OPPORTUNITY. 機匯

11

HUTCHISON PORTS TO BUILD NEW TERMINAL IN EGYPT

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ADAPTING TO THE NEW NORM

Indisputably, COVID-19 has brought about tremendous negative impact for people and economies worldwide. But it has also generated new opportunities and ways of doing things during the pandemic.

People's way of life has been disrupted, but many have found ways to adapt to changes, and these changes will most probably continue even after the pandemic is over. Working from home may become a norm, and office space will be reduced. Virtual meetings have become so widely used and proven effective that business travel will likely be reduced even when the pandemic is behind us. Internet purchases have become a need rather than a habit, saving time from commuting to and from retail stores, and bringing along collateral environmental benefits. There are more.

Externally, we are not distancing from our business partners and stakeholders due to the restricted travel measures – contrary to that, we have conducted more virtual meetings with these people, which are productive and effective. We have also been successfully closing deals over virtual signing arrangements.

Internally, most of the management team has been grounded for an entire year, but they have found relatively more time to carry out in-depth reviews of the operations of their responsible areas. Those reviews have brought about positive results. The whole group's spare parts inventory has undergone a thorough and in-depth review, and it has been identified that we can collectively save 25-30% of our current inventory levels, with a significant positive impact to our business. There are other similar initiatives being raised and executed.

Despite the fact that our business and profitability are affected by the pandemic, we have laid the seeds for future success.

On a negative note, we have heard sad news about a few of our dear colleagues who had passed away due to complications from COVID-19. I wish to represent the group to send our deepest condolences to their families and closest friends. Our related business units have rendered the necessary and gratuitous assistance to help their families to get through the difficulties.

2021 will be challenging as there will be uncertainties. I believe we have learned how to handle the situation and to bring the business forward. I have no doubt we will continue to grow and become more resilient to future challenges.

With this, I would like to take the opportunity to thank all of my colleagues, business partners and customers for their support during these extraordinary times. I wish you all a good holiday season, with time to refresh and recharge, for a reinvigorated new year ahead.

Eric Ip
Group Managing Director
Hutchison Ports

HUTCHISON PORTS TO BUILD

NEW TERMINAL IN EGYPT

Despite the challenges we all face during the current pandemic, Hutchison Ports has maintained its focus to enhance its port operations to global customers and expand its portfolio.

On 27th August 2020, Hutchison Ports signed a long-term agreement with the Egyptian Navy to develop and operate a new container terminal at Abu Qir, Egypt. The online signing ceremony took place with the management team joining from Egypt, Hong Kong and the United Kingdom.

The new terminal will have a handling capacity of

2 million TEU

upon completion and a total quay length of

1,200 metres

with a draft of 18 metres capable of handling mega vessels of the future.

The project includes provision for a 60-hectare container terminal yard, and an additional 100 hectares of land exclusively reserved for future expansion.

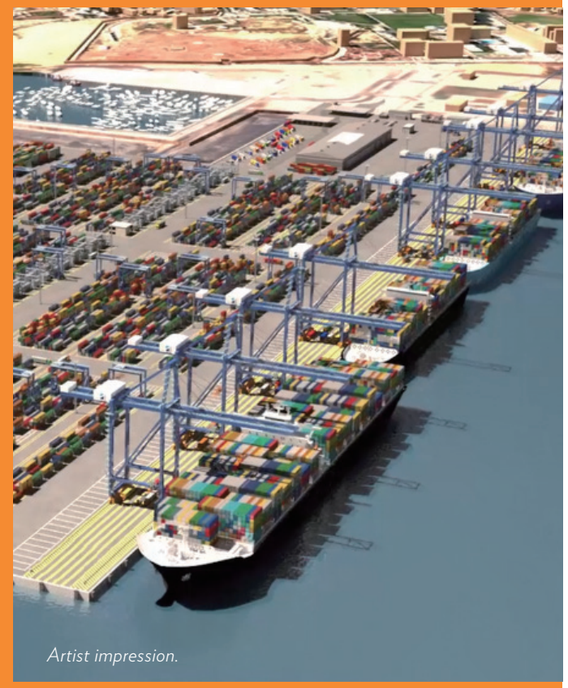
The location of the new terminal is inside the Abu Qir Naval Base and the greenfield site will be connected to a new six lane highway, with a direct link to the city of Alexandria some 20 kilometres away. The highway is part of the national road network providing access to the capital city of Cairo and other major cities across the country.

Speaking at the ground-breaking ceremony, His Excellency Ahmed Khaled Saied said, "Today is a special day for us. The development of Abu Qir signifies the continuation of our successful partnership with Hutchison Ports, the world's renowned port investor and operator. We are seeing an increase in export cargoes, there is a need for a world-class container terminal to facilitate growing trade. This also echoes with the President El Sisi' Egypt Vision 2030 of regional leadership and sustainable development."

"We have been investing in Egypt since 2005, and it has always been an important market to us justified by the country's growing population and economy that are fuelling container trade," said Eric Ip, Group Managing Director of Hutchison Ports.

The overall investment in the terminal is estimated to reach US$730 million. The new terminal has a concession for 38 years and funded by the joint investment of the two partners in phases.

> "THE FIRST PHASE IS EXPECTED TO COMMENCE OPERATIONS IN 2022."



Artist impression.

Eric Ip, Group Managing Director, Hutchison Ports

'We believe in the potential of Egypt, it has an ancient civilisation, but with a very young and energetic population.'

'I am confident that this country will have very strong growth and reach its economic and development goals.

And we want to participate in this growth era in the coming 38 years during the concession of this project.'

'We are determined to invest in Egypt and I am glad to be here today to mark the beginning of this project.'

His Excellency Commander in Chief Vice Admiral Ahmed Khaled Saied, Egyptian Navy

'I am personally committed (including the Egyptian Navy) to very much make this project one of the strongest projects we have developed in this area.'

Artist impression.

Artist impression.

COVID-19 ACCELERATES DRIVE FOR DIGITISATION OF SHIPPING

During the COVID-19 pandemic, there has been much discussion about how digitisation has been critical to keep supply chains moving and enable the continued smooth operations of transportation networks, shipping and ports.

