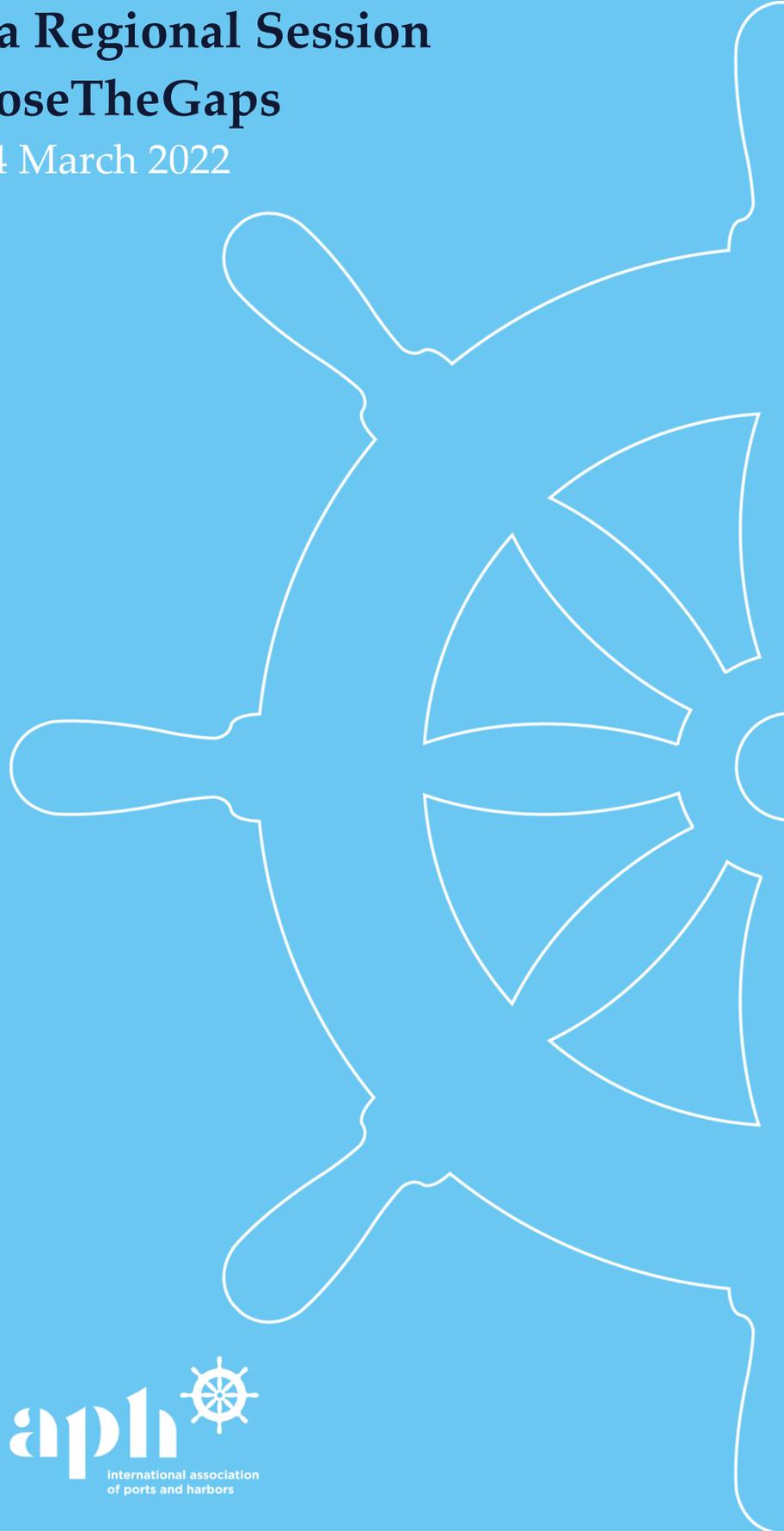


**IAPH**  
**Middle East, Central and**  
**South Asia Regional Session**  
**#CloseTheGaps**  
24 March 2022



## EXECUTIVE SUMMARY

The enclosed provides a summary of proceedings from the IAPH Middle East, Central and South Asia Regional Workshop examining port competitiveness and identifying gaps to address in ports and port-related infrastructure and governance that took place on March 24, 2022.

