctic Treaty owed a lot to the Spitsbergen Treaty, so the two polar regions have set precedents for each other. I see advantages for CCAMLR being adapted for the Arctic, because the biological problems are essentially similar.’

[Geographical]

26/01/2018
By Philip Wen
China has outlined its ambitions to extend President Xi Jinping’s signature Belt and Road Initiative to the Arctic by developing shipping lanes opened up by global warming.
Today, the State Council Information Office of the People's Republic of China published the white paper China's Arctic Policy. China said it would encourage enterprises to build infrastructure and conduct commercial trial voyages, paving the way for Arctic shipping routes that would form a “Polar Silk Road”.

China, despite being a non-Arctic state, is increasingly active in the polar region and became an observer member of the Arctic Council in 2013. Among its increasing interests in the region is its major stake in Russia’s Yamal liquefied natural gas (LNG) project, which is expected to supply China with four million tonnes of LNG a year, according to the state-run China Daily.
using the traditional route through the Suez Canal, the newspaper reported last month. COSCO Shipping has also previously sailed vessels through the Arctic's northeast passage.

China's increasing prominence in the region has prompted concerns from Arctic states over its long-term strategic objectives, including possible military deployment.

“Some people may have misgivings over our participation in the development of the Arctic, worried we may have other intentions, or that we may plunder resources or damage the environment,” Vice-Foreign Minister Kong Xuanyou said at a briefing. “I believe these kinds of concerns are absolutely unnecessary.”

The white paper said China also eyes development of oil, gas, mineral resources and other non-fossil energies, fishing and tourism in the region. It said it would do so “jointly with Arctic States, while respecting traditions and cultures of the Arctic residents including the indigenous peoples and conserving natural environment”.

The Arctic region consists of 8,000,000 km² of land, the sovereignty of which is divided between Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the US. The Arctic Ocean has an area of over 12,000,000 km², in which coastal and other countries share maritime rights under international law.

[Reuters / Independent]
The containership market in 2017: An improving performance

26/01/2018
By Jesse Asherson-Webb

Following the difficulties of 2016, containership market conditions saw some improvements through 2017, and a number of key box sector indicators performed more strongly last year, alongside cautiously optimistic market sentiment. While there remains a long way to go to reach previous highs, comparing the year-on-year change in market metrics illustrates the extent of this improvement.

An all-round performer?

Following weakening market fundamentals in the second half of 2015, difficult boxship market conditions were experienced throughout most of 2016. During 2016, however, positive changes to the supply-demand balance did begin to be reflected in gradually improving freight market conditions, and in 2017 improvements in vessel charter rates and secondhand prices followed. While market indicators generally remain at fairly subdued levels, even compared to historical averages, the year-on-year variation in key indices serves to highlight the dramatic extent of the improvement seen across the last year or more.

Climbing charter rates

The year-on-year (y-o-y) change indicator for the boxship charter rate index (see graph) remained negative throughout 2016, with the index itself dropping to heavily depressed levels not seen since 2010. However, against a backdrop of stronger fundamentals, there was improvement in the rate of y-o-y change from 2H 2016 and through 2017, hitting positive territory in March. While containership charter rates at end 2017 still remained subdued in broader historical terms, there was a clear improvement compared to end 2016, and the rate index finished the year up 35% y-o-y.

![Graph showing year-on-year change in various market metrics]

Source:Clarksons Research
Surging secondhand markets

On the S&P market, secondhand boxship sales activity reached record levels in 2017, the first year in which over 1m TEU of capacity was reported sold, against a backdrop of improving secondhand prices. Following a similar pattern to charter rates, though with a time-lag, the y-o-y rate of change indicator for the boxship secondhand price index turned positive in Q1 2017 too, and the index finished the year up 54% y-o-y.

Firmer freight rates

Meanwhile, a more mixed, but still largely positive, performance was seen on the box freight market during 2017. After appearing to ‘bottom out’ in 2016, on a y-o-y change basis spot freight rates rocketed in late 2016 and early 2017, with the SCFI Index in March 2017 reaching a level almost 90% above that seen one year previously. Although rates eased in the latter part of 2017 on some trades, pushing the y-o-y indicator downwards, full year rate averages generally stood materially above 2016 average levels.

Re-Balancing act

So, while not yet reflective of a return to peak market levels, the year-on-year approach to boxship market metrics shows that the extent of improvement in 2017 was certainly significant. As market players look ahead with cautious optimism, further rebalancing of fundamentals could extend the trend, and maybe drive another year of improving conditions in 2018.

[Clarksons Research]

Terminal operators Brazil: Terminal Link set to buy Libra Terminais

26/01/2018

Terminal Link is set to buy the Brazilian terminal operator Libra Terminais, according to Brazilian media reports and a local source familiar with the matter.

Terminal Link is jointly owned by CMA CGM (51%) and China Merchant Holdings International (49%) and both companies have individually been trying to buy Brazilian terminals for several years. China Merchants recently bought 90% of Terminal de Conteineres de Paranagua (TCP) and CMA CGM nearly bought Sepetiba Tecon in 2015 but the asking price was too much.

Libra Terminais runs terminals in Santos (near Sao Paolo), Rio de Janiero and the Southern port of Imbituba.

China Merchants Holdings International is a subsidiary of the China Merchants group – which is owned by the Chinese state. CMA CGM is a private company, majority owned by the French-Lebanese Saadé family.

[Container Management]

Marine pollution East China Sea: Tanker disaster to be probed by maritime authorities of China, Panama, Iran and Hong Kong

26/01/2017
The maritime authorities of China, Panama, Iran and Hong Kong on Thursday signed an agreement to jointly investigate a collision in the East China Sea that caused the worst oil ship disaster in decades, according to China’s Ministry of Transport.

Investigation work will be organized by a joint team composed of representatives of all four signatories to the agreement, a brief statement from the ministry said.

The Panama-registered Sanchi tanker (IMO:9356608), run by Iran’s top oil shipping operator, collided on Jan. 6 with the CF Crystal (IMO:9497050) about 160 nautical miles off the coast of China near Shanghai and the mouth of the Yangtze River Delta.

The Sanchi, which was sailing from Iran to South Korea, carrying 136,000 tonnes of condensate, an ultra-light crude, sank on Jan. 14 after drifting ablaze for more than a week. The ship’s crew of 30 Iranians and two Bangladeshis are believed to have been killed.

The black boxes for the Sanchi and the CF Crystal have been opened, the Iranian Students’ News Agency (ISNA) reported on Wednesday.

[Reuters]

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**Marine pollution East China Sea: How Sanchi’s spill could spread**

26/01/2018
The worst tanker oil spill in decades is unfolding across hundreds of miles of the East China Sea after an Iranian oil tanker carrying more than 100,000 tonnes of toxic oil collided with a freighter and exploded, killing all 32 crew onboard.

The Panama-registered Sanchi was carrying the equivalent of nearly 1 million barrels of ultra-light crude, plus its own fuel, to South Korea. According to the International Tanker Owners Pollution Federation, the collision led to the worst tanker spill in 35 years.

Authorities have had trouble pinning down how big the spill is, as it changes by the day amid strong ocean currents. But concerns are growing about the potential impact to key fishing grounds and sensitive marine ecosystems off Japan and South Korea, which lie in the projected path of the oil, according to Britain’s National Oceanography Centre.

“An updated emergency ocean model simulation shows that waters polluted by the sinking Sanchi oil tanker could reach Japan within a month,” the center said a report posted on January 16. “The revised simulations suggest that pollution from the spill may be distributed much further and faster than previously thought, and that larger areas of the coast may be impacted.”

This interactive graphic shows the likely direction and range of the spill over the coming weeks, and highlights the key reefs, fishing grounds and protected waterways in the area.

[Reuters]
26/01/2018
Taiwan is trying to be ahead of the curve in controlling air pollution from ships, with the Ministry of Transportation and Communications (MOTC) announcing Thursday a low-sulfur fuel oil rule for ships entering its international ports that will go into effect Jan. 1, 2019.

According to the International Maritime Organization’s (IMO) International Convention for the Prevention of Pollution from Ships, the global limit for sulfur content in fuel oil used in ships will be set at 0.5 percent mass by mass (m/m) from Jan. 1, 2020. The current global limit is 3.5 percent m/m.

Taiwan will therefore be ahead of the times, requiring foreign ships entering its international ports and domestic ships sailing on international routes to use fuel oil that contains 0.5 percent m/m or less of sulfur starting next year, said Yeh Hsieh-lung (葉協隆), deputy director-general of the MOTC’s Department of Navigation and Aviation.

In an attempt to encourage ships to switch to low-sulfur fuel even earlier, the MOTC will provide between Feb. 1 to the end of the year a subsidy of NT$5,000 (US$172) to all vessels, local and foreign, regardless of size, entering Taiwanese ports, if they make the change before the Jan. 1, 2019 implementation date, according to Yeh.

25/01/2018
The maritime sector accounts for a non-trivial and growing share of global greenhouse gas (GHG) emissions. Without adequate mitigation measures being in place, emissions from the maritime sector could prevent the goals established by the Paris Agreement from being achieved.

An economically efficient solution to mitigating these emissions would require carbon pricing to be part of the policy package. The most efficient application of carbon pricing would be through a global measure that prices GHG emissions at the rate of the social cost of carbon.

However, given the urgency of action on climate change, there is an equal need to consider alternative solutions in case this preferred measure does not become available in time. One proposition in policy debates has been to introduce regional carbon pricing. Such measures, however, face significant legal and economic challenges.

A new World Bank policy research working paper, Regional Carbon Pricing for International Maritime Transport: Challenges and Opportunities for Global Geographical Coverage, sheds light on these challenges, summarizes the relevant literature and explores ways forward for regional carbon pricing as a second-best policy back-up plan in case no global scheme of sufficient stringency can be implemented.
This debate has highlighted several economic, legal, and political challenges that the implementation of an efficient and effective regional scheme would have to face. The authors of the paper published today - Beatriz Martinez Romera, Goran Dominioni and Dirk Heine - compare the relative performance of various regional measures for carbon pricing based on the following criteria: jurisdictional basis, data availability, environmental effectiveness and avoidance strategies, impact on competitiveness, differentiation for developing countries, and incentives for reaching a global agreement. The main finding is that, if carefully designed, a cargo-based measure that covers the emissions released throughout the whole voyage to the cargo destination presents various advantages compared with other carbon pricing schemes. These advantages have been largely ignored in the literature.

[The World Bank]

Shipping emissions: Gunvor gets go-ahead for Rotterdam refinery upgrade for new shipping fuels

25/01/2018
By Libby George and Julia Payne
The Netherlands has given provisional approval to Gunvor to add a fuel upgrading unit at its Rotterdam refinery, according to a document seen by Reuters, as the international oil trader prepares for tough new environmental rules on shipping fuels.

The rules from the International Maritime Organization (IMO), due to come into effect in 2020, aim to cut sulphur emissions produced by ships, creating a challenge for shipping companies and oil refiners. Refiners have to decide whether to invest in new capacity to convert the old-style bunker shipping fuel - known as high-sulphur fuel oil - into higher quality products such as diesel.