The realisation is that digitisation of shipping and logistics networks, has been vital in moving food, medical supplies and energy around the world. Companies that have not embarked on their digital journey, have realised during the pandemic that the analogue world and paper-based transactions are no longer a long-term option.

Reducing the risk inherent in physical paper-based transactions and human-to-human contact are now an imperative to fighting the pandemic.

The transition to digitisation is moving at different speeds across the business world, at Hutchison Ports the company has been integrating new technology to its smart network strategy into its operations and business processes via standardisation, automation and digitalisation.

In an interview, Hutchison Ports Group Chief Financial Officer, Ruth Tsim said, "The application of the latest technologies in our operations has been the cornerstone of our success. We are committed to investing in digitisation across our network, such as AI and other technological solutions to enhance our terminal operations. We have introduced the use of remote-controlled equipment, autonomous trucking and the proof-of-concept for blockchain solutions, where we are working with a number of companies across the supply chain."

"As you will appreciate, we are in the volume business and we look into big data for a wide spectrum of our business decisions including investments and operations. For example, our proprietary operating system – nGen collects the data of the containers and ships coming to our facility, puts together plans using algorithms and AI for the optimal and most productive use of our terminal. These plans will then be used in the execution of our shipside and landside operations."

By practicing the smart network strategy to its terminal operation, Hutchison Ports has established a code of processes and best practices that seamlessly unifies its network.

WHAT COVID-19 EXPOSED ABOUT DIGITAL TRANSFORMATION PROJECTS?

Kris Kosmala, Ambassador for Connected Ports said: "If anybody ever wished to validate value of their digital transformation, the pandemic provided a perfect set up. Chaotic transition from "normal" to "somewhat abnormal" to "new normal" in a space of days provided ample of opportunity to see what can be done with pure digital means, as opposed to counting on people trudging to the offices and performing their daily tasks from behind their desks."

According to Kosmala a well-executed digital transformation should have produced seamless transition from people-to-people mode to a people-to-machine mode the day when the employees were ordered to stay at home because of lockdown in many countries. The worldwide web portal of your business should have instantaneously become the primary way of transacting and communicating with your customers.

"If it took your staff days or weeks to evacuate their office equipment to their homes and switch their customer-oriented work to all means digital, I am sorry to say that you misspent your digital transformation budget."

"If your electronic portal was unable to answer customer queries and enable quote-to-cash process execution entirely through use of AI sales rep bots, specific recommendations provided by an AI-powered engine, optimisation-generated execution scenarios for customer to opt for or out, automated workflows to carry out checks, verifications, execution, complaints, and audits, then yes, you guessed it. You misspent your digital transformation budget," said Kosmala.

GOODBYE ANALOGUE AND PAPER

The benefits of a digital future are no fax machines, no frantic phone calls and flipping through endless screens, running through documentation binders, or sharing screenshots of shipping advices, contracts, receiving slips, authorisations, certificates, price lists, purchase orders and invoices.

Never has the future investment development of digital networks been more essential. Port communities are well positioned to digitally interact with vessels to ensure optimal berthing, loading and unloading, paper-based transactions can be eliminated, shared data between ports will improve vessel arrival and departure efficiency.

Many recently developed ports have introduced digitisation to their operations, without having to convert from traditional analogue processes. Having digitisation integrated into operations has provided new terminals with the advantage of introducing remote and automated equipment from day one. Ports are also increasingly utilising AI and big data to analyse terminal traffic to optimise and maximise terminal productivity.

Paperless operations are now migrating to digital cloud platforms to enable processes such as online goods registration, invoice, payment, pickup point through QR code notification. All processes are centralised to a unified platform allowing quick and easy access with greater efficiency and flexibility. The interconnected digitalised terminal operation is becoming the new norm in port operations.

Another benefit of digitisation is it can reduce human interaction in the yard to improve staff safety and reduce information errors; while reducing human contact can also reduce the risks of spreading viruses such as COVID-19.

To learn more about the advantages of digital ports, please refer to issue 7 'Digital ports to create new shipping ecosystem.'

TRADITIONAL PORT	VS	SMART PORT
Paper invoice	**Invoice format**	Digital invoice
Paper emission ticket	**Truck driver terminal entry**	QR Code
Notify by yard operators	**Container collection point & stand-by location**	Online reservation available and real-time confirmation to pick up point
Direct call and SMS by terminal operators	**Ad hoc logistics and transportation notification**	Real time apps and social media platform
Mostly cash or COD	**Payment methods**	Online e-payment

IMO DRIVING DIGITAL CONNECTIVITY

The International Maritime Organisation (IMO) is driving digital connectivity in the shipping sector through a program to ensure easy adoption of new technology and digitisation to drive through standardisation.

On June 5th, 2020, IMO issued a Call to Action to its Member States, the UN, and associated organisations. It has requested governments and industry stakeholders to collaborate and co-ordinate their efforts to digitise the maritime industry and associated logistics operations.

"Cooperation between shipping, ports and logistics will be vital for enhancing the efficiency and sustainability of shipping and therefore facilitating trade and fostering economic recovery and prosperity," said Kitack Lim, IMO Secretary-General on a webinar on Digital Connectivity and Data Standards.

He highlighted IMO's key role in ensuring shipping can embrace the digital revolution – while ensuring safety, environmental protection as well as cyber security. "Digitalisation and new technologies will also be the key to allowing standardisation and therefore enhancing the efficiency of shipping," Mr. Lim said.

SINGLE MARITIME DIGITAL WINDOW

One of the key areas is to create a single mandatory maritime window, so that all data for arrival and departure of ships is submitted through a single point and transmitted to the relevant agencies involved.

The IMO Compendium on Facilitation and Electronic Business, is a tool for software developers to harmonises the data elements required for regulatory purposes during a port call and standardises electronic messages, reducing the administrative burden for ships linked to

formalities in ports.

The goal is to make it easier for companies involved in maritime trade or transport to create software that can communicate, no matter which standard they are based on.

