FIRST PORT OF CALL FROM ASIA IN THE RED SEA

CONTENTS

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THERE ARE TWO SIDES TO EVERY STORY

Over a year has passed since the pandemic first started making sweeping changes to our way of life and to industry and businesses in general. Without question, COVID-19 has triggered devastating impact to people and economies worldwide. It will likely take years for a full recovery.

In early 2020, COVID-19 put a stop to the manufacturing sector in China when factories had to suspend production. The ensuing global outbreak caused many countries to lock down, including main consumption ones like the United States and those in Europe. Needless to say, the global supply chain and business activities had been significantly disrupted. As volumes showed signs of slowing at the start of the pandemic, shipping lines began to use active measures to manage capacity, including an increasing number of blank sailings.

However, what was perceived as a year of disaster for shipping, where shipping lines even declared 'force majeure', a significant upturn in volumes began to materialize towards the third quarter of 2020. The momentum continued into the first half of this year. A portion of the goods which propped up demand were those related to health, such as personal protective equipment, as well as e-commerce and consumer goods.

It was quickly realised that supply chains and equipment supply, such as vessels and containers, were not designed with excess buffer to handle such strong demand surges. As a result, freight rates have been driven up tremendously, to levels rarely seen in recent years. This trend will be further amplified, given the Suez Canal incident that has disrupted an already tight supply-demand situation, making it more difficult to return to equilibrium.

Ports and terminals have also become spots of congestion within the supply chain, exacerbating the instability but often beyond the complete control of terminals. Terminal operations have been impacted by disruptions to shipping schedule reliability, cargo rollovers and ineffective empty repositioning. This has affected the ability of terminals to plan for efficient operations, further affected by the supply chain's reduced ability to effectively evacuate containers through landside hinterland networks. Terminal operators had to additionally deal with shortages of labour in the ongoing pandemic, as well as escalating costs due to extra health and safety measures that were necessary to keep working conditions safe.

2021 remains challenging and occupied with uncertainties. As the world continues to recover from the impact of the pandemic, what ends up taking hold once this is all behind us will likely look very different from before. Nevertheless, as a company, we have continued to make plans to improve our resiliency for the future. We are confident that we are well placed to grow our business, in part by devoting more efforts towards complementary logistics projects which we expect will create synergies with our port network.

Eric Ip
Group Managing Director
Hutchison Ports

HUTCHISON PORTS AND JCPDI SIGN AGREEMENT TO DEVELOP MULTI-PURPOSE PORT IN SAUDI ARABIA

A ground-breaking new agreement has been signed between Hutchison Ports and The Royal Commission in Jubail and Yanbu on 15 February represented by the Jubail and Yanbu Industrial Services Company in Saudi Arabia, to develop terminals for general cargo, dry bulk and containers as part of a broader logistics development plan by the Jazan City for Primary and Downstream Industries (JCPDI).

The new JCPDI Port lies along China's Belt and Road Initiative and is the Kingdom's closest port to East Asia allowing it to be the first port of call from Asia. It is also considered a major gateway to the Kingdom's southern region, which has an estimated population of 4.5 million people. The terminals, within the JCPDI development area, are ideally placed at the mouth of the Red Sea to service markets in Europe, Asia and East Africa as well as to receive raw materials from the surrounding countries that are currently not well served with processing and manufacturing facilities.

JCPDI covers some 108 km² of land area, where two thirds of the city's total area are designed for industrial and logistics zones along with the supporting infrastructure.

The main business enablers are industry, the seaport and a mega power plant which will mainly facilitate for the development for the targeted primary and secondary industries clusters.

This mega project for Saudi Arabia, is intended to concentrate the region's industrial and economic activities in a specifically designated centre. This region's importance is expected to rise when industrial facilities, a new airport and port are completed.

Eric Ip, Group Managing Director of Hutchison Ports also commented, "We have a presence of 20 years in Saudi Arabia, and it is a very important market for Hutchison Ports. Marking a new chapter for us, JCPDI Port is located at the crossroads of one of the busiest east-west trade lanes and the rapidly growing north-south trade lanes. We look forward to working closely with the Royal Commission to help JCPDI reach its full potential and contribute to the Saudi Vision 2030."

JCPDI Port to be developed over two phases, the multipurpose port will consist of a container terminal, a general cargo and dry-bulk terminal. Each will be equipped with the latest handling facilities and have a quayside draft of 16.5 metres. Commercial operations of Phase I will launch this year starting with the general cargo and dry-bulk terminal. With a berth length of 540 metres, this facility will serve the immediate needs of the growing list of JCPDI tenants. Subsequently, Phase I of the container terminal is expected to start commercial operations in early 2022 which offers 730 metres of berth.

Commenting at the ceremony, His Excellency Eng. Abdullah bin Ibrahim Al-Saadan, Chairman of the Royal Commission for Jubail and Yanbu said, "With the support of the government of the Custodian of the Two Holy Mosques, the JCPDI Port was established to provide modern logistics services in the region to enhance the Kingdom's presence in this field and support the goals of the Kingdom's Vision 2030, which aspires the Kingdom to become a global logistics platform.

Today, we are signing an investment and operation agreement with Hutchison Ports, one of the world's leading port operators. We are seeking to provide the best services and to ensure the highest levels of quality and efficiency."

Eric Ip (centre), Group Managing Director of Hutchison Ports, and Andy Tsoi (second from left), Managing Director of Hutchison Ports, Middle East and Africa and senior executives of the company attended the online signing ceremony.

Rishi Sunak, UK's Chancellor of the Exchequer.

PORT OF FELIXSTOWE AND HARWICH INTERNATIONAL GRANTED **FREEPORT STATUS**

On 3 March 2021, Rishi Sunak, the UK's Chancellor of the Exchequer, granted Freeport status to Freeport East which is centred upon Hutchison Ports' Port of Felixstowe and Harwich International Port as one of eight new Freeports during his budget speech in the House of Commons.