The Dutch authorities, in a decision published early last month, told Gunvor that it would not have to conduct an environmental assessment to move forward with construction of the upgrade facility, known as a delayed coker unit, which would allow the refinery to turn high-sulphur fuel into various types of diesel.

Gunvor spokesman Seth Pietras said the company had not yet determined whether it would build the unit.
“Gunvor is currently studying several options for how best to respond to the IMO decision,” Pietras said. “We have not made any decision yet.”

A number of oil big oil companies, including ExxonMobil and Total, have invested in similar refinery upgrades to produce lower sulphur fuels in advance of the new shipping rules and also in response to tighter rules worldwide limiting sulphur in automotive fuels.

The bulk of Europe’s refineries have not yet made preparations for the tighter rules though experts have said some could struggle to stay profitable if they do not act. In an interview with Reuters in October, Gunvor founder Torbjorn Tornqvist said the company was “making preparations” for the shipping fuel change, but declined to comment on what would be included in those plans. “We expect to run our refineries. There is no doubt about that,” Tornquist said.

Gunvor’s Rotterdam refinery has a capacity of 88,000 barrels per day (bpd).

[Reuters]
25/01/2018

The upcoming IMO 2020 0.50% global sulfur cap is without question the single most significant regulatory milestone on the industry's horizon. But in exploring how compliance will be achieved, vessel owners are becoming increasingly aware of the need to look beyond 2020 and to what further regulatory changes lie ahead.

Despite an apparent sense of urgency for action from the International Maritime Organization (IMO) following COP21 and the assurance from various industry commentators that change is coming, not to mention an increasing amount of coverage on the matter in mainstream media, there is frustratingly little clarity on what this change might look like or indeed, when it might take effect.

Aiming to change this is a newly-launched international research network funded by the Canadian government, who over the next six years, aims to develop effective international policy solutions towards greener shipping.

Based out of the University of British Columbia (UBC) in Vancouver, UBC Sauder's Centre for Transportation Studies is the main hub of the network under the leadership of principal investigator, David Gillen and research director, Jane Lister. Henrik Sornn-Friese at the Copenhagen Business School (CBS) is a co-director of the partnership with CBS serving as the main European hub for the network.

Overall there are 17 universities involved in the project from Europe, North America, and Asia, along with 17 non-academic partners made up of industry bodies, governments, and NGOs.

"It is a global project to identify and share best practice and advise policy internationally, of course with implications locally. The research and policy recommendations coming out of this, we hope, will ultimately assist the IMO as part of their future policy and regulatory decision-making process," Lister told Ship & Bunker.

Green Shipping - Governance and Innovation for a Sustainable Maritime Supply Chain, is split into five research pillars each looking at distinct areas of governance:

• trade and logistics governance
• green port governance
• innovation governance
• stakeholder governance
• value chain governance

Bunker fuel

Naturally, bunker fuel is a key concern for Lister who notes Shipping's omission from the Paris Agreement on climate change and the fact the industry's carbon emissions remain unregulated.

"It's a sweeping topic but we need to look at how to move beyond just tweaking the industry and to encourage more transformative innovation; what are the barriers in terms of economic feasibility versus technological feasibility and what are the policy levers to help in that transition," she said.
"And while it's true that some areas of the shipping industry are adopting efforts to go green, there are still major governance challenges. In the absence of clear international standards, policy fragmentation is occurring at regional and domestic levels, causing confusion and investment uncertainty."

Some have questioned the efficacy of aggressively targeting shipping industry emissions, arguing that many calling for change are unaware it is already by far the most efficient mode of transporting goods. Indeed, last year consultant and veteran industry expert Dr Rudy Kassinger drew both praise and criticism after telling Ship & Bunker that even if the entire world fleet switched to zero emissions propulsion technology, the impact on global greenhouse gas (GHG) emissions would be "modest" at best.

"It's been such a surprisingly hidden sector despite it being so integral to everything we consume, and as a result there are information asymmetries and it's a big challenge to make sure everyone understands what's going on in the industry. One of the main aims of the network is to not just conduct research, but communicate it - knowledge mobilization is a key opportunity here," said Lister.

That said, as far is Lister is concerned there is no question as to whether or not future regulatory change is coming.

"Shipping's position as the most efficient mode of goods transportation, that's not going to hold out for long as the status quo is not sustainable, economically or environmentally," she said.

"Right now, I'd say Shipping is lagging behind other sectors, but has woken up to the fact it's no longer a question of if, it's how."

Perhaps one of the biggest unknowns is when any meaningful change will take place, both in terms of the introduction of new regulations and impact on the environment.

"This is the political debate that will be playing out in full force in April at IMO and we need to determine what is feasible in terms of the timeline. For the ecological issues themselves, we've already run out of time, so there is pressure there. But there's the question of the feasibility of the transition itself and how we get there, and I think pressure is mounting since Paris to see this change faster rather than some time later."

The partnership is set to meet in Copenhagen on May 1 to present early stage research results, and plan the research going forwards.

[Ship & Bunker]
A world-leading expedition cruise ship operator today joined international environmental organisations to spearhead the protection of Arctic communities and ecosystems from risks posed by the use of marine heavy fuel oil (HFO) to power ships, at the Arctic Frontiers conference in Tromsø, Norway.

CEO of Hurtigruten, Daniel Skjeldam, signed the Arctic Commitment today along with Dr Sian Prior, lead advisor to the Clean Arctic Alliance, an international coalition of environmental organisations campaigning for a ban on heavy fuel oil use in the Arctic.

“The Arctic Commitment makes a clear challenge to businesses and organisations – join us and take part in persuading the International Maritime Organization (IMO) that it must phase out the use of HFO in Arctic shipping by 2020”, said Dr Sian Prior of the Clean Arctic Alliance. “This is a real opportunity for shipping companies operating in the Arctic to show leadership, by switching from HFO before such a ban is in place”.

“The use of heavy fuel oil (HFO) has already been banned in the Antarctic, now it’s time to ban it in the Arctic as well”, said Hurtigruten CEO Daniel Skjeldam, whose company has chosen not to use heavy fuel oil in any of its ships. “The shipping industry must be frontrunners in promoting regulations that will secure sustainable Arctic growth”.

“An accident involving a mega ship and spill of heavy fuel oil in the Arctic would represent an environmental disaster”, continued Skjeldam. “If heavy fuel oil is spilled in cold Arctic waters, it will have larger consequences than anywhere else. The Arctic deserves sustainable growth and innovation, and the industry needs to move first.”

“The Arctic Commitment is a necessary step towards sustainable shipping in Arctic waters; not only will a ban on heavy fuel oil reduce the risks of spills in this vulnerable region, HFO is also a significant source of soot and particle emissions in the Arctic”, said Hallstein Havåg, Director of Policy and Research of the
Bellona Foundation, a member of the Clean Arctic Alliance. “By signing up to the Arctic Commitment, Hurtigruten are showing the leadership needed within the shipping industry to end the use of HFO.”

“The debate on HFO is over – now action is needed. Banning the use of heavy fuel oil to power Arctic shipping will not only minimise the risk of spills, but will also help reduce climate-warming emissions in the region”, said Christoph Wolff, Managing Director of the European Climate Foundation, another member of the Clean Arctic Alliance. “The Clean Arctic Alliance is calling on the international community to sign up to the Arctic Commitment, so that with one voice, we can urge the IMO to phase out HFO from Arctic waters.”

While not present in Tromsø, UN Patron of the Oceans and record-breaking polar swimmer Lewis Pugh also confirmed today that he would sign the Arctic Commitment as the earliest opportunity.

In the days and hours before the January 25th event in Tromsø, a number of more companies, and organisations stepped forward to also add their names to the Commitment. The full list of those currently pledged to sign the Arctic Commitment are:

- The Clean Arctic Alliance:

- Hurtigruten, international expedition cruise operator
- Eyak Preservation Council (USA, Alaska)
- Defenders of Wildlife
- Oceana
- Audubon Alaska
- International Cryosphere Climate Initiative (ICCI)
- Native Land Conservancy (USA)
- Association of Arctic Expedition Cruise Operators (AECO)
- Lewis Pugh, UNEP Patron of the Oceans and polar swimmer
- Bernice Notenboom, explorer, filmmaker and journalist

HFO-Free Arctic is a global campaign committed to protecting the Arctic from the hazards and risks posed by the use of heavy fuel oil (HFO). The campaign is currently working to secure a legally binding phase out of the use of HFO as marine fuel in Arctic waters by 2020. The campaign is led by the Clean Arctic Alliance.

[HFO Free Arctic]

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**Oil & gas exploration: U.S. Energy Secretary makes bizarre claim about U.S. fossil fuel exports at Davos**

25/01/2018
By Joe Romm

U.S. Energy Secretary Rick Perry said Wednesday that President Donald Trump’s big push to export fossil fuels should be seen as an effort to spread freedom throughout the world — since it gives countries another choice regarding where they get their energy.
“The United States is not just exporting energy, we’re exporting freedom,” Perry said during a Fox Business interview from the World Economic Forum in Davos, Switzerland.

For Perry, giving other countries a choice of who satisfies their addiction to climate-destroying fuels like coal, oil, and natural gas is somehow increasing their freedom. But it’s really exporting dependence and exporting carbon pollution.

If the U.S. were to promote zero-carbon fuels, like solar and wind power, however, that would free countries from dependence on anyone’s dirty hydrocarbons. Indeed, the whole point of the landmark December 2015 Paris climate agreement is that more than 190 of the world’s leading countries unanimously agreed with the overwhelming science that says the only way to avoid catastrophic climate change is to leave most of the world’s fossil fuels in the ground.

Today, thanks to Trump, the United States literally sits alone as the only one of those countries now saying it will abandon this global deal, after the last two other holdouts, Nicaragua and Syria, signed on last fall.

“There’s no strings attached when you buy American LNG [liquefied natural gas],” Perry told Fox Business host Maria Bartiromo. “So that’s world-changing.”

Well, American LNG is world-changing — or, rather, climate changing — but not in a good way. Back in 2014, the U.S. Department of Energy released an analysis of total greenhouse gas emissions from LNG. One of the country’s top methane experts told me at the time, “a close reading of the DOE report in the context of the recent literature indicates that exporting natural gas from the U.S. as LNG is a very poor idea” from a climate perspective.

More recent research paints an equally grim picture. A study in the journal Energy last month on the overall emissions impact of “U.S. liquefied natural gas (LNG) exports,” concluded that “emissions are not likely to decrease and may increase significantly due to greater global energy consumption, higher emissions in the U.S., and methane leakage.”

Total lifecycle greenhouse gas emissions for LNG are much higher than they are for regular pipeline gas because the liquefaction process is so energy-intensive and because there are even more leaks from that process and from shipping the LNG overseas.

Remember, natural gas is mostly methane, and some 86 times better at trapping heat than carbon dioxide. And earlier this month, a NASA analysis found that the jump in fossil-fuel methane emissions in the past decade “is substantially larger than in previous literature.”

And if fracked gas domestically is part of the climate problem, then liquefying that gas and shipping it to other countries is an even bigger problem. When you add in the U.S. exports of coal and oil, then America is one of the biggest exporters of carbon pollution in the world. And that is not exporting freedom.