THE DIE IS CAST

2020 will be remembered primarily for the global pandemic, which has had tragic consequences around the world. It will also be remembered as the year when governments, businesses and the public realised the critical importance of digitisation and connectivity. There will be no going back to the old ways of doing business and further development of AI and the Internet of Things will accelerate the pace of change towards a fully digital world.

INVENTORY MANAGEMENT NEEDS A REBOOT

The inexorable rise of e-commerce triggered by a massive increase in on-line shopping during the last five years, has been boosted by the COVID-19 pandemic, as housebound consumers tend to buy daily necessities via their home computers.

This phenomenon has had a knock-on effect as brand named e-commerce companies are expanding their sourcing operations to a broader range of global suppliers in order to keep pace with evolving consumer demand for products. Casting the sourcing net wider also increases supplier competition and ensures low prices for the consumer.

As supply chains expand to incorporate new suppliers, the risks of supply chain disruption increase exponentially, so a smart inventory management strategy is becoming essential to ensure a flexible response, maintain optimal stock levels and develop cross border sales opportunities. In the past, the industrywide emphasis was on just-in-time delivery, which is extremely efficient and productive, but it also means there is very little buffer stock when there are disruptions in the supply chain.

The COVID-19 pandemic has had a major impact on world trade and provided numerous lessons for the shipping and logistics sectors. One of the key developments is demand for increased visibility into inventory levels, to avoid being left with warehouses full of expired or unsold stock.

One of the risks that sellers have while working with new suppliers is the uncertainty of whether they can deliver on-time, particularly if they use an inefficient inventory management system which ultimately impacts the bottom line of the seller. Sourcing the right products with the right suppliers, while implementing operational efficiencies, will become more crucial than ever to sustaining sales and growth in this new retail environment.

The coronavirus has also shifted consumer buying behaviour to focus on health and medical products, food and groceries according to Peter van Merode, Vice President 3PL Strategy at Blue Yonder reported in *Logistics Management* magazine.

HIGH STREET RETAIL MOVES ON-LINE

High street stores are struggling with changing consumer buying behaviour and increasing their on-line capabilities is essential for their survival. In order to maintain viability and retain customers, many are already investing in intelligent inventory management capabilities at the core of their supply chains.

To cope with high demand, logistics companies must adapt to the new reality of increased volumes for groceries, pharmaceuticals and healthcare products. This will require more investment in temperature-controlled warehouses and an effective cold chain strategy both locally and for cross border shipments.

Inventory management will be vital to reducing the impact of COVID-19 on the supply chain, by supporting demand management and providing fulfilment strategies to many industries.

EMPTY SHELVES 'JUST-IN-TIME?'

Looking at empty shelves in many of the world's supermarkets is not just a symptom of panic buying but also of the fact that we have become used to lean supply chains, according to Tiago Martins of HLB Consulting Brasil.

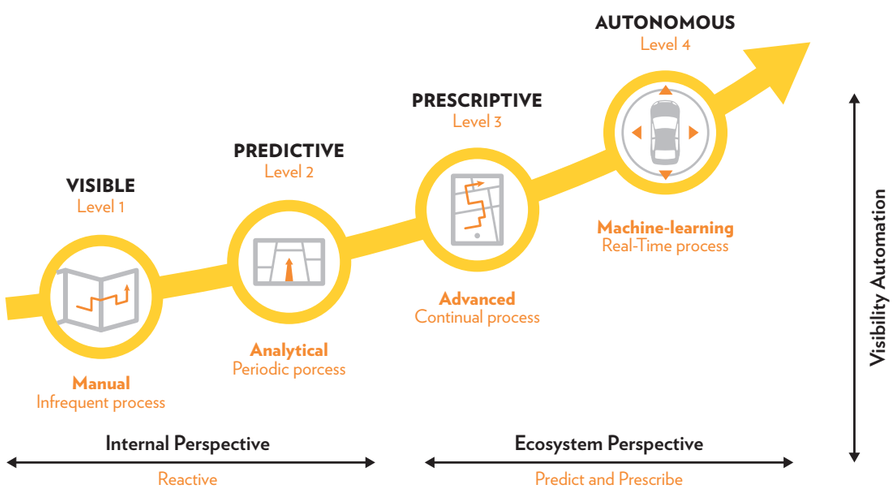
"The culture of operating without stock in the 'just-in-time' system contributes to a shortage of products on the shelves and fluctuations in the supply chain are enhanced by 'phenomena' such as the COVID-19 pandemic," said Martins.

STUDY SHOWS RETAIL LAG IN MEETING DEMAND

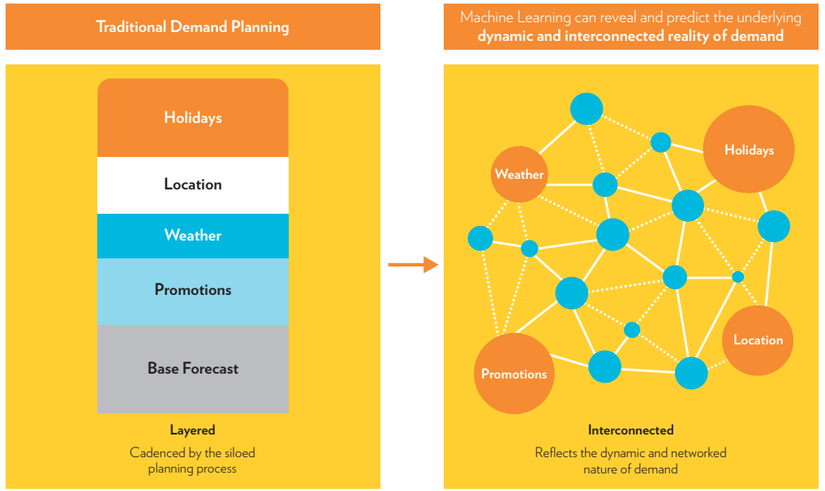
In a major study held by Blue Yonder and the University of Warwick (between March and April in 2020) which surveyed 104 retailers and answers laid bare the scale of the transition needed by traditional retailers to meet consumer demand during the pandemic.