The purpose of this document is to provide succinct highlights of specific gaps as well as proposals and suggestions raised at the Workshop to deal with those gaps in port infrastructure.

A more detailed analysis of the transcript and recording will be fed into the main workshop sessions of the IAPH World Ports Conference 2022 which will deal globally with the six areas of interest analyzed by a study that the University of Antwerp prepared for The World Bank in 2020<sup>1</sup>, namely connectivity and accessibility, efficiency, digitalization, carbon emissions of shipping, shipping costs and regulatory environment.

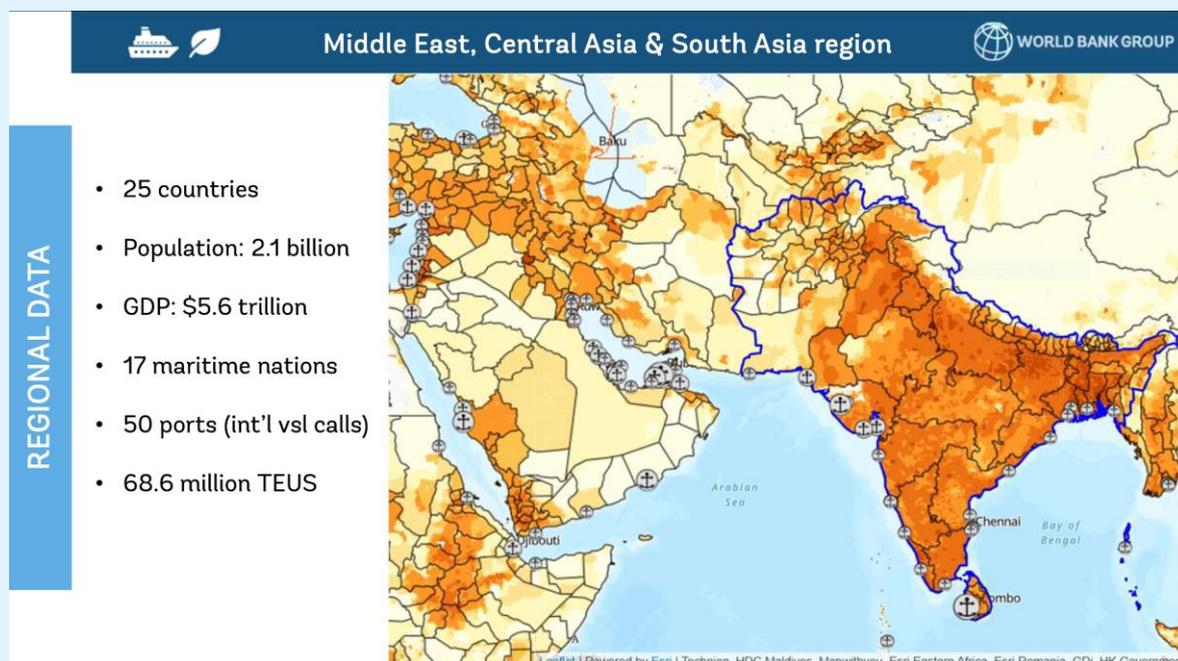
The three main gaps identified for this region are efficiency, connectivity and accessibility and digitalization.

### 1.0. HIGH LEVEL OVERVIEW OF THE REGION IN TERMS OF PORT INFRASTRUCTURE GAPS

As with South-East Asia and Oceania as well as Africa regions, this particular regional demarcation in fact caters for more than one geographical region, in this case covering the Indian Ocean, the Persian Gulf and the Caspian Sea. This does make aggregating the data challenging for the region also given the predominance of large scale offshore and primary materials logistics activities in the region (particularly in the Gulf and Caspian Sea), with liquid and solid bulk, breakbulk and gas activities accounting for significant proportion of cargo shipments.

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<sup>1</sup> Aronietis, R., Van Hassel, E. and Vanelslander, T. (2020), Maritime connectivity study for The World Bank: the state of developing country ports and maritime services: a global review.



The enclosed map summarises the region in terms of geography. The region itself accounts for approximately 27% of the world population with a combined GDP of USD 5.6 trillion which is about 6.6% of global GDP as of 2019. It is made up of a variety of 50 ports including large transshipment hubs, gateway ports and inland ports.