[Think Progress]
Billions of bits of plastic waste are entangled in corals and sickening reefs from Thailand to Australia’s Great Barrier Reef, scientists said on Thursday.

In the Asia-Pacific region a total of 11.1 billion plastic items - including shopping bags, fishing nets, even diapers and tea-bags - are ensnared on reefs, the scientists wrote in their report published in the journal Science on 26 January 2018: Plastic waste associated with disease on coral reefs.

They projected the numbers would rise by 40 percent by 2025 as marine pollution gets steadily worse. The plastic increases the likelihood of disease about 20 times, to 89 percent for corals in contact with plastics from four percent in comparable areas with none. Trash may damage the tiny coral animals that build reefs, making them more vulnerable to illness. And bits of plastic may act as rafts for harmful microbes in the oceans.
A survey of 150 reefs found plastic was a common pollutant. Credit: Kathryn Berry/Science

Intricate branches of coral reefs provide a habitat for small fish in Bali, Indonesia. Corals with branches such as these are the most vulnerable to the threats of bacteria-ridden plastics. Credit: Newsweek

At least 275 million people worldwide live near reefs, which provide food, coastal protection and income from tourism. The presence of plastics seemed specially to aggravate some common coral afflictions, such as skeletal eroding band disease.
The scientists urged tougher restrictions on plastic waste. In December, almost 200 nations agreed to limit plastic pollution of the oceans, warning that it could outweigh all fish by 2030. Co-author Douglas Rader of the U.S. Environmental Defense Fund said better management of fisheries was the best way to strengthen coral reefs to enable them to fend off man-made threats such as more plastics.

“This is not a story about ‘let’s give up on corals’,” he told Reuters. “Overfishing today is the biggest threat.” He said nations from Belize to the Philippines were acting to regulate fisheries on corals.

[Reuters]

**Meteorology: Overlooked air pollution may be fueling more powerful storms**

25/01/2018

By Carolyn Gramling

Ultrafine aerosols can help form clouds under certain conditions.

Ultrafine aerosols — once thought to be too small to affect cloud formation — may play a role in making storms in the Amazon Though they be but little, they are fierce.

Airborne particles smaller than 50 nanometers across can intensify storms, particularly over relatively pristine regions such as the Amazon rainforest or the oceans, new research suggests. In a simulation, a plume of these tiny particles increased a storm’s intensity by as much as 50 percent.

Called ultrafine aerosols, the particles are found in everything from auto emissions to wildfire smoke to printer toner. These aerosols were thought to be too small to affect cloud formation. But the new work suggests they can play a role in the water cycle of the Amazon Basin — which, in turn, has a profound effect on the planet’s hydrologic cycle, researchers report in the journal Science on 26 January 2018: Substantial convection and precipitation enhancements by ultrafine aerosol particles.

“I have studied aerosol interactions with storms for a decade,” says Jiwen Fan, an atmospheric scientist at
the Pacific Northwest National Laboratory in Richland, Wash., who led the new study. “This is the first time I’ve seen such a huge impact” from these minute aerosols.

Larger aerosol particles greater than 100 nanometers, such as soot or black carbon, are known to help seed clouds. Water vapor in the atmosphere condenses onto these particles, called cloud condensation nuclei, and forms tiny droplets. But water vapor doesn’t condense easily around the tinier particles. For that to be possible, the air must contain even more water vapor than is usually required to form clouds, reaching a very high state of supersaturation.

Such a state is rare — larger aerosols are usually also present to form water droplets, removing that extra water from the atmosphere, Fan says. But in humid places with relatively low background air pollution levels, such as over the Amazon, supersaturation is common, she says.

From 2014 to 2015, Brazilian and U.S. research agencies collaborated on a field experiment to collect data on weather and pollution conditions in the Amazon Basin. As part of the experiment, several observation sites tracked plumes of air pollution traveling from the city of Manaus out across the rainforest. During the warm, wet season, there is little difference day to day in most meteorological conditions over the rainforest, such as temperature, humidity and wind direction, Fan says. So a passing pollution plume represents a distinct, detectable perturbation to the system.

The international team examined vertical wind motion, or updrafts, and aerosol concentration data from one of these stations from March to May 2014. When a large plume of aerosols with an abundance of ultrafine particles passed by an observation station, the researchers observed a corresponding, more powerful vertical wind motion and heavier rain. Such updrafts intensify storms, helping to drive stronger circulation.

Next, the researchers conducted simulations of an actual storm that occurred on March 17, 2014, matching its temperature, wind and water vapor conditions, as well as a low level of background aerosols in the atmosphere. Then, the team introduced several pollution scenarios to interact with the storm, including no plume and a typical plume from the Manaus metropolis. The results suggested that the ultrafine aerosol particles, in particular, were not only acting as cloud condensation nuclei over the Amazon Basin, but also that the water droplets the aerosols created significantly strengthened the gathering storm.

If the conditions are right, the sheer abundance of the ultrafine particles in such a plume would rapidly create a very large number of cloud droplets. The formation of those droplets would also suddenly release a lot of latent heat — released from a substance as it changes from a vapor to a liquid — into the atmosphere. The heat would rise, creating updrafts and quickly strengthening the storm.

Aside from the Amazon, Fan notes that such pristine, humid conditions can also exist over large swaths of the oceans. One recent study in Geophysical Research Letters that she points to found a link between well-traveled shipping lanes, which would contain abundant exhaust including ultrafine aerosols, and an increase in lightning strikes. “This mechanism may have been at play there,” she says.

Atmospheric scientist Joel Thornton of the University of Washington in Seattle, who led the study on the shipping exhaust, says it’s possible that ultrafine particles play a role in that scenario. “What this paper does is raise the stakes in needing to develop a deeper, more accurate understanding of the sources and fates of atmospheric ultrafine particles,” Thornton says.

Meteorologist Johannes Quaas of the University of Leipzig in Germany, who was not involved in either study, agrees. “It’s a very interesting hypothesis.”

But the observations described in the new study don’t definitively demonstrate that ultrafine aerosols alone drive updrafts, Quaas adds. The weather conditions may appear highly consistent from day to day, but such systems are still highly chaotic. Everything from wind to temperature
to how the land surface interacts with incoming solar radiation may be variable, he notes. “In reality, it’s not just the aerosols that change.”

[ScienceNews]
Port development U.S.: San Diego starts $24 million terminal modernization project

25/01/2018

By Mark Edward Nero

The Port of San Diego has started a $24 million project to modernize its Tenth Avenue Marine Terminal, allowing it to handle up to 4.6 million metric tons of cargo annually.

The project involves the removal of two obsolete warehouses to help create a laydown area for larger project cargo. Also included are improvements to utilities, new lighting and pavement. New modular office space, utility enclosures and restrooms will also be added, as well as on-dock rail improvements.

The terminal modernization is the first phase of a larger project that provides laydown space and flexibility for cargo. The port said its long-term redevelopment plan envisions three distinct cargo nodes within the existing footprint of the terminal: project and break-bulk cargo; refrigerated containers; and dry bulk cargo.

The port is matching the U.S. Department of Transportation’s $10 million federal TIGER Grant with a $14 million contribution to fund the first phase of the modernization. Phase I of the modernization project is anticipated to take about 13 months to complete. Northern San Diego County construction company Dick Miller, Inc. was awarded the contract for the phase. Future phases, according to the port, will be dependent on funding, market trends and customer needs.

[American Shipper]

Port development U.S.: Long Beach approves rail facility project

25/01/2018

The Port of Long Beach Board of Harbor Commissioners in Los Angeles, US, has approved plans for construction of the Pier B On-Dock Rail Support Facility with the aim of increasing cargo movement and reducing the environmental impact of the site.

Source: Port of Long Beach
The project’s preliminary designs are expected to be completed in the coming months, which will be followed by the formulation of a baseline budget for the development.

Harbor Commission president Lou Anne Bynum said: “This project is vital to our ability to stay competitive and will minimise truck trips generated by anticipated cargo growth. Moving more cargo by rail to and from the Port reduces air pollution and makes operations more efficient.”

"The Clean Air Action Plan calls for increased use of on-dock rail, and we have a goal of raising our on-dock volumes to at least 35% of our shipments."

The proposed initiative would see cargo-loading activities at the port be carried out using an ‘on-dock rail’, which places containers directly onto trains at marine terminals. The Pier B facility is intended to provide adequate track space to allow the connection of sections of trains assembled at terminals. At present, the ability to build long trains is limited due to the unavailability of yard tracks at the site.

The successful completion of the project is expected to remove the need for cargo trucks to visit the facility. It is estimated that a single one-mile-long train would be able to carry the equivalent cargo capacity of almost 750 trucks, thereby offering significant environmental benefits.

Port of Long Beach executive director Mario Cordero said: “The Clean Air Action Plan calls for increased use of on-dock rail, and we have a goal of raising our on-dock volumes to at least 35% of our shipments. It’s crucial that we build this facility to hit these environmental and business goals.”

The Pier B On-Dock Rail Support Facility is slated to be operated by Pacific Harbor Line and is planned to be located south-west of Anaheim Street and Interstate 710.

The Port of Long Beach experienced its busiest year ever in 2017, moving 7.54 million TEUs, an increase of 11.4 percent from the previous calendar year, according to data released by the Southern California port:

- Loaded imports totaled 3.86 million TEUs
- Loaded exports totaled 1.47 million TEUs
- Empty containers (imports and exports) totaled 2.21 million TEUs

[Railway Technology / American Shipper]

25/01/2018

Rolls-Royce’s new research facility in Turku, Finland provides a space for the company and its partners to develop technologies that will help shape the future of an increasingly more autonomous global shipping industry.

Officially opened on January 25, the new R&D center, which Rolls-Royce calls the Research & Development Center for Autonomous Ships, will focus on projects relating to autonomous navigation, the development of land-based control centers and the use of artificial intelligence in future remote and autonomous shipping operations. The facility will also provide space to showcase Rolls-Royce’ already introduced autonomous ship technologies as well as those still in development.

“Stakeholders, partners and customers will be able see here what a remote controlled and autonomous maritime future could look like, and work with us to shape the future,” said Rolls-Royce President Marine, Mikael Makinen, speaking at the center’s official opening ceremony.
The facility’s “Remote and Autonomous Experience Space” includes interactive tables that Rolls-Royce will use to showcase existing and future technologies while aiding the development and introduction of new rules and standards for autonomous shipping, Rolls-Royce said.

Makinen explained, “The experience space that is part of the center here in Turku, and a similar one we have in our Technology Center in Norway, is aimed at demonstrating to our customers the very tangible benefits of what is often considered an intangible technology.”

“The center allows us to more accurately communicate our capabilities, what we have available today and what will be available tomorrow,” said Karno Tenovuo, Rolls-Royce Senior Vice President, Ship Intelligence. “It will completely focus on the development of solutions capable of smoothing the maritime industry’s transition to the digital age. An autonomous maritime ecosystem will open up unprecedented opportunities.”

[MarineLink]

**Container shipping: World Container Index - 25 Jan 2018**

25/01/2018

The World Container Index assessed by Drewry, a composite of container freight rates on 8 major routes to/from the US, Europe and Asia, is up by 1.7% to $1465.72/40ft container.

