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OUTLOOK 2021 REPORT

Extraordinary times

TOTAL CARGO MANAGEMENT

ECS group

Editor's NOTES

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Keeping things moving

The air freight market has stabilised considerably since the extraordinary disruption last year, and volumes transported worldwide have more or less recovered to 2019 levels. An estimated 2,000 pax planes are being used as 'preighters', with 250-300 partially converted by having seats removed and tracks installed to cater for cargo.

But it remains a highly disrupted, volatile and uncertain market. Cargo airlines may be prospering from high demand and prices, and some specialist cargo airports they serve. And freight forwarders continue to make money. But for many airlines and airports, and the cargo handlers and other suppliers that serve them, this is clearly still an exceptionally challenging situation.

Cargo handlers face a long list of extra issues, including staff challenges linked with Covid, demand surges, changing airline schedules and contracts, the additional handling requirements of 'preighters', greater numbers of freighters, large numbers of smaller shipments, and new consignees unfamiliar with air freight practices. Greater cooperation among cargo handlers and cargo communities has helped limit some of these issues, one positive from this crisis.

The rollout of Covid vaccines offers some prospect of passenger flights returning, but how fast and to what extent remain unclear. With the ocean freight market also disrupted, modal shift looks set to boost air freight volumes for some time, along with rising e-commerce and healthcare-related traffic. A shortage of capacity not demand will likely limit air freight for the immediate future, notes Sebastiaan Scholte (page 36) in his new role as GSSA, with yields higher than pre-Covid levels for the next few years.

Another positive from this generally miserable crisis is the further acceleration of digitalisation, discussed on page 18. Some benefits are already emerging, with much more to come – including potentially the 'virtual integrator' model some believe air freight deserves (page 60).

Meanwhile, air freight's vital role in this crisis continues and evolves. Concerns about capacity or the ability to keep vaccine product temperatures stable have lessened, and new air freight container and product launches can facilitate its distribution (page 4), along with impressive collaboration initiatives across the sector.

Air freight has continued to adapt and keep vital goods flowing, as it did last year. And as commentators in the Outlook 2021 Report observe (pages 30-59), its role has become far more valued – by airline and airport boards, and throughout society. As TIACA's Glyn Hughes highlights in a recent EVA podcast with Chris Notter, this surely makes air logistics a more visible career choice for younger people – something this sector has been discussing for many years.

But in the meantime, it's busy managing the global air logistics situation. And doing a pretty good job of it.

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From fridge to freezer

Covid-19 has seen stakeholders throughout the pharma cool chain make rapid changes to how they maintain the temperature and stability of life-saving vaccine products, reports Roger Hailey

From fridge to freezer, Covid-19 vaccines have brought a sudden chill to the temperature ranges of pharmaceutical cool-chains.

Traditional pharma supply chains set at 2-8^{o}C are now adapting to the Moderna and Pfizer-BioNTech vaccines, which require product temperatures of -20°C and -70°C, respectively, to be maintained during transport.

While airlines prepare to, and in some cases begin to, provide the necessary air freight capacity for a global vaccine airlift, the suppliers of specialist cool chain equipment – either Unit Load Devices (ULDs), palletised containers or individual packaging – are swinging into action.

They already work with the major manufacturers of life-saving pharma but now have to adjust to the extreme low temperatures that some vaccines demand in transit.

When Covid struck last year, cool chain equipment provider SkyCell began developing an ultra-low temperature container, the

1500DF, based on an existing platform but using innovations in material science to distribute the energy within the container.

Dry ice limits

Ultra-cold dry ice has strict limits on its use on aircraft due to sublimation, the process through which it turns from a solid into gaseous CO_2, which can be dangerous in a confined area, and so innovative thinking was needed.

SkyCell chief executive Richard Ettl says: "The goal is to use as little dry ice as possible." The new container uses 100 kg of dry ice – less than half that required before – which will maintain -70°C for up to 120 hours and has already undergone test flights with partner airlines.

The 1500DF has a double door system and filtering to prevent warmer air coming in when the container is opened.

The container has a drawer system which allows

> *"You can load 50 containers per B777 freighter, with 30,000 vials in each container"*
>
> **Richard Ettl**

dry ice bricks to be refilled within minutes. The container can be trucked to a vaccination centre and used as a temporary storage and does not need electric cabling. You also get more vials of vaccine per flight.