An important factor in the growth potential of the region despite slowing global growth rates is the forecasted addition of 1 billion people this decade into the middle class globally, most of whom will be coming from Asia.<sup>2</sup> That will bring with it multi-fold increases in consumption which will put additional strain on supply chain infrastructure.

<sup>2</sup> Kharas, Homi; Brookings Institution (2017), Global Economy & Development Working Paper 100 – the unprecedented expansion of the global middle class – an update

One panellist estimated that India alone will export in excess of USD 400 billion and import approximately USD 589 billion, with 90% of the volumes and 70% of the value of those exports passing through one of the country's ports. This represents an overall compound annual growth rate of 2.6% with an overall growth rate of 6% overall Indian container volumes.

It was also mentioned in a recent white paper from Euromonitor about the emergence of 9 of the 33 megacities (defined as with > 10 million population) of the World in this particular region, all of which will need to be served by ports and logistics solutions. These include the upcoming cities of Baghdad and Chennai.

The overall picture for the region is contrasting, with liner shipping connectivity occupying the mid-range globally for ports and with logistics efficiency coming in third lowest after Africa and Central /South America on the global logistics performance index.

As mentioned previously though, bundling the whole region into one may lead to misinterpretations given the extreme differences between port type, which principal cargoes are being handled and size of volumes.

To provide a more uniform approach for the container segment, the World Bank Group has created the World Bank / IHS Markit Container Port Performance Indicator (CPPI), which seeks to assist ports in identifying gaps and opportunities for improvement to benefit the stakeholders at large. The administrative approach (admin) is used in the measurement of the CPPI to reflect the actual performance (admin), and the statistical approach (stats) deploys a specific algorithm to be statistically robust.

CPPI 2020: PORT EFFICIENCY IN ME-CENTRAL ASIA-SAR						
	Statistical approach			Administrative approach		
	Port name	Rank	Total score	Port name	Rank	Index points
	<ul style="list-style-type: none"> <li>CPPI has been developed based on the overarching metric of port hours per ship call</li> <li>Measures sensitivity within each ship size and call size group across all 351 qualifying ports</li> <li>Under the statistical approach, a more sophisticated approach of expectation-maximization (EM) algorithm was utilized to provide a maximum likelihood estimator for each missing value/data.</li> </ul>	YOKOHAMA, JAPAN	1	-5.995	YOKOHAMA, JAPAN	1
	KING ABDULLAH PORT, KSA	2	-5.684	KING ABDULLAH PORT, KSA	2	114
	SALALAH, OMAN	6	-4.531	GUANGZHOU, CHINA	6	92
	SHEKOU, CHINA	9	-3.726	SALALAH, OMAN	9	87
	COLOMBO, SRI LANKA	17	-3.209	YANTIAN, CHINA	17	73
	JUBAIL	21	-2.898	FUZHOU	21	61
	YOSU	22	-2.831	KHALIFA PORT	22	60
	KHALIFA PORT	26	-2.795	XIAMEN	26	58
	DALIAN	33	-2.506	COLOMBO, SRI LANKA	33	53
	HAMAD PORT	36	-2.411	BUSAN	36	51
	PIPAVAV	38	-2.371	HAMAD PORT	38	51
	HALIFAX	39	-2.365	PIPAVAV	39	48
	BREMERHAVEN	41	-2.265	AQABA	41	47
	CARTAGENA (COLOMBIA)	42	-2.185	JEDDAH	42	46
	AARHUS	44	-2.036	MUNDRA	44	43
	MUNDRA	50	-1.902	KOBE	50	39
	JEDDAH	53	-1.862	CHARLESTON	53	38
	JAWAHARLAL NEHRU PORT	56	-1.786	CALLAO	56	34
	AMBARLI	57	-1.783	JUBAIL	57	33
	PECEM	59	-1.647	JEBEL ALI	59	33

It is worth noting that a number of the ports in the region figure in the top 50 performing container ports using both methods, however it was also noted that others from the region appeared in the lower quartile of the 351 qualifying ports.