Two-year spot freight rate trend for the World Container Index:

**World Container Index: Drewry assessment on Thursday, 25 January 2018**

• The composite index is up by 1.7% this week and down by 19.4% from the same period of 2017.
The average composite index of the WCI, assessed by Drewry for year-to-date, is US $1,431/40ft container, which is $147 lower than the five-year average of $1,578/40ft container.

The World Container Index, on Shanghai-New York, edged up by $14 per feu to reach $2,883. Tight space in the all-water services to the USEC helped the carriers to drive rates up on services to the West Coast. As a result, the rates on Shanghai-Los Angeles gained $85 per feu this week. Rates on the Asia-North Europe route were stable this week, while rates on Shanghai-Genoa gathered $36 to reach $1,527, for a 40ft box. We expect rates to jack up on the back of the demand spike before the Chinese New Year holidays and the 1 February GRIs.

Our latest freight rate assessments on eight major East-West trades:

![Spot freight rates by route - assessed by Drewry](image)

[Drewry]

**Shipbreaking in Asia: Profit at a price**

24/01/2018

By Alan Boyd

Global brokers skirt conventions against dumping redundant ships on Asian shores where workers risk life and limb in hazardous breaking yards.

Ship brokers are flying flags of convenience (FOC) to skirt conventions against the dumping of redundant vessels on Asian beaches, where it is believed hundreds of workers are killed and injured in hazardous
Statistics kept by NGO Shipbreaking Platform, a coalition of environmental, human rights and labor groups, indicate German companies were the worst culprits in the first half of 2017, followed by Singapore, Greece and South Korea. About 800 large ships are sold for scrap in Asia each year, the group estimates.

Yards in Bangladesh, India and Pakistan are believed to account for as much as 80% of the global breaking and recycling market for ocean-going vessels, with a further 15% occurring in China and Turkey. The biggest is at the Bangladeshi port city of Chittagong, which recycled 230 ships last year.

The industry employs hundreds of thousands of people, often poor rural migrants, and pumps millions into local economies. Bangladesh gets 60% of its steel supply from the rusting hulks, Pakistan at least 15% and India 5-6%, according to the World Bank. Everything from ships is recycled.

European and North American ship brokers use the yards because they can reap an extra US$1 million or more by exploiting Asia’s lower costs and — perhaps most importantly — its lax environmental standards. Ships are usually loaded with toxic metals that would require reprocessing in Western ports, but are simply piled up on beaches by workers on Asian yards.

Children as young as 14 work in the breaking yards, and there are few safety precautions. Labor unions say that at last 125 people have been killed in Chittagong in the past decade and there have been similar fatality levels at other yards. An unknown number have been injured.
Efforts are now being made to hold ship owners and managers responsible for the accidents.

In December 2017, British law firm Leigh Day filed a lawsuit over the injuries suffered by Chittagong worker Mohamed Edris in 2015 when a falling sheet of metal from the ship Eurus London severed his left leg below the knee, blinded him in one eye and badly damaged his back.

According to the lawsuit, Zodiac Maritime, a British-based shipping company that had managed the container vessel until it was sold to US broker GMS for scrap, should have been aware of the work dangers in the yard. Edris, who can no longer work, has said he warned supervisors that a large metal platform placed below the propeller to stop it falling on the beach could rebound when the propeller fell down. Indeed, it did spring back.

Scrapping hazardous vessels is prohibited under the terms of the 2009 Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (Hong Kong Convention). The edict has not been enforced, however, because it lacks the required signatures representing 40% of merchant shipping.

“Greenwashing” of scrapping yards by international classification societies

Scrapping yards also consort with ship owners and brokers to keep their businesses afloat through “greenwashing”, or obtaining a Statement of Compliance with the treaty.

In December, the Peace Happiness and Prosperity (PHP) breaking yard in Chittagong was certified by the Italian classification society RINA (Registro Italiano Navale), as having met international standards of compliance for shipping.

PHP, owned by a powerful Bangladeshi business family with interests in the steel industry, has consistently refused to allow workers at its yard to have labor union representation. Shipbreaking Platform says it clearly has few environmental safeguards, with toxic materials released into the sea. (PHP could not be reached for comment on the allegation.)
In October, the PHP Family (Peace Happiness and Prosperity) shipbreaking yard received a Statement of Compliance with the Hong Kong Convention [1] by the Italian classification society RINA. Trade unions in Bangladesh, as well as the Platform’s member Bangladesh Institute for Labour Studies (BILS), are concerned that such a labelling sets a dangerous precedent for the further green-washing of the Chittagong beaching yards. Workers and the environment are not protected as long as ships are broken on the beach, and as long as fundamental labour rights and proper infrastructure are not secured. PHP is run by a renowned business family in Chittagong, who also runs activities in the steel re-rolling and construction industries, and owns TV channels. Trade unions made a formal request to represent the workers at the PHP yard, but the management has systematically rejected the workers’ right to freedom of association, and employees that have strongly engaged in demanding respect of workers’ rights have even been fired. Any worker association or NGO which does not praise PHP is received with hostility and is not even allowed to visit the yard. As reported yesterday by the Platform, accidents at the PHP shipbreaking yard continue to happen. “It is shocking that a company that rejects legitimate trade union activities can be stamped as operating in line with international laws. The Hong Kong Convention clearly fails in setting standards that will protect workers”, says Nazim Uddin, local trade union leader and Bangladesh representative at IndustriALL. Despite some investments in the PHP yard to concrete parts of the upper beach, the severe deficiencies in infrastructure for the containment of toxics renders any statement of compliance with pollution prevention standards ludicrous. When vessels are cut in the intertidal zone, toxics are inevitably released in the sea. The entire Chittagong area is heavily polluted, and there is no means for any beaching yard to handle and dispose hazardous waste, such as oil residues, heavy metals and asbestos, in a safe and environmentally sound manner.

[1] Statements of Compliance with the Hong Kong Convention were first issued to beaching yards by the Japanese company Class NK in Alang, India, last year. Other classification societies, such as RINA and the Indian Ship Registry, have now entered the business of issuing these statements, and a total of 47 yards have received such statements in India, whilst PHP is the first, and so far, the only one in Bangladesh.

The Hong Kong Convention’s ship recycling requirements stop at the gate of the yard, therefore the fact that Bangladesh still has no waste treatment facility for general waste, let alone for the toxic materials coming from ships, is completely overlooked by the Convention. Statements of Compliance with the Hong Kong Convention are clearly no guarantee that the environment and workers are protected from the many risks connected to the heavy and hazardous industry of ship recycling. “That a beaching yard in Chittagong is able to comply with the Hong Kong Convention tells us a lot about the extremely low standard set by the International Maritime Organisation”, said Ingvild Jenssen, Director and Founder of the NGO Shipbreaking Platform. “Any ship owner looking for a safe and clean location for the recycling of their ship will be wise to disregard the very misleading Statements of Compliance with the Hong Kong Convention, and instead consult the upcoming EU List of approved ship recycling facilities”, she adds.

Source: NGO Shipbreaking Platform Press Release [Brussels/Chittagong, 7 December 2017]

European Commission regulations banning the export of hazardous waste have also had limited success in stopping ship exports.
On January 17, British authorities prevented three oil rigs from being shipped from Cromarty Firth in Scotland due to concerns that they might be heading for South Asia. The broker was GMS, the subject of the Chittagong lawsuit.

A key flaw in both conventions is that vessels are regulated according to their flag state jurisdictions, or countries of registration, which are easy to change.

Shipbreaking Platform said that 49 of the vessels sent to Asia in the second quarter of 2017, or about one-third, had their registrations altered only weeks before they reached the beach breaking yards.

Their new “flags” were countries outside the conventions that are not typically used by commercial shipping: Togo, Comoros, Palau, St Kitts & Nevis, Djibouti and Niue were among the most popular.

The company that did the most switching was the Singaporean Continental Shipping Line, which gave six Liberian-flagged vessels new registrations. Quantum Pacific, also based in Singapore, changed flags on four scrapped ships.

The country with the worst dumping record in last year’s second quarter was Germany, which beached 16 vessels. Singapore sent 12 ships to Asian beaches, and there were nine from Greece and eight from South Korea.

[Asia Times]

24/01/2018

By Ian Thomson-Newman

Proposals for two separate projects to improve passenger and freight links between the Chilean capital Santiago and nearby cities on the Pacific coast were unveiled in early January.

The first proposal comes from Tren Santiago Valparaíso (TSV), a consortium of China Railway Group and Chilean industrial conglomerate Sigdo Koppers, which is looking to build a 200km/h line connecting the west of Santiago with Valparaíso via the town of Casablanca. While primarily a passenger project, TSV is also intended to improve rail access to the ports of San Antonio and Valparaíso. The consortium estimates the project will require an investment of around $US 1.6bn, but claims that no public subsidy would be required.

On 17th January, a few days after the TSV statement, Chile’s outgoing president, Mrs Michelle Bachelet, made a long-awaited announcement, confirming that port development in central Chile will be concentrated on San Antonio, rather than Valparaíso. This prompted Chilean State Railways (EFE) president Mr Germán Correa to confirm his company has been working on a project to improve rail access to the port, where rail's share of the freight market is currently less than 10%.

EFE’s project is phased, the first stage comprising upgrades of the existing single-track Santiago - San Antonio line, including the lengthening of passing loops to 1200m. In a second phase, the line would be doubled and an intermodal freight terminal built in the southwestern outskirts of Santiago.

In a third stage, a new line would be constructed from Melipilla, approximately halfway between Santiago and San Antonio, northwards towards Valparaíso, to serve both freight and passenger traffic. The alignment would be broadly similar to the TSV route, with the distinction that it would stop short of the city of
Valparaíso itself, thereby avoiding what would otherwise be the costliest section to build, due to steep gradients and its urban environment.

The rail freight terminal would be located at the port’s inland terminal near Placilla, some 10km from the port itself and more than 500m above it.

Financing for the first stage is covered by EFE’s already-approved 2017-19 development plan. The second stage is tagged at $US 1.1bn and EFE plans to tender its implementation and subsequent operation. This could lead to a third rail freight carrier entering the market, which is currently divided between concessionaires Fepasa and Transap. The third stage would require an investment of $US 1.5-1.8bn and would also be tendered.

[International Railway Journal]

Port development Myanmar: Dawei SEZ to be developed in full after five-year delay

24/01/2018
By Su Phyo Win

The Dawei Special Economic Zone (SEZ) will be developed in full to accelerate its completion after a five-year delay. The original plan was to develop the first phase of the SEZ, a spokesperson of the SEZ management committee said.

A public forum was held in Dawei SEZ area for the purposes of sharing information and discussing action plans by the management committee and Italian-Thai Development company (ITD), the developer selected to construct the initial phase of the SEZ, last week.

The Myanmar government has been exploring ways to restart development of Dawei SEZ, which has been suspended since 2013, when ITD withdrew from the agreement to develop the $8 billion SEZ due to financial constraints. There were also community complaints regarding lack of adequate compensation for the construction and potential pollution and disruption caused. ITD resigned the concession agreement in 2015.

Currently, Japan International Cooperation Agency (JICA) is drawing up a full phase master plan for Dawei SEZ. The plan will be finalised and submitted to the relevant SEZ authorities in April. Full phase implementation will commence in tandem with development of the initial phase of the SEZ, which involves the construction of roads and a port as well as electricity generation, said U Myint San, Vice President of Dawei SEZ.