Adds Ettl: "You can load 50 containers per B777 freighter, with 30,000 vials in each container, meaning about 1.5m vials per flight. Each vial contains 5 shots, so in total per flight there are 7.5 million shots."

Healthcare packaging provider Sonoco ThermoSafe is in production mode for its Pegasus ULD that will launch in second quarter 2021. It is the first passive bulk temperature-controlled container approved unit load device for pharma use, which can speed through ground handling and customs processes without delay.

Passive vs active containers

Bourji Mourad, director for global logistics and partner management at Sonoco ThermoSafe – Leasing Services, explains: "It is a passive container, eliminating the risk of mechanical failure, but the high-tech insulation and phase-change material (PCM) cover provides more than 120 hours of qualified performance at 2-8C. Engineered with composite materials, the Pegasus ULD offers a lighter solution that is substantially more damage-resistant than traditional metal containers.

> *"Dry ice at -70°C or -20°C is only 10% of volume"*
>
> **Niklas Adamsson**

"Additionally, Pegasus contains a fully integrated, FAA approved telemetry system which provides real-time, cloud-based data on payload, ambient temperature and other key environmental factors."

Deep frozen vaccines are important, but only a small part of the story. Niklas Adamsson, chief operating officer at Envirotainer, an active temperature-controlled container supplier, told an Aviation Week vaccine webinar: "Everybody is discussing (maintaining temperatures using) dry ice at -70°C or -20°C, but that is only 10% of volume," adding that the majority of contracted vaccines, such as that from AstraZeneca, will have product temperature requirements in the 2-8°C range.

Dr Joachim Kuhn, chief executive and founder at thermal container and box supplier va-Q-tec – whose vaccine customers include Moderna and Pfizer BioNTech – separates the cool chain into three steps. "One step is the continental long-haul flights from the factory to the distribution centres, and then you have a second level with regional distribution. Then there is the third level, the last mile to hospitals or people's homes," he notes.

"Our entire fleet of containers and boxes is completely applicable to all sub-zero temperatures, so we can handle 2-8°C and 15-25°C, no problem; but our entire container fleet can also do sub-zero temperatures, whether it is -20°C, -40°C or -70°C."

He adds: "We offer a flexible door-to-door solution: our containers are not ULDs, which is why they can easily leave the airport and be transported from there directly to its destination without the need for power recharging or re-icing."

> *"We are developing a -70°C dry-ice-free PCM – a game changer in our industry"*
>
> **Joachim Kuhn**

Temperature battery

For low and ultra-low temperature ranges until -60°C, va-Q-tec does not use dry ice in its packaging but instead a temperature battery (using phase change materials – 'PCMs') which stores the thermal energy. At even lower temperatures, the company also uses small amounts of dry ice – but far less than in solutions from other manufacturers due to the excellent insulation of the thermal boxes and containers.

Says Dr Kuhn: "Currently, we are even developing a -70°C dry-ice-free PCM – a game changer in our industry. We store energy at a given temperature very efficiently. The temperature-prepared batteries are placed in the highly insulated container prior to delivery to the customer, to exhibit the required temperature upon arrival at the customer's site. He puts the pharma into this pre-tempered box and the desired temperature is kept automatically for five days or longer."

Meanwhile, Lufthansa Cargo-owned ULD management company Jettainer has launched cool&fly – a unique management service for temperature-controlled containers, delivered by a dedicated team of experts based in the Middle East, to manage "a limited resource" during the vaccine airlift: temperature-controlled ULDs such as those provided by CSafe and Envirotainer.

Thorsten Riekert, chief sales officer at Jettainer, explains: "Our cool competence centre in Abu Dhabi is specialised in the management of cool ULDs and so we serve the full range of customers from order management to final delivery. We are fully connected to the suppliers and then monitor the handling, and the positioning until the ULD is returned to the supplier."

At present the deep frozen vaccines are mainly shipped in refrigerated packages, which in turn can be transported in standard ULDs. However, shipments using cool containers are expected to increase in the coming weeks and months. Riekert says that the cool&fly temperature bandwidth will range from -20°C to those of normal pharma supply chains.

> *"The goal is to use as little dry ice as possible"*
>
> **Richard Ettl**

'Pop-up' cargo airlines

The March 2020 start of an air freight surge to carry personal protective equipment (PPE), and now a similar rush for Covid vaccines and test kits, has seen start-up cargo airlines "popping up" for two reasons, says Riekert.