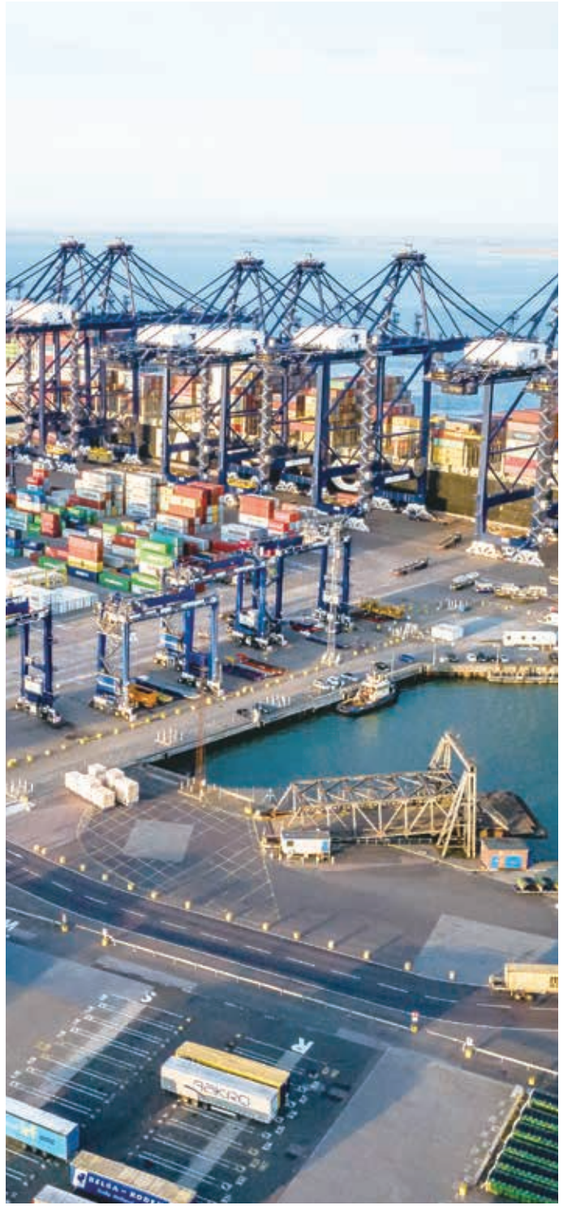
It is backed by a wide range of businesses, business organisations and education providers which will bring a host of benefits for port users, service providers and shippers, with reduced customs tariffs and Value Added Tax, simplified planning procedures within the Freeport area.

WHAT IS A FREEPORT?

Freeport status means areas will benefit from tax reliefs and simplified customs procedures to encourage economic activity, something the UK Government hopes will boost trade following Brexit.

- Within the Freeport area, the aim is to reduce administrative red tape and tariff controls, provide relief from duties and import taxes, and ease tax and planning regulations.
- Freeports offer a physical buffer for imported goods between the land border and duties border, meaning fewer tax regulations and levies and imposed on goods entering and leaving the country.
- UK Freeports will offer simplifications to the normal customs processes on imported goods.

> **Freeport East is the perfect location to develop a new Freeport. Its position on the main global shipping routes, and with frequent services over to Europe, makes it the ideal place to attract inward investment. It has 50 percent of the UK's offshore wind capacity on its doorstep and, working with our partners we will help drive developments in green energy for use in the transport sector as well as across the wider economy.**
>
> ***Clemence Cheng, Executive Director of Hutchison Ports.***



GREEN ENERGY HUB

As part of the Freeport East initiative, a new Green Energy Hub will be developed at Felixstowe and Harwich which will build technology to harness wind power and renewable energy to deliver innovative energy solutions into the future. Harwich International Port has already supported the construction of the offshore wind farms and proximity to the physical market is a key consideration of any wind farm developer and of their supply chain.

A Hydrogen Hub will also be built at the Port of Felixstowe and Harwich International to provide clean energy from nearby offshore windfarms to power port equipment as well as road, rail freight transportation and marine vessels.

To learn more about Freeport East please visit:

freeporteast.com **@FreeportEast**

CREATING SYNERGY

Freeport East offers a real opportunity to deliver a hub for global trade and national regeneration as well as creating a hotbed for innovation that will have impact across the UK. With its unique global links and existing innovative sectoral clusters, the aim of Freeport East will be to attract inward international investment and drive domestic growth, propelling the country's economy forward.

This innovation hotbed leveraging to existing experience in 5G communication technology, digital maritime networks, customs systems, automation and the Internet of Things creates a new synergy across Hutchison Ports group operations in Europe.

MORE NEWS!

PORT OF FELIXSTOWE SECURES 5G CONTRACT

There was more good news for the Port of Felixstowe as the UK government granted an exclusive contract to develop a trail 5G at its container terminal. The next generation technology will support digital maritime networks, customs systems, automation and the Internet of Things.

(Right) Second new rail service at the Port of Felixstowe operated by Maritime Transport and DB Cargo UK.

NEW TRAIN SERVICE STRENGTHENS FELIXSTOWE'S CONNECTIONS

On 10 March, GB Railfreight announced a new multimodal service from the Port of Felixstowe to Wakefield in Yorkshire. The new service is the 13th operated by GB Railfreight and the 12th daily rail connection to destinations in Yorkshire.

"Expanding the number of rail services available to importers and exporters from the port is one of our key objectives. The Port of Felixstowe is the Northern Powerhouse's major container gateway and approximately 50 percent of traffic between Felixstowe and the North moves by rail. Increasing the number of services is good for the port, good for our customers and good for the environment," said Chris Lewis, Chief Executive Officer at the Port of Felixstowe.

"With three dedicated rail terminals at the port we offer more rail services to more inland destinations with greater frequency than any other UK port," Lewis added.

Another new rail service from the port announced in just seven days after is the new rail service to the East Midlands Gateway (EMG). Operated by Maritime Transport and DB Cargo UK, the new rail freight service will be Maritime's fifth connection with the Port of Felixstowe. The new service further enhances the port's rail connections to the EMG.

"The ability to move goods to or from ports by rail is an important differentiator for traders and this second new rail service in seven days further extends the Port of Felixstowe's lead in this field. Regular services are important in growing the share of traffic choosing more sustainable intermodal options," said Lewis.

"This third daily service to EMG boosts choice, reliability and frequency for shippers in the Midlands and helps reduce further the carbon emissions of businesses in the region that use the Port of Felixstowe as the gateway to overseas markets," Lewis concluded.

Hong Kong is the top 3 importers of durian in 2020.

HKSPA
Hong Kong Seaport Alliance

CHILLED SOLUTIONS TO WORLD'S **LARGEST FRUIT MARKET**

Growing demand for temperature-controlled goods continues to drive global expansion in the cold chain and despite the challenges for shipping last year, forecasts for the reefer sector are very positive.

An efficient cold chain is essential to deliver perishable produce in premium condition from one side of the planet to the other, this is particularly true of fruit which has a short window for delivery, with thousands of miles separating producers and consumers.

Given this challenge it is important that the port and transportation infrastructure, and expertise are available, particularly when serving Asia, the biggest fruit consuming region in the world.

This is where the Hong Kong Seaport Alliance (HKSPA) has developed a world-class reputation in handling fresh fruit destined for China and across the region. This is due to its unique service offering which combines the capabilities and resources of all its terminals in Hong Kong. (Please read the feature in **OPPORTUNITY Issue 6** to learn more about HKSPA)

HKSPA's competitive advantage is that it has the highest vessel call frequency covering Intra Asia, Latin America and Oceania into South China, which means that fruit shippers and consignees have multiple shipping options to ensure their perishable cargo is delivered on-time in its best condition. In addition, HKSPA's multi-modal connectivity via truck, barge and rail caters different delivery needs and capitalises on opportunities in China.

In terms of assets and resources HKSPA has a combined throughput of 15 million TEU as of 2019, operates 23 berths and 12 barge berths on 262 hectares of land.