INVENTORY MANAGEMENT	WAREHOUSE MANAGEMENT	MAIN DRIVERS FOR INVESTMENT AND OPTIMISATION
• 8% real time planning (Level 4) • 22% traditional spreadsheets (Level 1) • 74% want to switch to prescriptive or autonomous technology incorporating machine learning in the next five years (Level 3 or 4)	• 10% fully automated warehouses (Level 1). • The rest lies between level 1-3 in the supply chain. • 40% want to switch to automate warehousing in the next five years (Level 4).	• Significant labour issues during the pandemic. • Transport planning is too manual and simplistic. • Lack of integration between logistics and planning.

THE FOUR STAGES OF AN AUTONOMOUS SUPPLY CHAIN



TODAY, ONLY 15 PERCENT OF GLOBAL RETAILERS' SUPPLY CHAINS ARE PRESCRIPTIVE OR AUTONOMOUS.



Source: https://now.blueyonder.com/retail-digital-readiness

MORE SUPPLY CHAIN AGILITY IS REQUIRED

The major lesson learned by retailers during the pandemic is to be more flexible in response to fast moving consumer demand. According to the survey, major investment in the future will be in demand forecasting, visibility and automation, in order to meet the tectonic changes in the retail sector.

At the heart of this transition will be inventory management, with AI and Machine Learning supporting demand planning and optimising stock levels, on-time deliveries and replenishment.

From the major supply chain disruption caused by the pandemic, there is an opportunity for logistics operators and warehouse management companies to attract new retail customers, looking to transition from the High Street to e-commerce.

The inventory management sector will be able to leverage its expertise, knowledge and data mining to optimise solutions for the new generation of retailers looking to break into e-commerce.

REBOOT AND ACT

For those companies in the retail supply chain who have not yet digitised their operations, the pandemic has acted as wake-up call. Increasingly, consumer demand for products driven by on-line purchases can only be met by an interconnected digital supply chain. Warehouse and inventory management companies who remain in the analogue world need to reboot their operations and reap the benefits. Otherwise they are likely to go the same way as the fax machine.

AIRFREIGHT SECTOR WRESTLES WITH NEW NORMAL

As people stopped flying around the world because of the pandemic, passenger flights were cancelled and aircraft are now parked at airports or longer term in the deserts of the US and Australia.

Fewer flights mean there is a squeeze on air cargo capacity, as most freight is carried in the belly space of passenger aircraft. Many carriers have quickly adapted a proportion of their passenger aircraft to carry light freight in the upper deck and heavy cargo in the belly space.

Increased demand for airfreight has largely been generated by growing numbers of on-line consumer purchases during the pandemic. This rise in e-commerce is a result of lockdowns and other restrictions on movement, which means many people are unable to shop at retail outlets.

CRUNCHING THE NUMBERS

According to the latest reports from the International Air Transport Association the ongoing capacity crunch continues to be driven by the lack of international passenger traffic. In August, international belly cargo capacity was down 67 percent Year-on-Year, a move in the right direction following the crash of 82 percent in April this year.

The number of widebodies – the main aircraft type for belly-hold cargo – in service in the passenger fleet has been rising since March. However, the widebody fleet size was still down 42 percent in July, compared to the same period in 2019.

Airlines have been trying to grow their freighter fleets and optimise their utilisation. In June, daily utilisation of widebody freighters rose to its highest level since 2012, at close to 11 hours a day. In parallel, freighters Air Cargo Tonne Kilometres (ACTK) were up 28 percent Year-on-Year in August, according to the IATA report (August 2020).

STRENGTHENING DEMAND

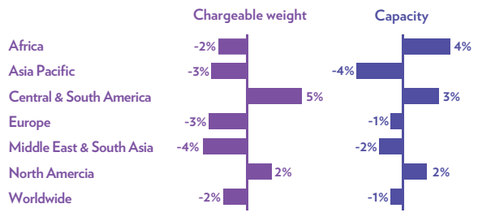
Air cargo demand has strengthened during this year, although Year-on-Year the volumes have decreased when compared to 2019, according to Greg Knowler, Europe Editor for Journal of Commerce.

"The August figures for air cargo volume out of China through August traditionally an off-peak season continued to improve, driven by a rise in demand for e-commerce products from consumers," said Knowler.

In early October there was a mixed bag of figures from WorldACD which showed that rates had declined in most markets. In the report it shows that cargo yield had moved up and that rates will climb for the rest of the month.

Overall capacity declined by 1 percent worldwide, with Africa bucking the trend with a 4 percent increase while Asia Pacific saw a 4 percent decline.

Week 40 compared with Week 39 (WoW)



Source: WorldACD

BREAKDOWN OF VOLUME, CAPACITY AND RATES

WorldACD data analysis shows that in August, of 1.5 million shipments, there was a 17.2 percent Year-on-Year (YoY) drop in worldwide air freight volume and a corresponding fall of 29 percent in shipments carried. Very surprisingly there was a 37 percent increase in US dollar revenues as rates increased by 65 percent when compared to the year before.

Asia Pacific lost the least volume at 10 percent while origin cargo in Europe lost 25 percent, Middle East & South Asia region dropped 22 percent, according to WorldACD.

AIRPORT CARGO VOLUMES

In terms of airport cargo volumes, Hong Kong maintained its position as the number one airport in the world for the first half of 2020 when compared to the same period the year before, despite a 10 percent drop in volumes.