"There is money in the cargo business right now and they are also able to close the gap and keep supply chains running to participate in vaccine distribution," he notes. "Airlines which have not been involved in the cargo business before are setting up operations, for example some low-cost carriers."

"Airlines which have not been involved in the cargo business before are setting up operations"

Thorsten Riekert

These new customers exemplify the ramp up of additional air freight capacity for the vaccines and the demand for suitable cool chain packaging and expertise.

SkyCell was historically focused on 2-8°C and 15-25°C, but three years ago entered the vaccines market and now provides container

and packaging solutions for 90% of the vaccines distributed globally by Japanese life sciences giant TSK.

Says Ettl: "We learnt a lot about vaccines," and one lesson was how to reposition containers in order to maximise utilisation of the equipment. "We learned with TSK how best do it, so we worked closely with the freight forwarders, DHL and Kuehne + Nagel.

"For example, when it is a full charter flight, there are certain pros and cons; but the good thing about a charter is that you know there is a deadline, and that really focuses everybody to deliver on time.

"And sometimes it means less product is available, but you know that it will go out the door and it has the advantage of bringing the containers back into the system."

Rapid changes

Covid has seen vaccine manufacturers, packing suppliers, airlines, freight forwarders and all the stakeholders in the pharma cool chain make rapid changes to how they work to maintain the stability of established pharma for cancer drugs and other illnesses alongside growing vaccine demand. All stakeholders agree that it is possible to handle both without disruption to either.

One question is whether there be a post-pandemic change in pharma supply chains of the future, on the basis that new vaccines will be needed annually at global scale to tackle regular mutations in the Covid virus.

Says Mourad: "I have been involved in cold chains for almost 40 years and they have kept growing because people are living longer, and they need new medicines. You have viruses such as SARS and then the flu vaccine which has to be changed every year."

The supply chain providers would like longer and better forecasting from pharma companies about the timing and amount of vaccine consignments, although that is not always practical. Mourad notes: "It is continually the situation with pharma companies in terms of production and a vaccine having to pass quality control before a manufacturer can release a product. It is always a dream of any packaging solutions company and the airlines to have an earlier forecast about the kind of product they will be handling and the equipment they will need so they can allocate the resources.

> *Industry cooperation is pretty good when it comes to a last-minute requirement in deciding which packaging solutions or airline to use on certain trade lanes*
>
> **Bourji Mourad**

Last-minute requirement

"There will be challenges, but industry cooperation is pretty good when it comes to a last-minute requirement in deciding which packaging solutions or airline to use on certain trade lanes."

He adds: "Covid is going to be with us some time and we will need two doses for vaccinating over 8 billion people, which will take a long period and air freight capacity. Hopefully we are not talking about a variant mutation and even another vaccine."

Ettl of SkyCell believes that centralised manufacturing of complex vaccines will be kept to a few locations, but there will be an increase in so-called fill-finish sites at a regional level where bulk consignments will be put into glass vials for onward localised distribution. "That is definitely a possible scenario and there are very good reasons why

> *There are very good reasons why pharmaceutical companies have very few production spots and also back-up sites with similar capabilities*
>
> **Richard Ettl**

va-Q-tec says its entire container fleet can maintain sub-zero temperatures of -20°C, -40°C or -70°C

pharmaceutical companies have very few production spots and also back-up sites with similar capabilities," Ettl adds.

"I think the raw materials and ingredients that make a vaccine will still be produced in a very few locations but then transported in bulk to fill-finish sites for the final process at the right dosage for vials or syringes."

Dr Kuhn of va-Q-tec believes that using dry ice is "completely obsolete", not only for the 2-8°C pharma cool-chains, with new technology replacing that need in the near future. He agrees that there will be a greater centralisation of both the key vaccine ingredients and manufacture, again seeing the development of more fill-finish sites, due partly to better efficiencies in the cool chain.

Manufacturing location factors

"I think it will change because we need to consider whether the manufacture should all happen in one place, making the supply chain safer and not so intercontinental," he notes.

"Many manufacturers have separate factories because of tax advantages. A good example is Puerto Rico. Do you really need a pharmaceutical factory in Puerto Rico, with all the hurricanes and relatively few people living there?

"If I was a government buying vaccines for my country, I would want them produced at least on the same continent."

Riekert of Jettainer believes that the international community, especially in Europe, has experienced a steep learning curve in the production of vaccines and their distribution at scale through global supply chains.

"We need to keep the supply chain running and in terms of technologically, we will probably see ULDs that can manage those -70° temperature ranges, something we do not have right now.