“There were many complications in terms of agreement with the previous government and land compensation issues to be tackled with the initial phase developer ITD. So we can’t wait for the initial phase to be finished to start the full phase. We have to develop both phases together,” he said.

In 2015, Thailand had offered Myanmar a soft loan of 4.5 billion baht at an interest rate of 0.1pc to upgrade the road into an ASEAN-standard highway. The loan will be repayable within 20 years. Commerce Minister U Than Myint told The Myanmar Times late last year that acceptance of the loan will be decided during the coming seventh Pyihtaungsu Hluttaw meeting.

According to the information received from the public forum, the existing six villages involved in the Dawei SEZ project are not likely to be relocated, said U Aung Ko, farmer of Pagawzon village in the SEZ area. U Aye Min, President of Dawei Nationalities Party said while it is a good sign that the project will be
restarting after the long pause, the SEZ has to be developed with least possible negative impact to the community.

“The restart must avoid the mistakes initiated under the previous government. Compensation has to be fair. The suspension of the project was largely due to protests over unfair compensation,” he said.

Two taskforces have already been formed to look into restarting development of Dawei SEZ. One will focus on problems encountered with ITD for the initial phase, while the second task force will focus on upgrading an existing 150-kilometer road connecting the SEZ to Htee Khee.

At $8 billion, Dawei SEZ will be one of the biggest mega-projects in Southeast Asia once complete. Development of the initial phase alone would cost more than $1 billion.

Source: Nikkei Asian Review

The Dawei SEZ project is one of three SEZ projects in Myanmar. Currently, Thilawa SEZ in southern Yangon is the only one in operation while Kyaukphyu SEZ in Rakhine has stalled due to a deadlock in stakeholder negotiations between China’s CITIC-led consortium and the Myanmar government.

[Myanmar Times]
Container ships featuring 8,000 TEU will start calling at Bangladesh’s first deepsea port at Matarbari by July 2023, the target date for completion of the Japan International Cooperation Agency’s (JICA) program to handle increasing trade volumes.

JICA, who will fund construction, said the port will “ease ship congestion at Chittagong seaport,” which is deep enough to handle, at best, 1,200 TEU vessels. The deepsea port’s multi-purpose terminal will be ready for container shipping vessels by November 2022, and a coal terminal will be constructed by August 2022.

The port will have a 16-meter (52.5 foot) draft, which shippers said is required to handle Bangladesh’s growing trading sector. With the current infrastructure, only feeder vessels can ferry goods to and from the port.

“We will start a loan negotiation with JICA soon. They are very positive about the Matarbari deepsea port with their study findings,” Shipping Secretary Abdus Samad told JOC.com. A JICA appraisal recently updated government officials, and one finding indicated that since big vessels will be able to call at the deepsea port, it will help reduce congestion at Bangladesh’s prime seaport at Chittagong.

In the first phase of construction, the container terminal will be built on 18 hectares, have a 460-meter berth, be able to accommodate 8,000 TEU vessels, and have an annual capacity of 600,000 to 1.1 million TEU. Later, the container terminal will be expanded, comprise 70 hectares, have a 1,850-meter berth, and have a 2.8-million-tonne capacity.

JICA said the multi-purpose terminal will be built on 17 hectares, have a 300-meter berth, and be able to accommodate vessels with up to 70,000 dwt. Its annual capacity will be 2.25 million tonnes.

In addition, the port will have a large coal terminal to handle the enormous volume of coal the country requires, as Bangladesh is constructing scores of coal-fired power plants to meet the country’s growing energy needs.

The deepsea port’s main navigational channel will be 350 meters wide. Currently, vessels with less than a 9-meter draft can call at the country’s two seaports at Chittagong and Mongla.

The prime seaport Chittagong is exceeding its 1.7-million-TEU design capacity. In 2017, it registered 9.36 percent container growth, handling 2.56 million TEU, compared with 17 percent growth to 2.34 million TEU in 2016. Furthermore, the port experienced prolonged congestion for almost half of 2017, from April to Nov. 1. Vessels had to wait in the port’s outer anchorage more than 10 days to get berthing, which resulted in longer stays and additional charges to shippers.

In fiscal year 2016 to 2017, Bangladesh’s imports totaled $43.49 billion and exports, $34.02 billion. More than 90 percent of the nation’s export-import goods are handled by seaports.

[JOC]
Denmark targets digitalization as it sets out global maritime hub plans for 2025

23/01/2018

By Marcus Hand

Denmark has placed digitalization and being a knowledge hub at the heart of plan to grow its shipping sector to be a global maritime hub by 2025.

The Danish Ministry of Economic and Business Affairs said that the plan aimed for Denmark to be a frontrunner in developing autonomous maritime technologies and maritime digitalization. The plan for growth has been developed by the government based on recommendations of the Maritime Strategy Team.

“With the Plan for Growth in the Danish Maritime Sector, the Government has set the course for Denmark to become a global maritime power hub by 2025. Now, all forces in the Danish maritime sector must join forces, roll up their sleeves and get to work to make the vision behind the plan for growth into reality,” said Minister for Industry, Business and Growth Brian Mikkelsen.

While the maritime sector was recognized as one of the country’s most important export sectors and a major provider of employment it was also a market undergoing rapid change with consumer behavior and digital and technological developments.

The plan contains 36 initiatives that fall in four thematic areas – a digitalization hub, attractive framework conditions, a hub for knowledge, and a hub with global visions and attractions.

On the digitization front it was seen that Denmark should become a leading laboratory for testing new maritime technologies, digital systems, types of production and operation as well as the generation of energy. In terms of being a knowledge hub there was a focus on education and training and ensuring people had the right competencies to meet the future needs of the sector.

“It is important that more young people see the opportunities of a future in the maritime businesses. Education of high quality and skilled young people is essential for the maritime sector to be an important part of the future growth of Denmark”, said Søren Pind, Minister of Education and Research.

In terms of Denmark’s attractiveness as a maritime center the removal of registration fees for the Danish International Register of Shipping (DIS) was already seen as having an effect. “Abolishing the fee for registration has removed a substantial factor when shipping companies choose where to register their ships. The abolishment will make DIS (more attractive. I see the news that Maersk will register more ships under Danish flag as a clear sign of this,” said Mikkelsen.

[Seatrade Maritime News]

Container shipping: RWI/ISL-Container Throughput Index ending 2017 on a positive note

23/01/2018

The Container Throughput Index of the RWI – Leibniz Institute for Economic Research and the ISL –
Institute of Shipping Economics and Logistics was able to maintain the high level seen in the previous month (revised November value: 130.6 points) during December 2017.

The index thus ended the year 2017 on a positive note. During 2017, the index recorded a 5.4 % increase, which is similar to the growth observed in 2016. World trade thus seems to have found a way out of the doldrums in which it has been stuck during 2014/2015.

The index is based on data continuously collected from world container ports by ISL as part of its market monitoring. Because large parts of international merchandise trade are transported by ship, the development of port handling is a good indicator for world trade. As many ports release information about their activities only two weeks after the end of the respective month, the RWI/ISL Container Throughput Index is a reliable early indicator for the development of international merchandise trade and hence for the activity of the global economy. Together, the 82 ports covered in the index account for about six out of ten containers handled worldwide. The flash-estimate for December is based on data reported by 48 ports, accounting for close to 77% of the total index volume.

The RWI/ISL-Container Throughput Index for January 2018 will be released on 22 February 2018.
Ro-ro shipping: Container line MSC launches Europe – West Africa service

23/01/2018

By Gavin van Marle

The world’s second largest container shipping line, MSC, has announced plans to enter the scheduled deep-sea roll-on roll-off (ro-ro) sector.

The Geneva-headquartered carrier will launch a fortnightly ro-ro service between North Europe and West Africa on 19 February, with a port rotation of Le Havre-Antwerp-Dakar-Conakry-Abidjan-Le Havre.

The service will deploy two vessels, the MSC Immacolata and MSC Cristiana, two pure car- and truck-carrier (PCTC) sister ships built by STX in Dalian and delivered in 2012 and 2011 respectively, each with a capacity of 6,700 ceu [car equivalent units] and owned by Greek shipowner Nikki Shipping.

MSC said: “In addition to rolling or wheeled cargo, this new service will have the flexibility to cover a range of out-of-gauge and breakbulk cargo, which will be typically large, heavy pieces or critical equipment for specific projects.”

The service will pitch MSC into direct competition with Italian ro-ro carrier Grimaldi, which runs four services between the two regions – Northern Express, Central Express, Southern Express and Eurocargo Express – with direct calls at 20 ports in West Africa.

Grimaldi operates 22 multipurpose ro-ro vessels on the trade, each able to accommodate about 2,500 lane metres of rolling cargo, up to 2,500 cars and 850 containers on their weather deck. The line has sited its regional transhipment hub at Senegalese hub of Dakar, where it connects its services out of both North Europe and the Mediterranean into West Africa with its transatlantic services to South and North America.

Terminal operators China: China Merchants Port Holdings and COSCO Shipping Ports grow in size and reach

23/01/2018

By Turloch Mooney, senior editor

China’s biggest container terminal operators reported strong volume growth in 2017, driven by high levels of containerised trade growth in their core mainland China market and new overseas acquisitions.

Terminals with investments by China Merchants Port Holdings (CMPort) handled 102.9 million teu in 2017, breaking the 100 million teu barrier for the first time and representing a year-on-year (y/y) rise of 7.7% in non-equity weighted throughput.

China’s other dominant ports player, COSCO Shipping Ports (COSCO), also had a strong year, with non-equity weighted throughput growing by 12.5% to more than 87.3 million teu. The data provided by COSCO excluded volumes handled at the northern Chinese port of Qingdao.

Domestic volumes comprise the lion’s share of the throughput of both operators but overseas volumes are growing as investments by the state-controlled companies in other world regions increase driven by the
foreign policy of China’s central government.

In the case of COSCO, the percentage volume contributed by overseas facilities was higher in 2017 than in 2016, despite growth in containerised trade at mainland ports. COSCO’s overseas throughput rose to more than one-fifth its total non-equity weighted throughput for the first time in 2017.

CMPort’s overseas volume contribution, including Hong Kong and Taiwan, was one-quarter of its total non-equity weighted throughput. Overseas terminals at Colombo International Container Terminal in Sri Lanka and Lomé Container Terminal at Togo in west Africa were its top-performing facilities in terms of volume growth last year, with y/y volumes up by 18.5% and 67.5%, respectively.

In 2017, both operators demonstrated the capability to pay a premium for port assets backed by Chinese banks offering Belt and Road project development loans with interest rates as low as 2%. COSCO last year paid USD228 million for a 51% stake in Spain’s Noatum Ports, which operates container terminals in Valencia and Bilbao, as well as the Conterail dry port in Madrid and Noatum Rail Terminal in Zaragoza, the second-largest container terminal in the country.

CMPort also acquired a majority stake in the controversial Hambantota port development project in Sri Lanka last year and, with the acquisition of the Shantou Port Group, played its part in the ongoing consolidation of the domestic China ports sector.