Change from 2018 rank	CITY	IATA Code	AIR CARGO 2019 total	2019 vs 2018 % change	H1 2020 vs H1 2019 % change
1	HONG KONG	HKG	4,809,485	-6.1	-10.2
2	MEMPHIS	MEM	4,322,740	-3.3	0.8
3	SHANGHAI	PVG	3,634,230	-3.6	0.4
4	LOUISVILLE	SDF	2,790,109	6.4	1.9
5	INCHEON	ICN	2,764,369	-6.4	-1.4
6	ANCHORAGE	ANC	2,745,348	-2.2	7.7
7	DUBAI	DXB	2,514,918	-4.8	-26.7
8	DOHA	DOH	2,215,804	0.8	-8.0
9	TAIPEI	TPE	2,182,342	-6.1	0.0
10	TOKYO	NRT	2,104,063	-6.9	-7.6
Aggregated top 10 airports			30,083,408	-3.5	-4.1

Source: Airports Council International

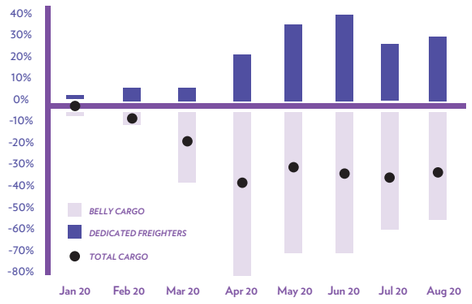
FLUCTUATING MARKET CONDITIONS

"Not a single day passes without news about an upcoming capacity shortage: 'regular' autumn shipments coming in or vaccines against COVID-19 hitting the market. Charter capacity is more difficult to come by. Ever since our industry was severely hit by the effects of the pandemic, predictions and reports about sky-high rates have abounded. The most exotic figures doing the rounds, look to be based on incidental shipments," said Knowler.

It is expected that the traditional end of year peak for air cargo, normally starting late in the fourth quarter, will start at the end of September. This is due to the launch of a wide range of smartwatches, phones, and other electronic consumer devices products which will limit air cargo capacity further and increase rates.

Robert Frei, Business Development Director at TAC Index said that air freight is now the main source of revenue for carriers and forwarders. 'The importance of air cargo to the recovery of global trade has become very visible and recognised,' he told Cargo Trends website.

International ACTK % year-on-year



Source: IATA Monthly Satatistics

Despite those positive signs, improvements in air cargo demand growth have been slow since May. Air freight typically tends to lose market share of global trade at the start of downturns, as shippers turn to cheaper but slower ocean transport. Air cargo would then rebound, when businesses need to rapidly refill inventories amid rising demand.

OLD AND NEW TECHNOLOGY COMBINE TO PROVIDE PLATFORM FOR SMART PORTS

While we take for granted that our mobile phone is installed with Global Positioning System (GPS) technology that can accurately pinpoint the device's location to within a few metres, there is a long and storied history behind the concept.

Today, the world of shipping benefits enormously from the invention, that enables tracking and positioning for thousands of ocean-going vessels every day.

The modern-day GPS was launched in 1973 by the US Department of Defense to help support accurate navigation and to determine the location of military aircraft, vessels and other vehicles in the air, at sea and on land.

However, the history of accurate geographical positioning has its roots in China, more than 2000 years ago, during the Han Dynasty with the invention of the magnetic compass.

The other major development that more accurately helped seafarers establish their ship's position was the sextant, invented in Iran by Abu-Mahmud al-Khujandi in 994AD. In 1731 the early version of the modern maritime sextant was invented by British mathematician John Hadley; the instrument was then referred to as an octant. Fine-tuned by British inventor John Bird some 26 year later, the sextant was used first by the Royal Navy and commercial ships.

The sextant is a tool for navigation, using the stars or planets and measures the angle between the horizon and a visible object.

THE COMPASS AND SEXTANT FOR SEA-BASED NAVIGATION

The combination of the compass and sextant provided mariners with more accurate navigational tools. Because the compass needle always points north position it was possible for seafarers to know where they were and in which direction their boat or ship was heading. This combination provided the blueprint for modern day positioning systems.

HOW DOES GPS WORKS?

GPS uses satellites and is a radio-navigation system that provides very accurate data regarding geo-location and time information to any GPS receiver located on Earth. The system is developed, operated and maintained by the US and is free to any user with a GPS receiver.

Now GPS is used in transportation, civil works, policing, personal navigation, outdoor sports, robotics and military applications.

One of the benefits of GPS is that the user does not need to send any data and the communication is one directional. Another advantage of GPS is that it does not require any telephone or internet connection for the data reception, according to Electronics Infoline.

SATELLITE SYSTEMS

GPS is part of a constellation of the satellites that comprise the Global Navigation Satellite System (GNSS) providing signals from space that transmit positioning and timing data to GNSS receivers.

GNSS includes Europe's Galileo, the USA's NAVSTAR Global Positioning System (GPS), Russia's Global'naya Navigatsionnaya Sputnikovaya Sistema (GLONASS) and China's BeiDou Navigation Satellite System (BDS).

CHINA SYSTEM TO MATCH GPS

Earlier this year China successfully launched the final satellite in its BeiDou-3 navigation system, comprising 35 satellites and provides global navigation coverage.

The third version of the BDS offers an alternative to Russia's GLONASS and the European Galileo systems, as well as America's GPS.

Future plans promise to support a more accessible and integrated system scheduled to come online by 2035 with BDS at its core.

THE PERFORMANCE OF GNSS IS ASSESSED USING FOUR CRITERIA:

Accuracy: the difference between a receiver's measured and real position, speed or time.

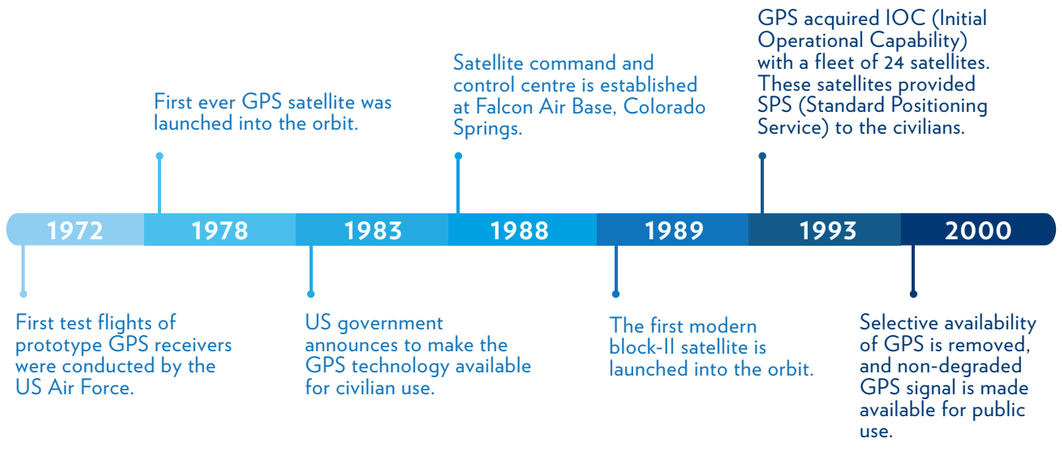
Integrity: a system's capacity to provide a threshold of confidence and, in the event of an anomaly in the positioning data, an alarm.