With over 220 weekly liner calls to the free port of Hong Kong, there are no barriers to trade, meaning that perishable cargo such as fruit can move quickly and efficiently to end markets, such as China, 60 percent of Hong Kong's imported fruit are re-exported to the mainland.

ASIA REEFER IMPORTS BOOM

Asia is the world's largest importer of seaborne reefers, with estimates that the region will account for 62 percent of global seaborne reefers trade by 2024. At the heart of this boom in terms of volume is China which recorded a 24 percent increase in fruit imports in 2019, with a forecast that growth will total 60 percent by 2025.

Being the most open and international city in the Greater Bay Area (GBA), Hong Kong is known for its status as international financial, transportation, trade centres and aviation hub as well as its renowned professional services. HKSPA can reach more than 100 million consumers, with GDP set to triple in the GBA by 2030, further enhancing its status as an international shipping hub and key gateway to China.

BRAINS AND BRAWN

To embrace the opportunity and capture this phenomenal growth, HKSPA is well prepared and is the only established hub in Asia with the resources, assets and transportation connectivity to ensure and secure time sensitive cold chain services that the fruit industry demands.

HKSPA handles 900,000 reefers a year and has 7,800 reefer points, the most of any port in South China. Apart from the hardware HKSPA is experienced in cold chain operations across its operations including sensitive and controlled atmosphere reefers, cold treatment and general reefers. The bespoke facilities also provide HKSPA with a platform to handle COVID-19 vaccines as a more economical alternative to airfreight.

THE BIG CHILL – HKSPA FAST TRACKING FRESH FRUIT

We all take it for granted that we can walk into a supermarket or restaurant to buy and enjoy fresh fruit from all over the world. Not many people are aware of the massive cold chain infrastructure that ensures our bananas, durian, cherries and strawberries are fresh and tasty, whatever the weather or time of year.

Speed is of the essence when handling fresh fruits, as their shelf life from plantation to store is relatively short. Time and efficiency is critical because the sooner the fruits get to market, the higher the selling price. However, with temperature and humidity-controlled reefers and storage facilities across Hong Kong's container terminals, HKSPA can ensure fruits are kept in optimum condition and despatched to consignees as quickly as possible.

"At HKSPA consignees can collect their shipments upon container discharge and have the container on its way in just 15 minutes" said Angelina Lei, Customer Service Director, Hutchison Ports HIT.

HKSPA COLD CHAIN SERVICES BEARING FRUIT

At HKSPA, the rise in reefer volumes provides opportunities to increase its significant market share in the fruit sector, but also to access other industry sectors that require an efficient and established cold chain.

Riding the waves of change

- SEAMLESS CONNECTIVITY
- ENHANCE SUPPLY CHAIN RESILIENCE
- BEST IN CLASS CAPABILITIES
- DRIVE FOR DIGITALISATION
- INNOVATE FOR SUSTAINABILITY

WITH A CHERRY ON TOP

As an example of the scale of demand in China, the world's largest importer of fruit, Lei highlighted cherry imports from Chile.

"It's now the cherry season and you may be picking between the Tasmanian cherries and Chilean cherries, but do you know that cherries are indeed China's largest foods imported by value and with Chile dominating the market?"

"Hong Kong captures the growth in the cold chain by securing its crown in Chile cherry handling with over 80 percent of China's imported cherries from Chile moving via Hong Kong," said Lei.

Hong Kong is the first port of call in South China. With the city's unique free port status, containers arrive from Chile can be picked up right after container discharge. This, together with a fast and simple customs declaration, allows these containers to reach Guangzhou's Jiangnan Fruit & Vegetable Wholesale Market, China's largest wholesale food market within four hours.

There are real competitive advantages as HKSPA's efficiency means the fruits arrive in the market at least two days earlier, when compared to other South China ports and allows the traders to sell their fruit at a higher price, as the produce is fresher.

China's appetite for imported fresh fruit is expected to continue to grow with an increase rate of 9.5 percent per year in the following 5 years.

Fruit is the bright spot of container industry

Fruits accounts for 3.8M TEU in 2019, representing 35% of global containerised reefer traffic.

(Sources: Drewry and Seabury)

3.8M TEU 2019

Resilient during COVID-19 with 5% growth 2020 YTD July

(vs -3% for dry cargoes)

5% ⬆ 2020

Expected to record a Compound Annual Growth Rate (CAGR) of 4% during 2019 -2024

(vs 2% for dry cargoes)

4% ⬆ 2019 -2024

REEFER REACHES NEW HEIGHTS

In the wider world demand for temperature-controlled ocean transportation continues to increase exponentially, with annual growth at an average of 3.6 percent during the last ten years, while global reefer volumes rose to 130.5 million TEU in 2019, according to *Drewry*.

So where are the global hotspots and what is driving this growth in demand for reefers?

According to Philip Gray, Reefer Analyst for *Drewry*, there is also the continued natural growth within the Chinese market for imported foodstuffs and high-end fresh fruits such as cherries or exotics such as avocados.

"We continue seeing strong growth in citrus, and frozen juices both related to the feel-good perception, and also exotics such as avocados or blueberries," he said.

REEFER SHORTAGE POSES COLD CHAIN CHALLENGE

The only inhibiting factor to growth in the reefer sector is a current shortage of equipment, driven by a combination of factors.

"*Drewry* already anticipated a shortage of reefer equipment early last year, a combination of fewer units built during earlier years, particularly 2016, and a reasonable demand which now has caught up with the previous lack of investment," said Gray.

Other factors include an imbalance in empty dry containers across Asia, where most goods are produced and exported to markets around the world. The shortage of dry containers has led to sky-high rates and resulted in many non-operational reefers being used for dry freight out of Asia, further lengthening cycle times and hence more shortage in demand areas.

Longer voyage cycles also quickly mop up any excess reefer equipment combined with congestion in many hubs which very quickly contributes to more equipment being 'tied up' within the supply chain, he added.

DELIVERING THE VACCINE

Behind the scenes of an expectant world, an army of logistics professionals are working around the clock to deliver the COVID-19 vaccines to the many affected countries.

Estimates are that some eight to ten billion vaccines will be shipped across the globe and different manufacturing vaccine has unique handling requirements specifically to maintain a range of low temperatures during storage, transportation and distribution.

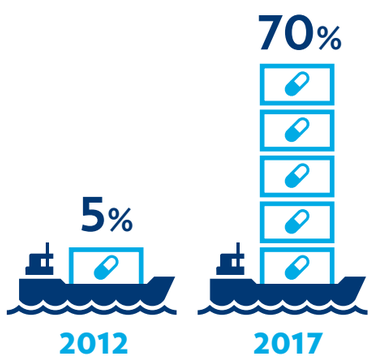
Air cargo will be the initial preferred mode of transport in the first phase due to the urgency, however the sheer number of vaccines for the global population will require an estimated 60,000 ocean reefer containers for distribution of the vaccine over a period of two to three years.