CPPI 2020: PORT EFFICIENCY IN ME-CENTRAL ASIA-SAR						
	Statistical approach			Administrative approach		
	Port name	Rank	Total score	Port name	Rank	Index points
	<ul style="list-style-type: none"> <li>CPPI utilizes data up to the end of the first six months of 2020 and includes ports that had, within a 6-month period in the prior twelve months, a minimum of 10 valid port calls</li> <li>The data is taken from the IHS Markit port performance program database that collates data from 10 of the world's largest liner shipping companies, which collectively operate 76 percent of global fleet capacity.</li> <li>On an annual basis, the database comprises more than 180,000 port calls, about 50 percent of the world's total container ship port calls.</li> </ul>	AQABA	60	-1.594	HAIPHONG	60
	SHANGHAI	63	-1.532	JAWAHARLAL NEHRU PORT	63	31
	ITAPOA	69	-1.376	SOHAR	69	29
	SOHAR	71	-1.375	BUENAVENTURA	71	29
	KARACHI	75	-1.292	DILISKELESI	75	27
	CAT LAI	80	-1.149	KARACHI	80	26
	NAHA	92	-0.883	DAMMAM	92	20
	DAMMAM	102	-0.737	VALPARAISO	102	16
	TUTICORIN	130	-0.469	SUAPE	130	10
	PENANG	139	-0.367	TUTICORIN	139	8
	KHALIFA BIN SALMAN	140	-0.356	CEBU	140	8
	SHUAIBA	149	-0.301	PUERTO CORTES	149	7
	SHUWAIKH	160	-0.216	RIO HAINA	160	5
	CALDERA (COSTA RICA)	162	-0.206	KHALIFA BIN SALMAN	162	5
	RIO DE JANEIRO	199	0.126	SHUWAIKH	199	-1
	POTI	215	0.278	NEW MANGALORE	215	-4
	ABIDJAN	228	0.439	SHUAIBA	228	-7
	NEW MANGALORE	232	0.451	APRA HARBOR	232	-7
	UMM QASR	233	0.452	COTONOU	233	-8
	BRISTOL	294	1.462	UMM QASR	294	-27
	MUHAMMAD BIN QASIM	296	1.499	LA GUAIRA	296	-28
	DOUALA	298	1.51	CHATTOGRAM	298	-28
	CHATTOGRAM	306	1.809	MAPUTO	306	-33
	BATUMI	316	2.175	MUHAMMAD BIN QASIM	316	-42
	JEBEL ALI	323	2.482	PRINCE RUPERT	323	-56

On the efficiency discussions that took place in the Middle East, the first point raised was a confirmation from several participants that by and large ports in the Gulf were modern, well-equipped and in many cases with spare yard and cargo handling capacity. The region's main transshipment hub at Dubai's Jebel Ali where transshipments account for around 40% of volumes is now being joined by expanding ro-ro and container terminal facilities in neighbouring Khalifa port just under 90 kilometres away in Abu Dhabi. This will lead to a huge injection of capacity in a region already capable of absorbing extra volumes. Recent new developments such as the further expansion of the King Abdullah Port in Saudi Arabia in recent years have also impacted other port developments, including the Pakistani container terminal located on the other side of the Hormuz Strait at Gwadar which has been mothballed and left out of the picture.

Another salient issue raised during the sessions for the Middle East was the excessive berth waiting times of non-container vessel traffic, including but not limited to bulk, liquid bulk, gas, breakbulk and offshore tonnage.

The example cited by a port which focussed on bulk raw materials that shipowners typically pre-notify the port of a vessel arrival within just 48 hours' notice. This presents a challenge when the port is operating at over 70% and requires advance planning which is often not easy as digitalization of processes is scarce in the non-containerised sector.

In the Middle East an overall 7% surplus in berth waiting time was mentioned, with that figure varying between 15-20% in the Indian Subcontinent due to efficiency issues, infrastructure limitations or poor regulatory procedures or practices. The comment came that the longer a vessel waited at berth, the greater the opportunity arose for irregular payments, non-compliant or illicit practices.

One comment stated that a port's reputation often hinged on the agility of the ship's agent which was often found wanting due to the low fees demanded by shipowners and the subsequent low wages offered in the sector. The absence of required professional qualifications means that a clearing agent could establish his or her business with a car and a mobile phone and the constant culture of driving down port and shipping agency costs has the unintended consequences of lowering service quality.

The Middle East feeder and short sea services do offer coverage for the majority of the GCC countries in the Middle East extending out to Southern Asia and beyond, however their regular treatment as second fiddle to main liner services and ultra-large container vessels has led to congestion at transshipment as well as gateway ports.