Analysis by Drewry Maritime Research show COSCO and CMPort are now the fifth- and sixth-largest container terminal operators in the world by equity teu throughput. Including Shanghai International Port Group (SIPG) – whose second-largest shareholder is China Merchants Group – the three Chinese terminal operators are now in nearly 40 overseas locations, up from just 10 locations five years ago.

Mainland China’s top 20 container ports handled more than 200 million teu in 2017, a rise of more than 7% on the previous year. The growth was driven by increased domestic market activity and stronger intra-Asia and trans-Pacific trade. For the first time in its history, Port of Shanghai handled more than 40 million teu in a single calendar year.

The improved global economic outlook and trading environment is expected to drive continued growth in Chinese and global container trade and terminal throughput volumes. IHS Markit’s latest Maritime & Trade forecast projects containerised trade to expand by 4.9% in 2018. The longer-term forecast is for growth of about 4.8% through 2025.

Given that container terminal throughput volumes are higher than trade volumes due to transhipment traffic and movement of empties, Drewry’s latest five-year global container port demand forecast is less bullish, at 4.3% per annum. The London-based research house expects global container terminal capacity to grow by about 2.7% during the period, resulting in generally higher levels of utilisation.

[Fairplay]
Today, COSCO Shipping Ports also signed a memorandum of understanding (MoU) with CMA CGM for the French shipping company's initial investment of 10% in CSP Zeebrugge.

Financial details on neither agreement were disclosed.

The deal represents something of a return to Zeebrugge for CMA CGM, which held a stake in the other container terminal at the port, CHZ Zeebrugge, which closed in 2015 because a sharp decrease in volumes made the terminal no longer profitable, leaving CSP as the sole box terminal in Zeebrugge. CHZ was a joint venture between Singapore’s PSA International (65%) and CMA CGM’s Terminal Link.

Zeebrugge has seen volumes seesaw in recent years, largely as a result of the creation of the 2M alliance, which meant Maersk’s volumes handled at the port were relocated to MSC’s facilities at Antwerp. Last year, Maersk-subsidiary APM Terminals moved out of Zeebrugge, selling its stake in CSP to COSCO Shipping Ports, and today’s agreement confirms the Chinese group’s control of the facility.

As the second largest port in Belgium, Zeebrugge maintains close proximity to Hamburg and Le Havre, and features a network of road and rail connections to all countries within Continental Europe and to other ports in Northwest, Central and Eastern Europe.

Container throughput in Zeebrugge grew 8.7% to 1.5 million TEU in 2017, according to the Zeebrugge Port Authority.

[American Shipper / The Loadstar / Container Management]

Terminal operators India: DP World and National Investment and Infrastructure Fund set stage for USD 3 billion investment

22/01/2018

DP World and India’s National Investment and Infrastructure Fund (NIIF) have set up a USD 3 billion worth investment platform to invest in ports, terminals, transportation and logistics businesses in India.

The partnership follows the Memorandum of Understanding (MoU) signed in May 2017 targeting development of the logistics sector in India. Aside to acquiring and developing sea port assets the platform will also look at opportunities beyond sea ports such as river ports and transportation, freight corridors, port-led special economic zones, inland container terminals, and logistics infrastructure including cold storage.

“DP World has been a part of India’s growth story for nearly two decades and we are delighted to continue our success by joining forces with a strong strategic partner, the National Investment and Infrastructure Fund (NIIF). We believe that our expertise in building best-in-class logistics infrastructure together with the NIIF’s local knowledge and government partnership is the right combination to take advantage of the significant growth opportunities in India,” Sultan Ahmed Bin Sulayem, Group Chairman and CEO, DP World, said.

“Efficient logistics and cargo movement are critical components for the continued growth and development of the Indian economy, and particularly the manufacturing sector,” Sujoy Bose, CEO, National Investment and Infrastructure Fund, said, adding that the platform would reduce the cost of moving cargo between port and origin/destination.

“This is NIIF’s first investment and is a good example of how NIIF can work with international capital and expertise to invest at scale to build critical infrastructure in India.”
The first close of the NIIF Master Fund took place on October 16, 2017 with contributions from a subsidiary of Abu Dhabi Investment Authority (ADIA) and four Domestic Institutional Investors (DIIs), HDFC Group, ICICI Bank, Kotak Mahindra Life and Axis Bank.

Three alternative investment funds are being established under NIIF, which is being assigned with a budget of USD 6 billion, 49 percent of which is being contributed by the Government of India.

[World Maritime News]

**Terminal operators India: Adani Ports to develop Bhavanapadu Port**

22/01/2018

The Andhra Pradesh government has chosen lone bidder Adani Ports and SEZ Ltd as the developer of Bhavanapadu port project in Srikakulam district.

The state Cabinet, which met here late last night, accepted the single bid of Adani Ports and SEZ Ltd for developing the greenfield non-major port at Bhavanapadu under public-private partnership mode, an official release said.

Three bidders – Adani, Navayuga and Gangavaram Port – had responded to the tender called by the state government, but Navayuga and Gangavaram subsequently withdrew, leaving Adani alone in the race. Adani Ports and SEZ had initially offered only 0.5 per cent revenue share to the state but following several rounds of negotiations enhanced it to 2.3 per cent, a senior Energy, Infrastructure and Investment Department official said.

[Financial Express]

**Port development Canada: Montreal Port Authority’s Contrecoeur terminal expansion plans on the table**

22/01/2018

The Canadian Environmental Assessment Agency is currently conducting a federal environmental assessment of the proposed Contrecoeur Port Terminal Expansion Project.
The Montreal Port Authority proposes the construction of the container port terminal with a maximum annual capacity of 1.15 million containers on its property located in Contrecoeur, approximately 40 kilometers downstream from Montreal. The project includes the construction of a 675 m dock for two berths to accommodate vessels between 39,000 and 75,400 dead-weight tonnage (DWT).

According to the official statement, the agency invites the public and Indigenous groups to comment on the potential environmental effects of the project and the proposed measures to prevent or mitigate those effects as described in the proponent’s summary of the Environmental Impact Statement.

[Dredging Today]

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**Port development Australia: Adelaide to make way for larger ships**

22/01/2018

South Australia’s Adelaide Outer Harbor Channel is to undergo a widening, starting in autumn 2018, as the port strives to welcome larger ships, according to Flinders Ports.

The project involves removing 1.55 million cubic meters of material from the shipping channel and placing it 30 kilometers offshore.

“The Flinders Adelaide Container Terminal is the only container terminal in South Australia. Without widening the channel to accommodate these new larger vessels, containerised trade and cruise shipping will omit Adelaide from their shipping calls,” Vincent Tremaine, CEO of Flinders Port Holdings, commented.

Currently, Adelaide is the only capital city in Australia that does not have a port that can accommodate larger ships. In 2014, the port saw 37 ships exceed the design width of the channel. In 2017, the number jumped to 312 and the ships continue to increase in size, demonstrating the need to be able to accommodate the rapidly increasing trend of Post Panamax-sized vessels, the port operator said.

For safety reasons, Flinders Ports has only been able to accommodate a limited number of these ships — up to 43 meters wide — and with stringent operating conditions, which causes significant operational disruption and is unsustainable for the future. The forecast is for a further increase in vessel size — width increase to 49 meters — which the existing channel cannot accommodate. The 40-meter widening will enable safe passage for this size vessel, according to the port operator.

Flinders Ports operates facilities located at Port Adelaide, Port Lincoln, Port Pirie, Thevenard, Port Giles, Wallaroo and Klein Point.

[World Maritime News]

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**How Earth’s busiest shipping lanes look like from space**

22/01/2018

By Colm Gorey

Satellites developed by the likes of the ESA are helping to track the world’s shipping lanes, resulting in an incredibly colourful image.
Technology developed by the European Space Agency (ESA) is helping to track the world’s busiest shipping lanes, and now it has helped to create a colourful image to illustrate just how busy they actually are.

By law, large cargo vessels and passenger ships are required to carry automatic identification system equipment in order to transmit a wealth of information, including its course, speed and identification, and position information for other vessels and shore stations. While originally developed to prevent collisions between ships, this technology is quickly adopting to new roles, such as pollution prevention and the tracking of illegal goods.

Now, from the vantage point of Earth’s orbit, the latest ultra-powerful receivers used to track such ships were launched aboard two NorSat satellites last year by Kongsberg Seatex from Norway. In their first four months of operation, the receivers significantly improved the detection of identification signals, increasing the visibility range of messages from 74km at sea level, to 2,500km from low orbit. This in turn increases the total number of ships that can be seen at one time tenfold.

Each day, NorSat receivers pick up 2.5m messages, making them three times more powerful than previous receivers, such as AISSat-1 and 2. However, because of the sheer amount of traffic, the number of messages sent by ships in some areas can be so high that they jam the satellite receiver. That is why ESA was recruited to develop a solution that is more easily picked up by satellites and suffers less interference from other messages.

“The advanced receiver was developed using the latest commercial off-the-shelf components,” said ESA’s Carsten Tobehn. “The complex hardware permits more sophisticated software processing, bringing significant improvements in picking up the messages.”
A forthcoming regulation of the International Maritime Organization (IMO) will slash shipping industry pollution but may also speed up climate change.

Studies have found that ships have a net cooling effect on the planet, despite belching out nearly a billion tons of carbon dioxide each year. That’s almost entirely because they also emit sulfur, which can scatter sunlight in the atmosphere and form or thicken clouds that reflect it away.

In effect, the shipping industry has been carrying out an unintentional experiment in climate engineering for more than a century. Global mean temperatures could be as much as 0.25 °C lower than they would otherwise have been, based on the mean “forcing effect” calculated by the 2009 study Transport impacts on atmosphere and climate: Shipping that pulled together other findings (see The Growing Case for Geoengineering). For a world struggling to keep temperatures from rising more than 2 °C, that’s a big helping hand.

And we’re about to take it away.
In 2016, the IMO announced that by 2020, international shipping vessels will have to significantly cut sulfur pollution. Specifically, ship owners must switch to fuels with no more than 0.5 percent sulfur content, down from the current 3.5 percent, or install exhaust cleaning systems that achieve the same reduction, Shell noted in a brochure for customers IMO 2020:

What’s next?

There are very good reasons to cut sulfur: it contributes to both ozone depletion and acid rain, and it can cause or exacerbate respiratory problems.

But as a 2009 paper, Shipping Emissions: From Cooling to Warming of Climate—and Reducing Impacts on Health, noted, limiting sulfur emissions is a double-edged sword. “Given these reductions, shipping will, relative to present-day impacts, impart a ‘double warming’ effect: one from [carbon dioxide], and one from the reduction of [sulfur dioxide],” wrote the authors. “Therefore, after some decades the net climate effect of shipping will shift from cooling to warming.”

Sulfur pollution from coal burning has a similar effect. Some studies suggest that China’s surge in coal consumption over the last decade partly offset the recent global warming trend (though coal does have a strong net warming effect).

It’s difficult to estimate how much the new rule could affect temperatures. We don’t know enough about cloud physics and the behavior of atmospheric particles, nor how diligently the shipping industry will comply with the new rule, says Robert Wood, a professor of atmospheric sciences at the University of Washington.