Thomas Stubler, the pharma industry cargo lead at Willis Towers Watson, told Splash 24/7 that at present, speed to market is critical to stemming the spread of the pandemic, so the vaccines are being shipped by air to international destinations.

However, ocean transport is certainly a longer-term strategy; once demand means that delivery times are in weeks, rather than hours according to Stubler.

The ocean cold chain infrastructure is already in place and many vaccines are already being transported by sea. After the initial surge in demand, when vaccine production schedules become more predictable, opportunities could materialise before the end of the year.

Pre-Covid, the ocean cold chain transported 3.5 million tonnes of pharmaceuticals, compared to 0.5 million tonnes by air. AstraZeneca, one of the makers of Covid-19 vaccines, reportedly increased the proportion of pharma products it ships by sea from 5% in 2012 to nearly 70% in 2017, reported Splash 24/7.



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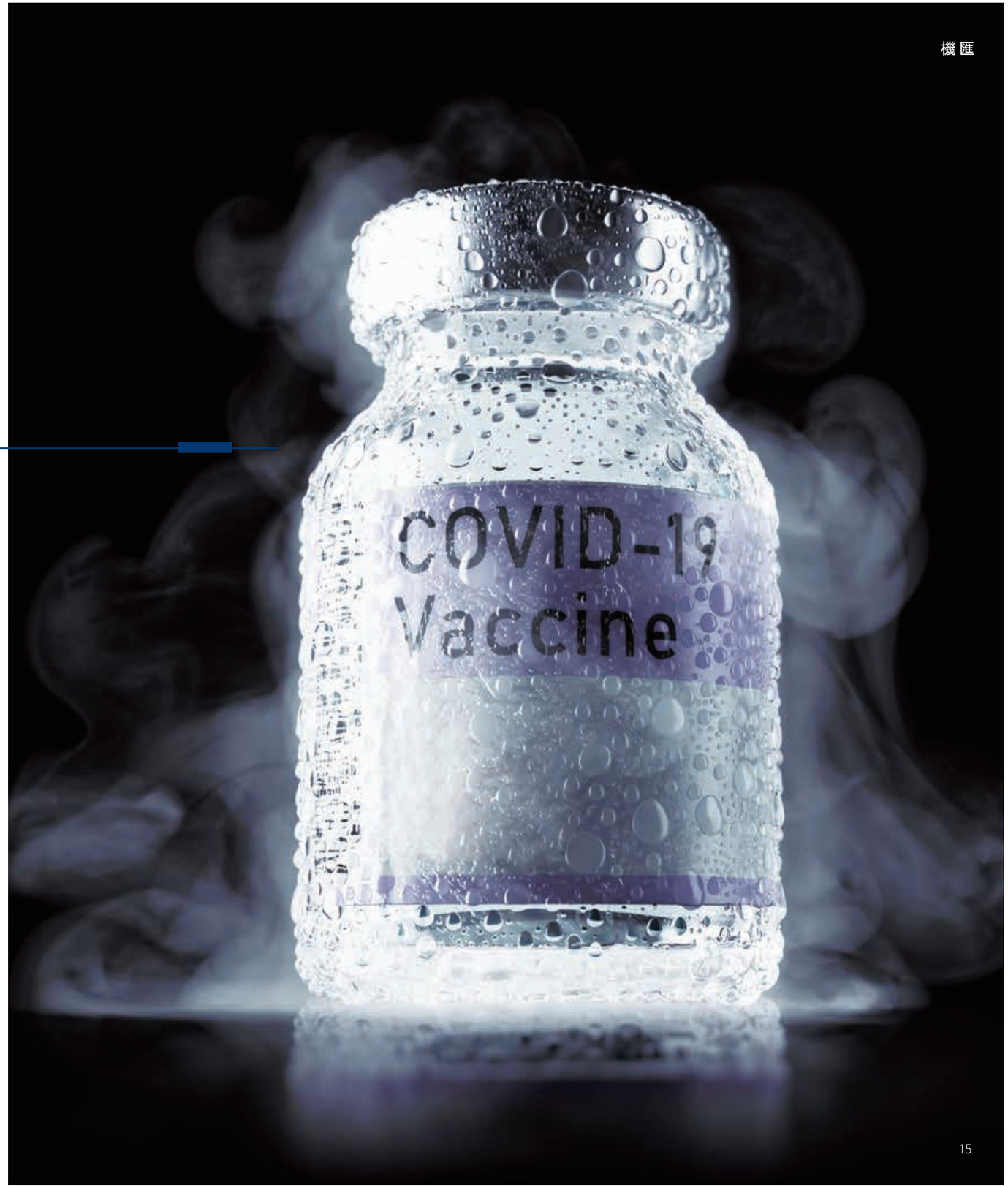


Requirement of ocean reefer containers will depend on various factors, such as the temperature at which the vaccines will be stored or shipped. The containers that are used for storing pharma products are manufactured separately and are generally not the same that are used for shipping, said Satish Lakkaraju, Chief Commercial Officer, Agility Logistics Pvt Ltd, told The Hindu Business Line.

"The reefer containers used for shipping pharma are already in high demand. We have always given priority to pharma over other products and if the need arises, we have to prioritise vaccines and the same will be done," he added.

THE TASK IN HAND FOR THE VACCINE SUPPLY CHAIN

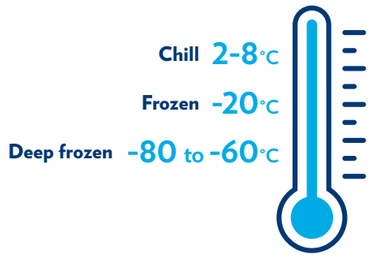
The task of distributing a COVID-19 vaccine around the world has been compared to a lunar moon mission by many, given the enormity and complexity of the tasks involved.

According to The International Air Transport Association (IATA) some 8,000 Boeing 747 freighters will be needed to carry the 7.8 billion doses required for a single-shot immunisation of the global population.

There are some 250 vaccine development programmes in progress around the world, but it is expected that global distribution will be a longer sustained programme rather than an one large one-off project.

According to a study by McKinsey, announcements from manufacturers indicate that global production capacity could be between eight and nine billion by the end of this year (2021).

COVID-19 SPECIALIST LOGISTICS TEAMS



Range of temperatures from deep frozen, frozen and chill.

At the heart of the biggest peace time logistics project is the need for optimised planning, with delivery of the vaccine in good condition to each recipient as the focal point. According to KPMG speedy execution, minimum wastage at an agreed cost are the primary goals.

"Using existing distribution and cold storage facilities, that are currently used for flu jabs and other vaccines means that the cold chain does not have to be re-invented but scaled up where and when needed," according to the KPMG report 'Five ways to optimize the COVID-19 vaccine supply chain.'

Within many large global logistics companies' specialist COVID-19 teams are being established to ensure successful and timely delivery to recipients. Kuehne and Nagel, a global transport and logistics company, is combining the expertise of its pharma & healthcare vertical team with members of QuickStat (Kuehne+Nagel's clinical trial team) to explore the best delivery methods.