When considering rail in the Middle East, mention was made of the national rail system in the UAE, but the lack of further rail connectivity in the rest of the Gulf and the extremely low costs associated with truck transport means that a shift between modes is unlikely unless the Emirate or nation decided to enforce electrified freight rail as a more sustainable intermodal method.

When considering gaps in Central Asian port infrastructure, reference was clearly made to the dependence on rail for ports in the inland Caspian Sea to connect with Asia to the East and the Black Sea and Mediterranean to the West to attract transit cargoes as well as consumer imports to a region which is home to approximately 130 million people. The principal port in the region has received significant investments in infrastructure to serve the burgeoning oil and gas industry as well as the rapid growth of its city and local economy, but of its 15 million tons of capacity, current occupation stands at approximately 5.6 million tons which is another example in this particular region of underutilization.

When discussing the efficiency in Southern Asia and Southern Asian ports, the positive development was noted of the emergence of more efficient, private sector port operations in India which now account for approximately half of the total ports there. The importance of the manufacturing hubs of the North-West region and the improved rail connectivity to the Western ports of Nhava Shiva, Pipavav and Mundra were also mentioned. It now takes a container 26-27 hours to transit a container from Delhi to Mundra which has nearly halved from the original 40-45 hours. That being said, actual rail share of hinterland freight has recently dropped to approximately 30% of all Indian volumes. Part of the problem is related to tariffs which essentially subsidise passenger transport through the public coffers, the other is the traditional use of trucks in the country.

The approximate difference in price of 1.5 – 2.6 rupees per kilometre between road and rail means that trucks take up the remaining 70% of shipping volumes inland. This dependency on truck transportation was manifested in the most extreme fashion when the first pandemic wave broke out in India leading to a mass exodus of truck drivers from their main operational locations back to their villages, causing a collapse at many of the country's ports.

In terms of overall competitiveness of the Indian supply chain including its ports, it was observed that the average transit distance between an Indian manufacturer and the nearest usable seaport was between seven and eight hundred kilometres compared to the 150 – 200 kilometres average in China. Overall this meant higher costs for the Indian exporter versus the Chinese one.

In the case of Bangladesh, the highly inefficient use of trucking is exemplified in the need to destuff cargo annually from 2.8 – 3 million 20' containers (TEUs) in Chittagong port, with each container shipment trans-loaded onto two to three separate trucks prior to onward transit of 270 kilometers that is also connected through to the capital Dhaka. In Pakistan, the ageing vehicle fleet catering for the transits such as the 1200 kilometre trip from Karachi to Ahmedabad is so bad that a straight replacement of these vehicles with modern trucks would represent a significant reduction in emissions. Cross border inefficiencies were also cited, with a focus on congested vehicles queuing for clearance rather than taking advantage of establishing border inland container depot facilities for consolidation, clearance and smooth transits.

For India it was estimated that the overall costs of logistics and supply chain delivery accounted for approximately 14% of its GDP, and that if this reduced to a similar level to Germany's (at approximately 9%), then savings of between 50 – 100 billion dollars could be made.

Efficiency gaps identified in Indian governance also contribute to these high costs as a consequence of the long paper trails created every time cargo hands over from one party to another (e.g. warehouse to truck/rail, truck/rail to inland container depot, ICD to port gates, port gates to yard/customs clearance and finally to vessel). While comprehensive port community systems are available, the reluctance of certain stakeholders to release data means that these systems and therefore processes are often not optimised.

Similar references were made to a Central Asian port implementing a port community system and giving it to two neighbouring countries for use, but then not being able to convince stakeholders to enter and share the necessary data for new carriers or supply chain service providers to enter the market and capture some of the cargo.

The whole issue of reducing inefficiencies in paper-based processes and replacing them with digital ones kept cropping up repeatedly during the workshop. The role now being played

by carriers and terminal operators in providing end-to-end logistics services which now includes digitalization to improve cargo visibility, more secure shipments and greater efficiency still remains overshadowed by the unwillingness of some parties in both private and public sector to share data. It was stated that data was the life blood of the logistics industry and its fluidity depended on it.