Continuity: a system's ability to function without interruption.

Availability: the percentage of time a signal fulfils the above accuracy, integrity and continuity criteria.

Source: European Global Navigation Satellite Systems

HISTORY OF MODERN GPS



Source: Electronics Infoline

MORE COVERAGE, IMPROVED ACCURACY

There are incredible benefits that GPS and other satellite navigation systems provide to the shipping industry, such as safety at sea by pin-pointing vessel locations during an accident or airlifting a sick seafarer from the ship.

Other benefits mean that master of a ship can optimise his route planning in real time using the accuracy of the positioning technology, reducing emissions from the vessel and fuel costs.

As coverage of satellite positioning grows and accuracy improves, there will be enhanced benefits for shipping in the years ahead.

WHAT IS ACTUALLY HAPPENING IN THIS SENSE?

Tele-remote-controlled equipment coupled with automated equipment defines a port's competitive advantage in its ability to optimise performance by improving its efficiency and flexibility. The equipment and assets required to perform this task constitutes about 75 percent of the total costs of a port.

GPS AND 5G UNLEASHES THE POTENTIAL OF SMART PORTS

Despite the ability of GPS to pin-point the exact location of vessels, equipment and vehicles, current port and logistics systems have limits on how much data and information sharing they are capable of, using current technology, according to Marglory, a Morocco-based logistics services provider.

The main advantages of 5G is the density of the data, transfer speeds and latency. 5G can support one million sensor devices in a square kilometre as opposed to 100,000 devices that 4G can reach.

Similar to GPS, 5G is connected to satellites via base stations which enables communication between ship and shore and is enabling ports to develop 'Smart' operations.

The development of 5G enables access to granular data and information as well as a transparent view of cargo transiting either by sea or land. It can also enhance situational awareness and site security enabling broader coverage for video cameras without expensive cabling infrastructure and allows workers to be equipped with wearable sensors for remote health and fatigue monitoring.

Machine and sensor data can be combined with analytics to create virtual models or 'digital twins' of equipment in order to assess equipment performance, optimise new workflows before they are implemented. This technology will reduce the risk of equipment malfunctions and breakdowns, enabling precise timely preventative maintenance and added flexibility to try new models and flows for performance improvement. To compare, GPS can provide the exact location of a container, while 5G can expedite the flow of big data and communication signals.

In short 5G helps to improve the flow of data throughout the supply chain and has the added benefit of helping to verify responsibility for the cargo and its ownership, this can help when cargo is moving from one mode of transport to another.

> **The southern Chinese port of Guangzhou is promoting intelligent port development with several key industry players in the Greater Bay Area. The project will develop the Guangdong-Hong Kong-Macao Greater Bay Area's first full automated terminal with 5G application and utilising the BDS-3.**

WEATHERING THE STORM

For many years seafarers have battled the elements on the oceans of the world with uncertainty and life threatening weather conditions, now help is at hand as advanced technology is providing customised weather information directly to the bridge of thousands of ships to enhance the safety of lives at sea.

As the world of shipping moves to reduce CO2 emission, there is also a growing need to mitigate the associated weather risks facing ships and crew at sea.

Now there are a number of digital platforms that deliver real-time information to ships at sea, providing advance warnings about typhoons, hurricanes, storm surges and strong currents.

One such company is StormGeo which provides voyage and vessel performance information, providing the crew with granular local weather reports and forecasts to enable joint decisions made by bridge officers and shoreside experts.

"For the route planning part there is clearly an interest for one platform providing as much information as possible for the process of voyage planning which includes appraisal, planning, execution and monitoring. This relates to all charts and nautical publications for the route planning itself and extends to legal and safety regulations to be carried on board," said Dennis Thielsen, Vice President, Planning & Navigation of StormGeo Shipping.

"Optimising a route is a natural part of the planning process. Software and Service solutions like s-Suite include functionalities to optimise routes with focus on reduced fuel consumption and safety for crew, ship and cargo. Especially the possible fuel savings and reduced CO_2 emissions are a driver for interest in such solutions."

PAPERING OVER THE CRACKS

Before digital route planning and real time weather information was available to commercial ships, masters and crew had to rely on historical data and radio reports broadcast by littoral states along the way. Often the information would be hours delayed, leaving little time to change course or call into a port in the event of a storm.

Paper navigation charts are also still widely used on board ships, despite the introduction of Electronic Navigational Charts (ENCs), which are connected to an International Maritime Organization (IMO) approved Electronic Chart Display and Information System (ECDIS). The charts combine the data from all of the world's coastal countries mapping coastlines, water depth, sandbanks, approach channels, underwater obstructions and currents.

As ENCs are more widely used they can also be integrated with voyage optimisation and planning systems so Masters have ocean, weather and local navigation data available to react and make the right decisions with real time information.

ROUTE PLANNING THE COST EQUATION

There are many variables involved in optimal route planning through adverse weather conditions such as the type of vessel and also the kind of cargo it is carrying. Vessel specifications such as age, stability and speed are all analysed before recommendations are made to captains and fleet managers.

One of the key factors is how to sail the optimal route at minimal cost and how to arrive at a fixed time or to achieve the required Estimated Time of Arrival (ETA).