A combination of air, sea and road logistics are being used to move the vaccine around the world while storage and distribution channels are defined and dry ice, packaging and other materials are prepared.

Connecting across modes will also be critical in maintaining the vaccines in optimal condition, transferring shipments between air and road, via temperature-controlled warehouses will be key to successful delivery.

GLOBAL PLAN FOR VACCINE ROLL OUT

Airliners, such as Cathay Pacific (CX) started preparing for the roll out of the vaccines last year (2020), bringing together Commercial, Product, Revenue Management (which looks after inventory), and Service Delivery teams, as well as managers from the Cathay Pacific Cargo Terminal. Then critically CX invited Cargo Managers from overseas ports, close to vaccine manufacturing sites to have real time information about vaccine production and delivery schedules from around the world.

'They are our eyes and ears,' says John Cheng, Head of Cargo Marketing and Products of CX, told Cargo Clan.

CX then realised they would have to develop a customised vaccine solution and so they integrated elements of their Pharma LIFT and Priority LIFT and combined it with its multi-dimensional tracking and data-logging system Ultra Track to track-and-trace, record and transmit GPS position, temperature, vibration and humidity in near real-time, making it ideal for temperature-sensitive and fragile shipments.

The system will work in tandem with the newly established Operations Control Centre based in Hong Kong. Working in shifts, the team monitors shipments 24/7, and can take proactive steps to intervene should any cargo start to experience temperature excursions, delays, equipment malfunction or damage on the ground.

HONG KONG RECEIVES FIRST BATCH OF VACCINES

On 19 February 2021, Flight CX391 from Beijing, carried the first batch of the Sinovac vaccines from Beijing to Hong Kong as part of the Hong Kong SAR Government's vaccination programme.

Augustus Tang, Chief Executive Officer of Cathay Pacific said: "This is an important milestone in Hong Kong's fight against COVID-19 and we are immensely proud to be doing our part in this fight. It is a successful effort, which involves close collaboration with the Airport Authority of Hong Kong, and many of our industry partners and business associates."

The one million doses of Sinovac COVID-19 vaccines were loaded inside six temperature-controlled Envirotainer e2 RAP containers to maintain the vaccine temperature range of 2-8 degrees centigrade. The shipments were loaded closest to the aircraft doors to allow for priority unloading and upon arrival the aircraft was parked at the South Apron closest to the Cathay Pacific Cargo Terminal at Hong Kong International Airport to reduce the towing time between the parking bay and the cargo terminal.

IATA CEIV PHARMA CERTIFICATION KEY TO SAFE AND SECURE VACCINE ROLLOUT

In order for the aviation industry to ensure a safe, secure, compliant and efficient transportation of all pharmaceutical products, IATA has established a globally consistent and recognised pharmaceutical product handling certification called Center of Excellence for Independent Validators in Pharmaceutical Logistics (CEIV Pharma).

The vaccine roll out relies on air transport for its speed, consistency and efficiency in delivering high-value, time-sensitive, temperature-controlled products.

However, aviation industry stakeholders must overcome big challenges, such as insufficient expertise, inadequate infrastructure, ill-equipped facilities, and increased regulations, as they strive to provide the high-quality services pharmaceutical shippers expect.

CEIV Pharma ensures that facilities, equipment, operations and staff comply with all applicable standards, regulations and guidelines expected from pharmaceutical manufacturers.

The overall goal is to elevate the industry know-how and achieve global standardisation.

Source: IATA

ULTRA-COLD DRY ICE – HANDLE WITH CARE

Vaccines need to be stored at cold temperatures from between -80°C and 2°C and dry ice has been found to provide the best long-term solution for storage and transportation. Dry ice is the solid form of carbon dioxide (CO_2), and is commonly used in research areas to allow for rapid cooling of materials. As dry ice warms, it sublimates (passes directly into a gas without becoming a liquid) at -78.5°C. This quick shift to a gas state can pose worker safety hazards, including frostbite and asphyxiation from high levels of CO_2, and these hazards should not be taken lightly suggested by Bob Fawley, Senior Customer Marketing Specialist for Honeywell's Gas Analysis and Safety business.

This challenge has also been addressed by airliners as there are operational limits on how much dry ice can be uplifted, Alex Leung, Cargo Products Manager for Cathay Pacific Cargo told Cargo Clan.

'Dry ice generates carbon dioxide as it sublimates, and although it's inert, it ticks some dangerous goods boxes, especially on aircraft carrying passengers. But the less dry ice that is carried to maintain low temperatures, the fewer specialist cooltainers that can be uplifted. That's a problem as both quantity and quality matter.'

3 ARCHETYPES OF END-TO-END LOGISTICS SOLUTIONS FOR COVID-19 VACCINE DISTRIBUTION

Direct shipment to point of use
Direct shipment of pallet shipper or cooling box from fill-finish to point of use

Local cross-docking
Local cross-docking of cooling boxes on pallet to reduce cross-border costs

Local warehousing
Use of local storage and fulfillment capacities to break-down pallet shipper into cooling boxes

TRACK AND TRACE

Because of the temperature sensitive nature of the vaccines and their relatively short shelf life, having an effective track and trace system is critical. Track and trace ensures that healthcare workers know when the vaccines are arriving and they can then schedule appointments accordingly. Any damage or theft to the shipment will also be monitored and logged.

From a logistics perspective, supply chain managers can access data from tags on each vaccine batch to provide a comprehensive view of volumes stored, delivered and not used. Stock can also be identified according to the manufacturer and expiry date, according to the KPMG report.

Data analytics will drive the success of the vaccine roll out and a robust and established process is required for capturing, storing, processing and transferring data. Standardising the asset data, agreeing on classification of each vaccine and sharing commercial data.

OCEAN TRANSPORT TO PLAY LONG-TERM ROLE IN VACCINE DISTRIBUTION

The supply chain is adapting to the new normal of distributing billions of vaccines to the whole of humanity, initially at warp speed using air freight to deliver urgently needed protection to people across the world. It is apparent that the long-term plan to deliver COVID-19 vaccines on an annual basis will require a more sustainable and cost-effective program which will rely heavily on container shipping.

Shipping has for many years been attracting more pharmaceutical shipments, traditionally carried by airfreight. The infrastructure to support the transportation, handling, storage of vaccines is in place in most parts of the world as logistics companies, container shipping lines and ports have invested in developing this fast-growing sector.

There will be a need to look at the legal, risk management and insurance aspects all parties involved in moving the vaccines by sea, but those issues will be secondary to the urgency and importance of delivering the vaccine to the world.

CHINA-EUROPE RAIL FREIGHT COMES OF AGE

Photo: DACHSER

The phenomenal rise in rail freight between China and Europe has provided shippers with an alternative to air freight and ocean. For many shippers, the attraction of direct rail services between inland cities has proved popular.