Another wrinkle is that ships emit other particles that can sometimes also stimulate cloud droplets to form, including black carbon, a major component of soot. Removing the sulfur from the fuel could alter the size and quantity of these particles, which could affect clouds as well, says Lynn Russell, a professor of atmospheric science at the Scripps Institution of Oceanography.

“So we can’t really say exactly what the change will be,” says Russell, though she adds that the rule change is “likely” to produce a warming effect on balance.

The upcoming change does offer a different way of thinking about intentional efforts to cool the climate, known as geoengineering, according to some proponents of research in this area. Rather than some radical experiment, deliberate geoengineering could instead be seen as a way of continuing to do what we’ve been doing inadvertently with ships, but in a safer way.

Sulfur emissions cool the planet in two ways, directly and indirectly. The direct way is that when sulfur dioxide is further oxidized in the atmosphere, it can form particles that reflect sunlight back into space. This happens in large volcanic eruptions, which can release tens of millions of tons of sulfur dioxide.

The indirect way is that sulfur particles can also act as nuclei around which cloud droplets form. Clouds, too, reflect more sunlight. You can see this in satellite images, which show lines of white clouds above the ocean along busy shipping lanes.

Geoengineering researchers have explored both processes, but with less toxic particles, as potential ways to alter the climate (see Scientists Consider Brighter Clouds to Preserve the Great Barrier Reef).

For instance, researchers with the Marine Cloud Brightening Project, centered at the University of Washington, have spent years studying the possibility of spraying tiny salt particles into the sky along coastlines to induce cloud droplets to form. The group has spent the last few years attempting to raise several million dollars to build the sort of sprayers that would be needed, in the hopes of carrying out small-scale field experiments somewhere along the Pacific coastline.
Both Russell and Wood said the upcoming rule change could also offer a chance to conduct some basic climate science by observing the interactions between airborne particles and clouds. Those insights could make climate simulations more accurate—how clouds behave is one of the least understood parts of the system, Wood says—as well as informing the debate about whether and how to carry out geoengineering.

But that all depends on whether scientists can get funding for such research, which will require more frequent satellite observations and surface sensors. Ideally, the research should start before the new rule goes into effect to ensure an accurate picture of how things change.

“We’re approaching dangerous thresholds of temperature increases, so an additional bump of 0.1 or 0.2 degrees is something that we as a civilization should be watching really, really closely,” says Kelly Wanser, principal director with the Marine Cloud Brightening Project.

Whether the money will be available is less clear. Certain nations have been increasing funding levels for climate research. But it’s become far more difficult to secure such grants in the United States under the Trump administration, which specifically sought to cut NASA programs that monitor clouds and airborne particles.

[MIT Technology Review]

Shipping emissions: Environmental and maritime organizations call for ban on non-compliant ship fuel

22/01/2018

By Chris Gillis

A group of leading environmental and maritime shipping organizations have called for the prohibition of transporting non-compliant marine fuels once the global 0.5 percent sulfur cap takes effect in 2020.

The United Nation’s International Maritime Organization (IMO) previously agreed that starting Jan. 1, 2020, the maximum sulfur content in marine fuels - outside the coastal Emission Control Areas (ECAs) - will reduce from 3.5 percent to 0.5 percent. The ECAs already require the sulfur content in marine fuels to be no more than 0.1 percent.

“Unless a ship is using an approved equivalent compliance method, there should be no reason for it to be carrying non-compliant fuels for combustion on board,” the organizations said.

The organizations calling for the 2020 ban on non-compliant marine fuels include BIMCO, World Shipping Council, Clean Shipping Coalition, International Chamber of Shipping, Intertanko, International Parcel Tankers Association, Cruise Lines International Association, Pacific Environment, Friends of the Earth and WWF.

While the organizations realize the 2020 sulfur cap will increase ship operating costs, they said it’s more important for governments to enforce the cap for the sake of environmental and health benefits that will be achieved. In addition, they warned that lack of enforcement will “lead to serious market distortion and unfair competition” for those ship operators that do comply.

The organizations will propose the carriage ban on non-compliant marine fuels at the IMO’s next meeting in February. Similar bans have already been requested by individual organizations, as well as the Cook Islands and Norway. The proposals specifically call for an amendment to Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL Convention), stipulating that ships should not carry fuel for propulsion with a sulfur content above 0.5 percent starting in 2020, "unless they
Seafarers: Digitalization and ship connectivity in 2018

22/01/2018

By Stephen Conley

While vessels will continue to slow steam in the face of challenging freight rates and volatile bunker prices, the rapid growth of digitalization is challenging traditional ship operating practices, and changing the roles and responsibilities of the shipping industry’s 1.5 million seafarers dramatically.

Re-thinking the role of the seafarer

Last year, ICS and BIMCO projected that shipping would need nearly 150,000 more sailors by 2025 to meet the current anticipated demand growth. Much has changed in the last 12 months, but the need for crew hasn’t become any less acute. Almost all of these newcomers will be digital natives who have been brought up with digital technology and are familiar with its capabilities. Their common language is likely to remain English, but many of them will be equally comfortable in computer programming languages, such as Python or Java. Similarly, the roles and responsibilities of a chief engineer in 2020 are likely to be broadly similar to their current daily duties.

However, as ships become more digitized and depend upon data connectivity to function at their fullest, it will take crew that are fully versed in the latest technologies to maximize their vessel’s operational potential.

At first glance, it might seem like smart ships and automation are the simple answer to seafarer shortages. I don’t believe this to be the case. But even if it is, we’re some years away from that being reality. Shipowners who have endured the last decade’s challenging freight rates and global instability need solutions that can deliver immediately.

Realizing increased safety, welfare, efficiency and timely operations

Guaranteeing that seafarers’ rights under the Maritime Labour Convention (MLC) 2006 – in particular access to communications by ship’s crew – are fully adhered should be a given. So when it comes to recruitment, more fundamental questions need to be asked. What kind of seafarers are we trying to recruit? What do sailors of that caliber expect on board? Can we provide them with lifestyles that are similar to the ones they can enjoy ashore?

Much of that - from the training that’s the bedrock of career growth to Skyping loved ones from the middle of the Atlantic - can be achieved via the provision of reliable, high performance and cost-effective data services.

Investments to make this a reality for mariners often pay dividends in unexpected ways. I’ve spoken to a number of operators this year who brought internet aboard for their crews in the early part of this decade as they sought to ensure a better quality of crew.
The improvements they’ve seen in morale, reduced social isolation, and improved crew retention were expected in large part. What really surprised them was how well positioned this had left them for the data-enabled services that have become vital to the efficient operation of their ships today. Already many of them are now taking the lessons they learned from those experiences and the competitive advantages they gained, and using them to project future capacity requirements.

They understand that shipping’s digital transformation is well under way, exponential data growth is now the norm, and that they need to scale their connectivity accordingly.

**Empowering the global shipping industry with always-on connectivity**

But connectivity needs to be reliable, always available and ensure high speed throughput both on vessels and onshore. As the only provider in the industry to offer multi-orbit (GEO and MEO) satellite-enabled connectivity solutions in multiple bands (Ka-, Ku- and C-band), SES Networks can flexibly deliver the capacity that ship owners, operators and seafarers need to make better informed commercial decisions, and enable them to remain competitive in an increasingly challenging and commoditized marketplace.

Additionally, new service innovations, such as SES Networks’ Maritime+ solution, are making VSAT networks simpler to use, more cost efficient, and more powerful. This drives even bigger ROI for owners and operators through simple, straightforward access to customizable bandwidth and tailored service level agreements and scalable throughput options, and standardized pricing regardless of region or season of operation.

The 2020s will be shipping’s first fully data-enabled decade. Almost every form of communications from a ship – wherever it is in the world – already travels via satellite for some part of its journey. In the years to come the volume, variety, and velocity of data will increase stratospherically. Indeed, DNV GL now estimates that, in two years, the data capacity of the VSAT network has increased from 8.7 Gbps (Gigabits per second) to 16.5 Gbps – nearly doubling. If this trend continues – and there’s no reason to think it won’t – this capacity will reach 217 Gbps by 2025.

If the next generation of captains and chief engineers are to realize your fleet’s full potential, it will take the provision of reliable, available, and high performing satellite-enabled global managed data services.

[Maritime Executive]

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Seafarers: UK’s new minimum wage guidance flawed

22/01/2018

UK’s new National Minimum Wage guidance does not end problems around enforcing NMW rates of pay and preventing nationality-based pay discrimination in the UK shipping industry, the country’s RMT union said.

The union has warned that the new government guidance will not tackle chronic low pay to foreign seafarers which is driving the decline of UK seafarer numbers and the national maritime skills base, including on routes between UK ports and to the offshore oil and gas sector.

It has also been released ahead of recommendations from an expert working group, including RMT and maritime union Nautilus, employers and Government departments which have been looking at improving the application and enforcement of the NMW for all seafarers in the UK shipping industry.
Steve Todd, RMT National Secretary, said that NMW pay rates should be applied and enforced for all seafarers working on vessels between UK ports and to the offshore oil and gas industry on the UK continental shelf.

“It is unacceptable that changes to the machinery of Government seem to have resulted in an attack on UK seafarers and the continuation of the exploitation of foreign seafarers working from and between UK ports. We will be seeking an immediate response from the Government, as this is totally unacceptable,” Todd added.

[World Maritime News]

22/01/2018

All seafarers working in UK waters must be paid at least minimum wage rates, the government has warned in new guidance.

The move comes after concerns about unfair competition, following reports that some ships registered abroad were underpaying their workers in UK waters, undercutting UK crews.

UK Border Force patrols will be handing out information to seafarers and employers in more than 50 languages promoting minimum wage law. Employers failing to pay at least National Minimum Wage and National Living Wage can face fines of up to 200 percent of the underpayment, public naming and, for the worst offenses, criminal prosecution.

Business Minister Andrew Griffiths said: “Seafarers’ work is vital to key UK industries such as fishing, oil and gas. We are determined to ensure they are paid fairly for the work they do, often in challenging conditions. Today we are making it crystal clear that if you work in U.K. waters you are entitled to at least the minimum wage and all employers – no matter where they’re from – must pay it.”

Border Force’s Modern Slavery Maritime lead Rob Meyer said: "Border Force takes its role of tackling exploitation and protecting vulnerable people very seriously. We have run a number of maritime operations targeting unscrupulous employers in the sector and are working with government enforcement agencies to take action taken against the minority of employers who do not treat their workers in line with UK law."

"The guide does not amend the law, and there has been no change in the entitlement of any seafarer in respect of the National Minimum Wage or the Equality Act,” says Tim Springett, policy director at the UK Chamber of Shipping. The Chamber says the new guidance is the first of its kind on the application of the National Minimum Wage specifically to seafarers. Advice issued in respect of seafarers has until now been included in general guides and was amended frequently - without consultation with the industry - in ways that led to uncertainty rather than clarity.

Minimum wage law applies to seafarers when:

- they are working on ships within UK waters and ports regardless of where the ship is registered, or where the worker ordinarily works or lives
- on a foreign ship for work performed outside the UK if they ordinarily work in the UK
- on UK registered ships

[Maritime Executive]
Australia’s leading research organisations will unite to design ways to build resilience and repair the global icon, the Great Barrier Reef, following today’s Federal Government announcement of $60 million for measures aimed at protecting the Great Barrier Reef.