Part of the main problem in this issue around digitalization (one person believed the word was being used gratuitously without any real meaning attached to it, i.e. a buzz word) is the lack of a standardised approach to sharing structured data in a timely way. As has been heard in many of these Workshops, the need for universal standards in nautical, administrative and operational data is urgent to avoid duplication of systems and wasted investments in shared communication platforms. It will also reduce the incidence of non-compliant practices at the ship-shore interface by eliminating paper, human-to-human transactions thereby also improving post-pandemic health and safety practices.

Finally references were made to the problem of reducing vessel carbon emissions and emissions overall at ports. While this did not appear as one of the three main gaps in the region, it was recognised that while it was easier to migrate ships to low or zero carbon fuels in the future, a real challenge was posed to the region in terms of how this energy transition would play out on the landside, especially when it came to which future fuel should be available at ports, the electrification or use of CNG or bio-LNG for trucks as well as the electrification of antiquated rail networks.

## 2.0. HIGH LEVEL OVERVIEW OF WORKSHOP POINTS RAISED TO #CLOSETHEGAPS

To aim to achieve improvements in connectivity and efficiency through digitalization was seen as a possible way to effect real change in the region.

This would require a combination of a series of success factors. First, and beyond the technology and network communications, it was identified that a willingness to share data was the most important factor. This would require public sector intervention as well as from the private sector players. At this workshop reference was made to the development of a national level united logistics interface platform which will include manufacturers, agricultural commodity aggregators, logistics players, intermodal and inland terminal service providers as well as the stakeholders already active in the country's main Port

Community Systems. There was an overall consensus that a lot of work was still needed between ports, customs and their stakeholders in the port communities to improve process efficiency and make information more transparent and available as well as reducing remaining paper-based transactions.

Secondly, and this applies globally, the maritime and logistics community needs to recruit young and ambitious talent from the tech industry by making the sector an appealing one to work for – one participant cited that their organization was endeavouring to hire 200 people per month to help transform their business practices through innovation.

Third, the business processes themselves that make up every step of the supply chain in the region need to move away from a bespoke way for every industry and needs to get standardised in a way that uses common denominators and gets standardised in terms of data format and exchange through standard application program interfaces between digital platforms. Lessons should be learnt from other industries on the practical application of technologies such as blockchain and artificial intelligence.

A good example of this has been the way retail clothing manufacturers in the region have had to adapt to the post pandemic spike in e-commerce demand which only represented a minor percentage of their business activity compared previously to traditional stores and shopping malls. Their business transformations have put the onus on logistics providers to rapidly adapt and provide greater visibility to their supply chains.

In the case of India and Bangladesh, initiatives have been put forward in terms of the development of multi-modal connectivity through the inland waterways, using as an example the Ganges river to connect the Eastern port of Kolkata to Allahabad. The World Bank has provided financing for three projects worth USD 650 million in order to deepen the Meghna river basin to facilitate barge transportation between Chittagong and Dhaka.

Another participant proposed the auctioning of concessions for dedicated freight corridors run by private enterprises in order to break away from state-run rolling stock.

As alluded to in the previous section, it was proposed that more constructive use be made of inland container dept facilities, especially at cross border checkpoints to facilitate the flow of cargo rather than hinder it. This would undoubtedly require the close cooperation with customs authorities and agents to simplify cargo clearance.

Finally, on reducing carbon emissions, the fact was recognised that a large part of the problem lay on the hinterland leg of the supply chain rather than the sea leg. The provision of biofuel at the request of shippers is now a fact with some of the leading pioneers of this being Saudi Arabian chemical manufacturers prepared to pay a premium to reduce their carbon footprints. The use of green methanol as a possible zero carbon fuel has been boosted by the recent commitment for the order of twelve 16,000 TEU ships using this fuel for propulsion combined with an agreement by the future owner with six future e-methanol providers. The possibility of retrofitting the rest of the current modern fleet to use green methanol was cited as an additional motivation to try to make this future fuel work in practice and abandon the chicken and egg situation of finding a prime mover. If this was the case it was argued (uniquely for the container sector) that the future choice of port of call for carriers with this new tonnage would include the possibilities of receiving bunkers of the new zero carbon fuel.

### 3.0. NEXT STEPS

These identified gaps and potential solutions will now be discussed at the IAPH World Ports Conference in Vancouver between 16-18 May both in plenary sessions and at the IAPH Regional Meetings which will have this Executive Summary to set the agenda on how to put together a plan to #CloseTheGaps in port infrastructure