Underpinning the rise has been financial subsidies by the Chinese government to rail freight operating companies in the mainland to stimulate the rail freight sector and help connect China with Central Asia, Russia and Europe.

The Chinese government announced that it will phase out these subsidies falling from 50 per cent of rail costs in 2018 to zero in 2022.

This attempt will drive the independent commercially run freight companies to become more efficient and cost competitive, while maintaining the best possible value for money and quality, according to railfreight.com.

To continue to drive through these efficiencies, digitalisation and modernisation will require cooperation and consultation between the various stakeholders.

RAIL OPENING UP NEW TRADE CORRIDORS

The development of rail freight corridors has also opened up new markets for China's manufacturers across Central Asia and into Turkey and Iran in the South and direct access to Central Russia and the Baltic States.

For the world's largest manufacturer, China has developed direct access to inland markets across Central Asia, that also are rich in raw materials and agricultural goods which are now flowing in the opposite direction.

The investment in rail provides a strategic modal alternative to ocean shipping and airfreight which will benefit China and countries along the route.

STUDY FORECASTS IMPROVED SERVICE LEVELS

According to a study conducted by Feng Fenling and Associates at Central South University, China, the economic and social benefits increase for rail freight operating companies with less financial support.

To better explain, the scholars have modelled the Wuhan-Hamburg route as an example. The chart below shows the liner's operation and the tariff change for this route between 2016 and 2019.

As rail freight offers a premium service when compared to shipping in terms of transit time and price, the phased reduction of subsidies will see a focus on attracting shippers of high value goods such as automotive, luxury food items and computer hardware.

Operating data of CR Express (Wuhan- Hamburg).

Year	Total Loads	Total Container(FEU)	Operating Cost (USD)
2016	122	5002	12,000
2017	161 ↑	6601 ↑	11,050 ↓
2018	173 ↑	7093 ↑	11,050 —
2019	167 ↓	6847 ↓	11,000 ↓

REDUCE 50% SUBSIDY

Source: https://www.railfreight.com/railfreight/2021/01/11/is-the-elimination-of-chinese-subsidies-a-good-idea/

Rail freight companies must improve their operations mode to remain competitive and subsequently their reliance on subsidies reduce. The study concluded that operating companies can better meet the timeliness and reliability expected by shippers without financial support from local governments.

Ultimately, the development of a rail network between China and Europe is part of the long-term strategy of the government of China, to achieve global connectivity to boost international trade and investment and economic integration.

GLOBAL LOGISTICS COMPANIES INCREASE INVESTMENT

As rail operating companies on the China Europe route gear up for purely commercial operations in 2022, major global logistics companies like DHL, Schenker, Kuehne and Nagel and Dachser are increasing their rail freight services offering to customers.

SO, WHAT IS DRIVING THIS GROWTH IN DEMAND?

"We have seen an increase in rail freight volume due to COVID-19, especially the demand westbound for Personal Protective Equipment (PPE), which is quite high. We found PPE volume has grown since the end of March 2020," said Yves Larquemin, Managing Director Air & Sea Logistics Far East North.

"Impacted by the high price of air freight, more customers turn to rail freight because of the high speed and capacity. We also identified some customers who chose railway to maintain their original supply chains," Larquemin added.

The key drivers have been the Belt and Road Initiatives (BRI) according to Dachser, which has boosted development as well as energy transition with EU countries to reduce carbon emissions. China is also promoting energy transition in partnership with other participants to build a green, low carbon and sustainable connectivity.

RAIL MOVING UP THE VALUE CHAIN

As rail becomes more reliable and efficient, the type of goods moving on the tracks now include industrials goods, automotive parts, machinery and tools, tech hardware and semiconductors, and also life science equipment, moving in both directions.

However, the move up the value chain means that there is a greater demand for temperature-controlled equipment to carry products that are heat sensitive. Across Central Asia there are extreme temperatures during winter and summer which means that temperature integrity is essential.

There are some challenges around reefer equipment availability and power supply for reefers during the long journeys across Central Asia.

"Normally reefers are made hybrid – with diesel or electricity. If the train is stuck during the transportation, the supply of diesel might become an uncertainty and if it is far from stations, there is no power supply available to plug in, which means the temperature might be hard to control," said Larquemin.

The outlook for an increase in the supply of rail reefer containers looks more positive as more core platforms in Zhengzhou, Chengdu and Chongqing that are building more equipment.

HUTCHISON PORTS YANTIAN'S PINGYAN RAILWAY PROVIDES TRANSPORTATION SERVICE FOR REEFER CONTAINERS

On June 2020, a train loaded with reefer containers departed YANTIAN for Ganzhou Port, arriving at the destination the next day with the temperature controlled below -18°C for the whole trip. This is the first time Pingyan Railway, a dedicated rail facility operated by Shenzhen Pingyan Multimodal Company, has offered a transportation service for reefer cargoes. The railway interfaces with the China's main railway network, enabling YANTIAN to provide one-stop logistics services to inland areas like Chongqing, Hunan, Jiangxi, Sichuan and Yunnan.

EXTENDING REACH INTO ASIA

Transit shipments via markets in Japan, South Korea, Taiwan and Vietnam are becoming more popular in recent years, driven by the flexible Customs solutions along the BRI, according to Dachser.

Now sea-rail connections from Japan and South Korea means that cargo is loaded onto trains at Lianyungang and other ports in Eastern China and transported to inland locations across China, Central Asia, Russia and Europe.