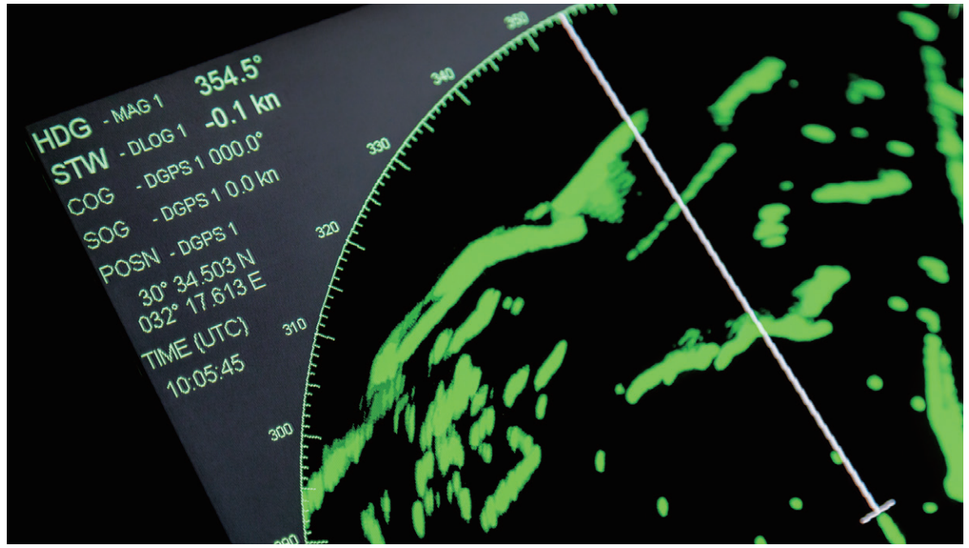
Specialist route analysts also consider sea temperature, winds, swell, and ice as well as numerous other factors in their evaluation of each vessel and each specific voyage.

The data regarding the performance the voyage and the ship are then included in a Return on Investment (ROI) report at the end of each voyage. The ROI includes a Route Advisory Service that during a specific period of time, helps to optimise savings related to fuel and time, as well as vessel deficiencies.

REDUCING RISK, SAVING FUEL AND FEWER EMISSIONS

The Master of a Pacific handymax intended to sail along a great-circle course from San Francisco to Tsugaru Kaikyo, the strait which separates the Japanese islands of Hokkaido and Honshu. Much of the Pacific at the time of sail (mid-March) was covered in westerly swells in excess of 6 metres, similar to the Atlantic in December. Had the Master proceeded along the intended route, the vessel would have been exposed to prolonged winds and seas on its bow, with periods of storm force winds and swells nearing 10 metres.

Instead, StormGeo Route Analysts recommended a route north from the Gulf of Alaska into the Bering Sea. This optimised route allowed the vessel to be aided by easterly conditions and stay north of heavy westerlies generated by several storms that were tracking west to east at the time.



Equipped with the onboard route optimisation software s-Planner | BVS, the captain of the handymax could visualise and validate the recommendation made by StormGeo's Route Analysts. StormGeo's route saved the vessel 38.4 Metric Tons of fuel and $16,937 when compared to the Master's originally intended route and helped the Master arrive in Japan safe and sound.

In the freight business we are also aware that delays caused by late arrivals at port can have expensive consequences through insurance claims or litigation for breach of contract. The freight insurance companies and P&I Clubs (that insure the hull and machinery of the vessels) are supporting the investment in onboard weather-related digital solutions. From an insurance perspective anything that mitigates the risk of crew, ship or cargo damage is to be welcomed.

The dramatically changing weather patterns we are seeing across the world means that captains of vessel have less time than ever to react, respond and avoid potential risk to life damage to the vessel or lost and damaged cargo.

Advance customised forecasts per ship for each voyage will help the captain and fleet managers make informed decisions that prioritise safety, security and vessel integrity as well as enabling the optimum speed and route plan to minimise delays.

From an environmental perspective utilising voyage planning to avoid adverse weather, high waves and strong currents means that less fuel will be burned reducing emissions. More importantly many catastrophic casualties will also be avoided, avoiding loss of life and pollution of the oceans.

THE UPS AND DOWNS OF WORKING FROM HOME

As many people around the world adjust to the new reality of working from home it is useful to weigh up the pros and cons. Let's not forget that many of our colleagues have to be on-site at work particularly in the port, logistics and transport sectors to ensure that vital operations continue. They have gone to work every day during COVID-19 and we should applaud their dedication.

Although COVID-19 has accelerated the process, it appears that the migration to home working is well underway, particularly in the US according to a new study by Nicholas Bloom, a Professor of Economics in Stanford University's School of Humanities and Sciences.

Professor Bloom's research found that currently 42 percent of the US labour force are now working from home full-time, due to COVID-19 and also workers losing their office-based jobs during the pandemic.

In an interview in Stanford News he said his study also found that work-from-home employees now account for more than two-thirds of US economic activity.

Incredibly, Professor Bloom said that in the US currently almost twice as many employees are working from home rather than in a workplace.

THE RISE OF THE REMOTE WORKFORCE

IBM's Institute for Business Value had similar findings when it conducted a wide-ranging study earlier this year when it polled more than 25,000 American adults. The survey aimed to understand how COVID-19 affected general public views on a number of issues, including retail spending, transportation, future attendance at events in large venues, and returning to work.

One of the key findings was the shift to operating as a largely remote workforce which led to nearly 40 percent of respondents saying they would like the option to continue working from home when normal routines resume.

75 percent of respondents said they would like to continue to work remotely on an occasional basis, while 54 percent would like to work away from the office full time.

So, this is the trend in the US but what is the reality of working from home, we look at the good and the bad side of the new phenomena affecting millions of people worldwide.

PLUS POINTS

For staff who have an office job and are able to work from a computer at home, there are many benefits such as avoiding the dreaded commute, packed on to trains and buses or stuck in a traffic jam.

The time you save by walking a few metres to your computer at home, means you can also be more productive and don't have to spend time getting ready for the journey to your office.

That additional time you save by not commuting can be spent exercising, sleeping longer or having a relaxed breakfast.