This package of measures, unveiled at the Australian Institute of Marine Science (AIMS), includes a $6 million concept feasibility phase led by AIMS with CSIRO and other partners, including the Great Barrier Marine Park Authority, Great Barrier Reef Foundation, James Cook University, The University of Queensland and the Queensland University of Technology to develop a new substantive Reef Restoration and Adaptation Program.

The funding is recognition of the immense economic and social values of the Great Barrier Reef in this the International Year of the Reef.

AIMS, CSIRO and Great Barrier Reef Marine Park Authority have a long history of working together in the Great Barrier Reef World Heritage Area. The Reef Restoration and Adaptation Program takes this historical collaboration to a new level, involving many more national and international partners.

It will assess the benefits, risks and costs of existing and novel technologies to assist recovery, repair and build resilience of the Reef. Like many coral reefs around the world, the Great Barrier Reef is under increasing pressure from a range of threats, particularly climate change.
Oceans: Seabed mining could destroy ecosystems

22/01/2018

Mining on the ocean floor could do irreversible damage to deep-sea ecosystems, says a new study of seabed mining proposals around the world. The deep sea (depths below 200m) covers about half of the Earth's surface and is home to a vast range of species.
Little is known about these environments, and researchers from the University of Exeter and Greenpeace say mining could have "long-lasting and unforeseen consequences"- not just at mining sites but also across much larger areas.

The study is the first to give a global overview of all current plans to mine the seabed, in both national and international waters, and looks at the potential impacts including physical destruction of seabed habitats, creation of large underwater plumes of sediment and the effects of chemical, noise and light pollution arising from mining operations.

"Our knowledge of these ecosystems is still limited, but we know they're very sensitive," said Dr David Santillo, a marine biologist and senior Greenpeace scientist based at the University of Exeter. "Recovery from man-made disturbance could take decades, centuries or even millennia, if these ecosystems recover at all."

"As we learn more about deep sea ecosystems and the role of oceans in mitigating climate change, it seems wise to take precautions to avoid damage that could have long-lasting and unforeseen consequences."

Despite the term "mining," much seabed mining would involve extraction of minerals over very wide areas of the sea floor rather than digging down to any great depth, potentially leaving a vast 'footprint' on the deep-sea habitats in which these mineral deposits occur.

Rising demand for minerals and metals, including for use in new technology, has sparked renewed interest in seabed mining. Some operations are already taking place, generally at relatively shallow depths near national coastlines. The first commercial enterprise in deeper waters, expected to target mineral-rich sulphides at depths of 1.5-2km off Papua New Guinea, is scheduled to begin early in 2019.

Speaking about these plans last year, Sir David Attenborough said it was "tragic that humanity should just plough on with no regard for the consequences."

The Exeter and Greenpeace research team say there are "many questions and uncertainties" around seabed mining, including legal issues and the difficulties of predicting the scale and extent of impacts in advance, and of monitoring and regulating mining activity once it takes place in the deep sea. The paper says that alternatives to seabed mining have already been proposed, including substituting metals in short supply for more abundant minerals with similar properties, as well as more effective collection and recycling of components from disused products and wastes.

However, Dr Santillo said demand for seabed mining would also diminish if humanity could cut overproduction and overconsumption of consumer goods. "Rather than using human ingenuity to invent more and more consumer products that we don't actually need, we could deploy it instead to build goods that last longer, are easier to repair and make better use of the limited natural resources we have," he said.

"With the right approaches, we can avoid the need for seabed mining altogether and stop the 'race to the bottom'.

"As governments prepare to set the rules and the first companies gear up to mine, now is the time to ask whether we just have to accept seabed mining, or should instead decide that the potential damage is just so great that we really need to find less destructive alternatives."

Journal Reference:

**Railways Namibia: US$153 million loan to co-finance upgrading of 210 km line**

22/0/2018

The African Development Bank (AfDB) has approved a US$153m loan to the government of Namibia to co-finance the upgrading of the 210 km railway running inland from Walvis Bay to Arandis and Kranzberg, as well as the road from Windhoek to the international airport.

The three-year rail rehabilitation project will enable freight trains to run at up to 80 km/h and passenger trains at up to 100 km/h.

AfDB said the 1,067 mm gauge line was last upgraded in the 1960s. Its current condition imposes speed restrictions and increases the cost of transporting goods inland from the port, where AfDB is also providing support for the expansion of the container terminal.

In Namibia’s ability to integrate with the other, improving access to both sea and air ports’, said Amadou Oumarou, director of AfDB’s Infrastructure, Cities & Urban Development Department, when the loan was approved in December.

[Railway Gazette]

**Container shipping: Malaysian ports left out as lines consolidate**

22/01/2018

By Kamarul Azhar

The recent round of container shipping line consolidation and alliance reshuffling leaves Malaysian ports out of the race for transhipment volumes, as bigger groups opt to maintain or move their services to Singapore rather than to Port Klang or Port of Tanjung Pelepas (PTP).

The consolidation has claimed its first casualty among Malaysian ports, with Westports Holdings Bhd’s
transhipment throughput dropping by as much as 16% last year. That dragged Westports’ total container throughput down by more than 9% last year. This is despite gateway container volume — containers carrying import and export goods — at the port increasing by 10% to 2.8 million 20-foot equivalent units (TEUs) last year.

Meanwhile, the acquisition of Hamburg Sud by Maersk Line recently does not seem to benefit PTP as much as it does Singapore, with the Danish company’s chief commercial officer saying transhipment volume from the group passing through the Lion City will increase as a result of it.

Note that APM Terminals, the port operating arm of the AP Moller-Maersk group, has a 29.99% stake in Pelabuhan Tanjung Pelepas Sdn Bhd, the operator of PTP. Maersk Line has a dedicated berth in PTP. This raises the question as to why mega lines are choosing Singapore over Malaysian ports as their transhipment hubs, despite the latter offering much lower tariffs.

“It’s the classic question of Malaysia versus Singapore all over again. Our ports are just as strategically located as Singapore, with on-par facilities, but we keep losing customers to them despite throwing rates and offering rebates and discounts,” says an official of a port operator.

“I would attribute it to the pro-activeness of the Singaporean government in securing these major customers by offering them special access to the port, something ours have not yet been able to do,” he adds.

The official says that CMA CGM, a major customer of Westports which accounts for almost 20% of its container throughput, once requested a dedicated berth at the terminal to bring in more services and volume. Any port expansion plan has to be approved by the Economic Planning Unit. Westports’ request to build the berth was declined, he adds. A dedicated berth would require the container liner to own a stake in the berth.

In Malaysia, only PTP has a dedicated berth for its major customer, Maersk Line, because APM Terminals is a substantial shareholder of the port operator. APM Terminals and Maersk Line are both members of the AP Moller-Maersk group.

Having APM Terminals as a major shareholder has benefited PTP tremendously. The port grew from a greenfield site into one of Asia’s major transhipment hubs within just a decade, and continues to pose a challenge to the Port of Singapore. It also insulated PTP from suffering the same fate as Westports in terms of transhipment volume last year. Transhipment throughput in PTP for 2017 up to November stood at 6.97 million TEUs. Annualised, the port handled 7.6 million TEUs in 2017, on par with 2016.

However, Westports benefited from the increase in gateway containers due to its position in the central region of Peninsular Malaysia, which is home to the country’s largest economic region — an advantage PTP does not have.

To be fair, not all the transhipment services of CMA CGM at Westports were lost to Singapore. Westports still serves 12 weekly services on six trade lanes for CMA CGM and its Ocean Alliance partners.

“We would like to clarify that CMA CGM shifted only a handful of services to Singapore in December 2016. Other services of CMA CGM and also Ocean Alliance continue to use Westports as a transhipment hub,” Westports says in a written response to The Edge.

Joint-venture terminals have been a feature of the Port of Singapore for many years. Port operator PSA Singapore has joint ventures with mega lines such as China COSCO Shipping, Mediterranean Shipping Company and CMA CGM. In fact, one of the reasons why CMA CGM moved some of its services from Westports to Singapore was because of its JV with PSA Singapore to operate four mega berths at the Pasir Panjang Terminal.

Looking at the benefits of having dedicated terminals for major container shipping lines, should Malaysian
ports, especially those without any as yet, consider such a move?

“Allocating dedicated terminals to specific major container shipping customers is practised at some terminals abroad. With the extensive planned container capacity and also the opportunity for new working arrangements being created by CT10-CT19, dedicated terminals can be evaluated,” says Westports.

As for PTP, the acquisition of Hamburg Sud by Maersk Line does not bring any apparent benefit for the port as Maersk Line will continue using Singapore as a transhipment hub rather than moving some of its volume across the Johor strait. Maersk Line uses PTP primarily as the transhipment hub for its Asia-North Europe services, and Singapore for its Asia-Mediterranean services. It’s the same case for Hamburg Sud, as per the slot purchase agreement on East-West trades entered into by the companies in February 2017.

In an interview with The Straits Times last December, Maersk Line’s chief commercial officer Vincent Clerc says all of Hamburg Sud’s transshipment containers will remain in Singapore despite the group having a dedicated berth in PTP, which is 70% owned by MMC Corp Bhd.

Westports recently completed its latest berth, Container Terminal 9, expanding its container handling capacity to 14 million TEUs per year. This is the last berth under the current concession before Westports embarks on its second concession, under Westports2.

Given that Westports handled nine million TEUs last year and the management is targeting 2% to 3% growth this year, there is ample capacity at the terminal for more containers and services. However, it remains to be seen whether it can attract more services from mega lines and shipping alliances.

[The Edge]
Advance your career by gaining Professional Recognition. Professional recognition is a visible mark of quality, competence and commitment, and can give you a significant advantage in today’s competitive environment.

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The organization offers independent validation and integrity. Each grade of membership reflects an individual’s professional training, experience and qualifications. You can apply for Student Membership as per following:

**Fellow (FIAMSP)**
To be elected as a fellow, the candidate must satisfy the council that he/she:

- Has held for at least eight (8) years consecutively a high position of responsibility in shipping or related business.
- Has distinguished himself/herself in shipping practice.
- Is a principal in a firm or a director of a company in the business or profession.
- Members in this grade are entitle to use the initials FIAMSP after their names.

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- Individuals holding an internationally recognised marine qualification, or who can prove that they have practiced on a full time basis for a minimum of five (5) years as a consultant or marine surveyor.
- Individuals who, by producing written reports can demonstrate that they have practiced marine surveying or consultancy for at least five (5) years.
- Members may use the initials FMIAMSP after their names.

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Associate Membership shall be open to any person, partnership, company, firm or other corporate that does not own a Ship but is engaged in ship operating or ship management. Associate Members can nominate one (1) person to represent them in the Association. Associate Members are entitled to attend General Meetings and to participate in discussion at such meetings but shall not vote or stand for election to the Board of Directors.

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Individuals holding a recognised qualification, for example Inspector level 2 or higher (NACE, FROSIO, ICorr), RMCI and IRMII, NDT Technicians (CSWIP), for example gauging personnel, divers or other surveyors with at least three years full time practical experience in a marine related field. Technician Members may use the designation TIAMSP after their names.

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