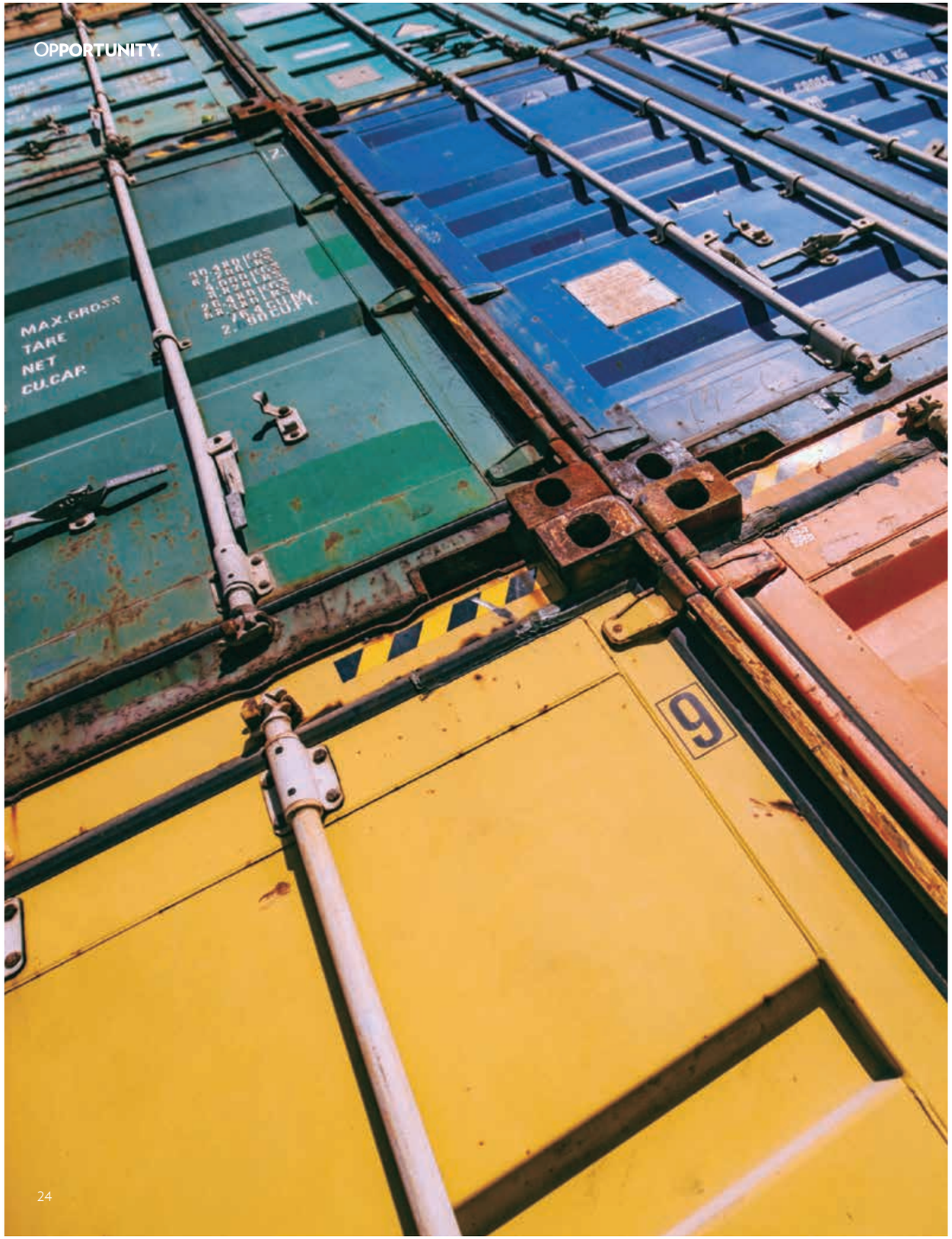
COLLABORATION TO RESOLVE BOTTLENECKS

The bottlenecks of capacity and container supply and border operations cannot be resolved in one night. The solution is through a concerted effort by different countries and stakeholders including governments, railway bureaux and logistics companies.

"From our point of view, China Railway Express is a very good partner with very high potential, and it will just take some time and collaboration to resolve challenges and improve efficiency," said Larquemin. Rail Freight Corridors constitutes a vital part of the European rail network and a crucial component of the connection between EU-Asia. Securing the smooth operation of the routes is of note since transcontinental rail transport is increasing in the European market. "There is a need to facilitate cross-border traffic in the Eurasian rail landbridges as much as possible, and this requires a joint effort by all parties concerned", said Gerhard Troche, Managing Director of Rail Freight Corridors.

INCREASINGLY COMPETITIVE LANDSCAPE

The rapid increase in the number of trains between Asia and Europe is leading to greater competition on the routes among train operators and logistics companies. As a mode of transport, the rail freight transport is competitive with other modes, in terms of speed and cost. Moreover, the development of infrastructure along the routes is decreasing the transport costs and duration.



BOX DROUGHT

IMPACT ON GLOBAL OCEAN TRANSPORT

Container is the main element to marine global trade which allow goods to be shipped from one side of the world to another. Lately, due to the COVID-19 pandemic a shortage of containers has become a global issue, but only a few months ago United States (US) ports were overwhelmed by empty boxes flooding the terminals driven by strong consumer demand in the US, Europe and Australia for retail imports from Asia during the Xmas holiday season.

In the third quarter of 2020 some 1.5 million containers had a turnaround time of more than 115 days across the US, compared to an annual average of fewer than 80 days, according to a research study published by Container xChange and FraunhoferCML.

Since the New Year, lines went into overdrive and quickly moved empty containers back to Asia, the picture was dramatically reversed particularly at the ports in the west coast of the US, a leading gateway for the trans-Pacific container trade.

Already under pressure from Covid-19 outbreaks, congestion and labour supply issues, the ports also felt the impact of box shortages, according to the Container Availability Index (CAx).

EMPTIES DOWN UNDER

This phenomenon also extended to Australia where ports across New South Wales (NSW) struggled to cope with a huge number of empty boxes filling empty container parks and holding spaces at terminals, according to a report in *Shipping Australia*.

Port operator NSW Ports imposed control measures to preserve safety as management of empty containers is becoming an issue elsewhere around Australia.

So, what has been driving this imbalance? Back in early 2020 the inactive global containership fleet totalled three million TEUs, but at the start of 2021 driven by a surge in demand that fleet of ships has returned to work. Liner shipping companies had to charter in multi-purpose vessels, given the shortage of container ships.

The rapid surge in demand absorbed the spare containers and shippers and consignees struggled to book space on ships and find equipment, they also had to deal with an immense increase in freight rates. The normal slump in demand for containers during Chinese New Year has not happened and has remained robust.

There are always increases and slumps in demand, but the infrastructure that supports the movement of containers cannot increase capacity to meet a massive surge in short space of time. Ships take time to build and so do ports and terminals require years in advance to build facilities, dredge access channels and order equipment such as ship-to-shore cranes.

This spike appears to a one-off phenomenon.

RETAIL BOOM CAUGHT MARKETS BY SURPRISE

In 2021, on-line consumer retail spending around the world rebounded causing a major trauma to the global supply chain. Carriers have responded to a lack of equipment by relocating empty containers back to the source of the cargo in Asia, and shipping lines are now moving boxes back from Europe, the US and Australia as quickly as they can.

"From the ocean carrier's perspective, the quicker a container can be back to where it's required, the better velocity it gets and results to a better return on asset" said Edward Aldridge, Senior Vice-President of global ocean freight at logistics company Agility told South China Morning Post.

Aldridge continued, "Having more [containers] is not the answer, the answer is the velocity of containers. What that means is that the loaded export container from China has to be on a vessel that has fast enough turnaround, turns and gets back to where it is required in the most efficient way."

Many carriers are sending in additional box ships, on ad hoc sailings, to ports to collect the empty containers and return them to China and other Asian ports. However, they are finding it hard to book berth space, as terminals already congested, and priority is given to carriers who have pre-booked berths and also full containers are given precedence over empty containers.

LIGHT ON THE HORIZON

The common consensus is that a slowdown in the pandemic and an ongoing return to more normal life should cause a reduction in the demand for goods. Sam Chambers, editor of shipping news site Splash has been covering the congestion issue closely, commented: "It's important there are no knee jerk reactions to this strange, seemingly one-off situation. This is not a new normal, this is an unprecedented confluence of events that is unlikely to be repeated anytime soon."