SAVING MONEY

The cost of travelling to and from work can also add up, paying for trains, buses or filling up your car with petrol. In most office environments staff are required to dress smartly and so a business 'wardrobe' is required. When working from home casual attire is 'de rigeur' and so no need to buy smart clothes for work.

Buying lunch particularly in central business districts can also be an expensive business, so cooking your own lunch can also save money.

IS WORKING FROM HOME MORE EFFICIENT?

While we are in the relatively early days of the work from home phenomena, it is becoming clear that there are significant changes in the way people operate in a domestic environment.

According to a study by the Harvard Business Review (HBR), the lockdown and subsequent working from home initiatives helps staff focus on what is important. The research team found that people spent 12 percent less time in large meetings and 9 percent more time interacting with customers and external partners.

HBR also noted that tasks rated as tiresome dropped from 27 to 12 percent, and tasks that can moved to co-workers fell from 41 to 27 percent.

Source: Harvard Business Review

THE CHALLENGES

Humans are social animals and there have been challenges for many people who are not interacting with their colleagues every day as they have done for their entire working lives.

So, what are the main drawbacks to working from home and what do people miss.

"The key challenge remains when to stop work as my day starts very early 6.00am to accommodate the early afternoon calls (Pacific time zone) to speak to Blume Global colleagues in California and it ends when our Boston office wakes up at 9.00pm," said Mark Yong, Managing Director, Asia Pacific, Blume Global.

"Being a perennial socialite, I thrive on being surrounded by people such as colleagues or customers, business partners, so practising social distancing and not even shaking hands was a bit of a challenge initially."

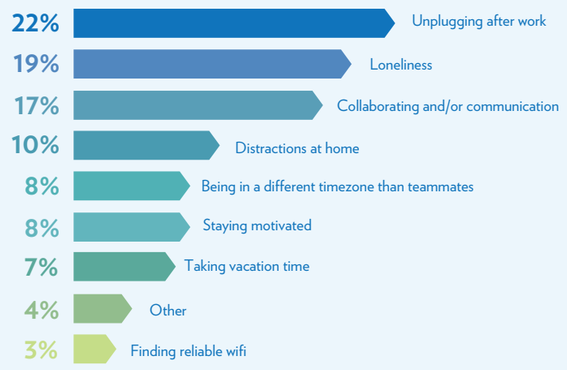
NO SEPARATION AT WORK AND HOME

One of the major challenges is being able to turn off from work, when your home is also your workplace.

Many people are saying that they are working longer hours from home, because there is no physical separation between the workplace and where they live.

If possible, try and find a dedicated area for work, separate from the rest of the house. It is however very difficult for many to achieve this, particularly in Asia.

WHAT'S YOUR BIGGEST STRUGGLE WITH WORKING REMOTELY?



Source: buffer.com

THE JURY IS OUT

As companies and employees evaluate the 'pros' and 'cons' of working from home, it seems evident that the practice is here to stay.

So, is working from home here to stay?

Mark Yong: "I think the last few months have tested and validated the 'work from home' scenario, not through choice, however. It will shape the way we recruit, onboard and work with people. There will be a lot more empowerment to individuals working in companies and the concept of shared desk will become more widespread. Major corporations will look at ways to reduce office space as one of the cost-effective measures and exploit technology to the fullest."

"No matter how efficient working from home can bring, it is important to ensure we do not lose sight of the need to interact with colleagues, customers and stakeholders in person from time to time," he concluded.

PRODUCTIVITY SURGES FOR HOME WORKERS

- The average worker starts work at 8:32 a.m. and ends work at 5:38 p.m.
- Tuesday, Wednesday and Thursday are the most productive days
- Telephone calls are up 230 percent
- Customer relationship management activity is up 176 percent
- Email is up 57 percent and chat is up 9 percent

Source: Forbes

TEMPORARY PHENOMENA OR STRATEGIC SHIFT

In many developed economies mitigating the risk of the daily commute and mixing with colleagues in an office environment has increased the risks of exposure to COVID-19. The surveys by Stanford and IBM show that currently a large proportion of people questioned have positive experiences of working from home, mostly as a way of reducing the risk of catching the coronavirus. There are also indications that many workers are realising the financial and lifestyle benefits of working from home.

It will be interesting to see that when normal routines resume, whether the same groups are as positive and whether they will miss the daily human interaction essential to private and business life.

TIPS

While the pandemic continues to affect our usual working lifestyle, video calling seems to stand out in connecting mass working class, development teams, customers and online lectures. How can we effectively utilise some simple tools and popular market software and apps such as Zoom, Microsoft Teams, Google Meet etc. to improve video calls at home, here are some tips to improve your calling experience:

- Check your Wi-Fi connection: bad connection will interrupt meeting causing delay while a good one will result a smoother call overall and better time management.
- Use a soft source of light at the side while video conference to show better picture quality and presenting yourself properly.
- Tidy your desk and surrounding to show professionalism, or simply use a virtual background.
- Mute yourself while you are not engaged to a conversation to prevent echo. A quiet environment is key to holding a successful and effective online meeting.
- Use a pair of headphones or earphones to avoid echoes caused by microphones and speakers.
- A well scheduled timeslot for participants to speak often avoid discussion overlap causing confusion and missed message.
- Always turn your mobile device to silent mode.

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CELEBRATING ANNIVERSARIES

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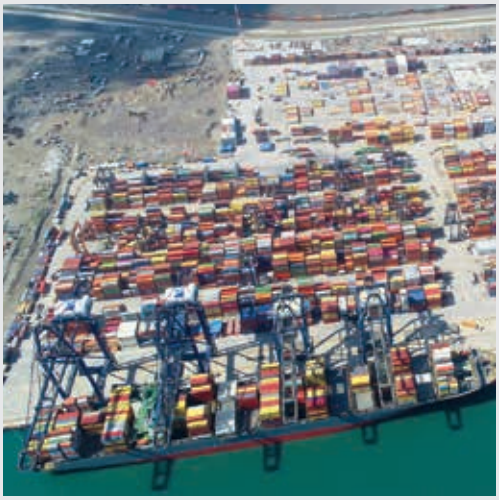

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