TURNING POINT IN CHINA

This analysis is confirmed by an upbeat assessment by David Amezquita, Head of Data Insights at Container xChange.

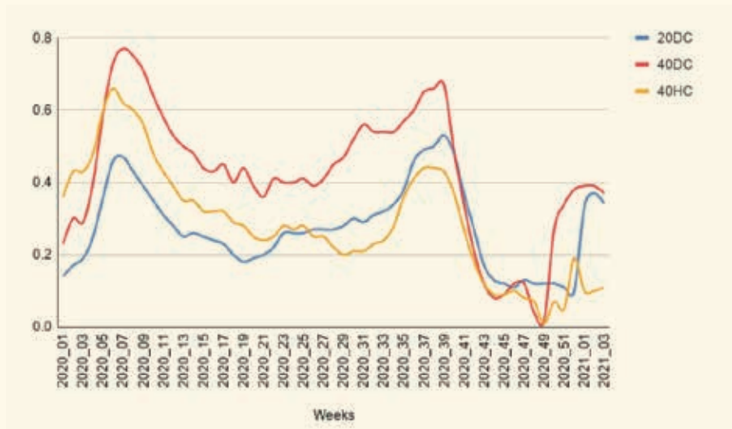
He said that container factories in China are now working at full production and there is an aggressive repositioning of empties back to China by the shipping lines, normality is expected to return during Chinese New Year which will be the turning point of equipment shortage.

"With a growth of 37.5 percent for 40-foot High-Cube containers (HCs) and even 200 percent for 40-foot Dry Containers (DCs) in January compared to December 2020, the CAx finally shows a positive trend for shippers and forwarders who are looking for equipment in Shanghai", says Amezquita.

"With the vast increase we are seeing in the container availability, Shanghai is on its way back to normal levels. A similar development is happening across other ports in China. Qingdao, for instance, even reaches index values of 0.5 for standard equipment – which represents a balanced equipment situation," he added.

For some of the major hubs across Asia like Singapore, Nhava Sheva and Port Klang the CAx shows the same trend. Compared to December 2020, container availability is up 58 percent in Singapore, 35 percent in Nhava Sheva and 54 percent in Port Klang across standard container types in January 2021 mentioned in *logisticsmiddleeast.com*

The tumultuous year of 2020 seems to be a black swan event in terms of container equipment shortages. With the crunch in availability now reducing, shippers, carriers and ports will be hoping of a return to some sort of normality during 2021.



Container Availability Index (CAx) in 2020/ 21 for 20DCs, 40DCs and 40HCs in Shanghai. An index of 0.5 describes a balanced market, below 0.5 a shortage of containers (Source Container xChange)

TECHNOLOGY AND EMPATHY POWERS PROCUREMENT IN 2021

As the world of procurement adapts to the new normal of fractured supply chains, there has been a movement that engenders greater understanding of suppliers and their issues during the COVID-19 pandemic, according to Rich Weissman, an experienced supply chain management practitioner and educator, works with businesses to build scalable and sustainable supply chain strategies.

Perceptions changed when consumers were faced with a shortage of products in retail stores that ranged from toilet paper to bread and cleaning products. This also brought the supply chain into the public arena for the first time.

The response driven by the multitude of large and small suppliers to re-stock supermarket shelves was testament to the robust nature of the hidden engine that drives the supply chain.

It also provided a re-boot moment when large retailers had an opportunity to look beyond the purely transactional basis for their relationship with their suppliers and also understand more about their value and flexibility to their business.

Technology is of course still shaping the procurement sector through artificial intelligence, machine learning, cloud-based software solutions, autonomous vehicles, robotic process automation, evolving enterprise systems and dashboards driving supplier analytics, according to Weissman.

Without the existing IT infrastructure and access to good granular data the rapid recovery in supplying vital consumer goods across the world could never have happened. The flexibility and scalability required by large global companies to procure products and manage the sourcing, branding, logistics, storage, transportation and delivery is now in great demand.

SO, WHAT IS THE UPTAKE OF PROCUREMENT TECHNOLOGY?

Now access to cloud computing and automation tools is easier than ever and there is a greater understanding that by using digital technology more can be done with greater efficiency and at a lower cost.

"Fewer than 10 percent of companies have deployed procurement solutions based on key technologies such as the Internet of Things, Big Data and blockchain technology. That same research also shows more than 60 percent of companies either use no tools at all or rely on systems primarily based on Microsoft Office to handle their workflow and supplier relationship management (SRM)," according to PurchaseControl website (planergy.com).

WHAT ARE THE OPTIONS?

If you are solely involved in procurement and nothing else, then your purchasing team can use a procurement platform that can simplify the complex processes that may currently be hard to manage, according to PurchaseControl.

The other option for companies that need procurement as part of a wider portfolio of business processes is to buy the tools that incorporate procurement and purchasing into the overall digital solution.

AI, MACHINE LEARNING TO MEND A FRACTURED SUPPLY CHAIN

During the COVID-19 crisis it is apparent that managing effective supply chains is no longer only about lean processes or the lowest cost, it is about fixing the breakpoints in supply connections according to GEP, a global software solutions company.

In the year ahead, procurement and supply chain leaders need to invest in making those connections seamless and resilient — without losing the advantages of efficiency.

Software that incorporates artificial intelligence, machine learning and automated data feeds can sense changes to demand before they occur. These are the new tools to manage supply and build real supply chain resilience.

OUTSOURCING AS A GROWING TREND IN PROCUREMENT

The procurement industry has outsourced its order processing or the management of invoices for many years. In the last decade companies are outsourcing strategic procurement activities like supplier selection, contract negotiation or specification management, according to Peter Spiller and Martina Tokic, expert principals for McKinsey in Europe.

According to McKinsey's research 40 to 50 percent of the total savings achieved come from changes in internal factors, like optimising specifications to minimise total cost of ownership or controlling demand. Such savings also tend to be the most sustainable over the long term.

NEXT GENERATION OF PROCUREMENT COMPANIES

A new breed of companies have emerged in recent years, looking to aggregate global suppliers and provide a comprehensive range of services from farm to shelf.

Companies like Hong Kong-based Li & Fung, a global supply chain and procurement company, is now working with 10,000 suppliers through its Vendor Platform.

Founded in 1906, Li & Fung has organically grown with its clients responding to global changes in the supply chain and in recent years made substantial investments in its digital networks.

One of the company's main aims is to increase the velocity of the procurement and the supply chain process by helping customers reduce production lead times and increase speed-to-market. Decisions are made closer to 'time to market', giving buyers a quick response to trends, improved inventory control and decreased mark down – all with the aim of improving profitability.

The company places its suppliers at the heart of their systems with its production platform providing digital order tracking and a direct connection to more than 40 production markets around the globe.

> **There is no doubt technology will continue its inexorable transformation of procurement and supply chain management during 2021. But it will be tempered with a large dose of kindness, compassion, patience and understanding, important traits that will hopefully stick around for a while," said Weissman.**