"But what we will also see is how we cope in the future with vaccine logistics in Asia or in Africa and this needs to be implemented. There will be changes in the pharma supply chain and even closer cooperation. The whole globe has got smaller."

In February SkyCell launched its 1500F container, able to maintain temperatures of -15°C to -25°C for more than 120 hours without recharging

A relationship business

Despite the extraordinary current pressures, Cathay Pacific's new cargo director Tom Owen, formerly the group's head of people, stresses the importance of long-term partnerships with customers over short-term opportunism, in an interview with Ian Putzger

Tom Owen took over the reins of Cathay Pacific's cargo business last summer in a time of extreme disruption. With the continued almost complete collapse of most airlines' passenger networks and businesses, including Cathay's, and the increased focus on and importance of cargo operations, the Hong Kong-based airline re-established the position of director of cargo, requisitioning Owen from his group role as director for people, which he had held for the previous five years.

While there are many aspects to the current global crisis that airlines and their cargo divisions cannot attempt to control, there are plenty of areas where cargo carriers can seize the initiative, consolidate their business relationships, and make progress – for example, where they can maintain as much reliability and consistency as possible in a highly dynamic environment, and respond to customers' requirements for further or different capacity and flexibility. And it has been possible to continue the drive towards digitisation and the development of new capabilities, despite the current tight financial situation that the pandemic has forced upon airlines, Owen notes.

For example, following multiple examples of creativity last year in response to the changing dynamics created by the crisis, Cathay Pacific Cargo started 2021 with a fresh wave of innovation. In mid-January it unveiled a special solution for the distribution of COVID-19 vaccines, having developed an offering that harnesses the carrier's pharma capabilities alongside its priority service and its new-generation track-and-trace system, 'Ultra Track'. Through this combination of capabilities, vaccine shipments can be monitored throughout their journey via Cathay's 24/7 operations control centre.

Cathay has also formed a vaccine taskforce in tandem with the airport authorities in Hong Kong and others in the industry, with Owen noting that the carrier is "confident in our capabilities to help deliver a global vaccine solution. We are ready and determined to play our part in this unprecedented logistics challenge to help the world begin to return to 'normal'."

Augmented visibility in transit

Ultra Track is geared to high-end shipments that require augmented visibility in transit. Utilising Bluetooth readers that pick up the movements of ULDs fitted with Bluetooth tracking devices, it combines the capability to monitor ambient shipment conditions like temperature and humidity readings with GPS location and near-real time updates. The new tracking system is being rolled out across the airline's network in the first quarter.

The cargo division is also burnishing its credentials in another speciality segment – live animal traffic. This year it is looking to take its service through the CEIV certification process, adding to its badges for pharmaceuticals and perishables. "It's a small market, but we feel we have a competitive edge in it," says Owen.

On the dangerous goods side, Cathay has introduced skid-sized fire containment bags as a solution to carry lithium battery shipments.

"We want to be a carrier that can carry everything and carry it well," remarks Owen. "The special cargoes are a strategic focus for us that we've had for a number of years and we continue to put great store by increasing the share of that on our cargo carriage."

In light of the capacity constraints that Cathay, like all other passenger carriers, has had to contend with, this might suggest a lessened interest in general cargo; but Owen emphatically dismisses this thought.

"We're still very much focused on that (general cargo). It's the bread and butter of the air freight world," he comments. "We have commitments to forwarders in terms of block space agreements to help carry that, and we've continued to do so – just at higher rates."

Owen: Redeployment of freighters has not been done at the expense of long-term commitments to Cathay's forwarder clientele

"

We're still very much focused on that (general cargo). It's the bread and butter of the air freight world

"

Tom Owen

Elevated rates

Those elevated rates, due to constrained capacity meeting sustained demand, are not going to be around forever; but capacity is returning more slowly than had been anticipated before last autumn, when the second wave of COVID-19 infections hobbled the recovery in passenger flights. With lift in tight supply for some time to come, shippers of general cargo will have to pay high rates to secure capacity or look for alternative modes of transport.

For Cathay, the implosion of passenger traffic – in December, passenger numbers were down 98.7% from a year earlier – has meant the loss of most of its belly capacity. The airline's overall cargo capacity dropped 35.5% last year, resulting in a 34.1% decline in tonnage and a 26.5% decrease in revenue freight tonne-kilometres. And the figures for December were little better than for the year as a whole: tonnages down 32.3% and RFTKs down 23.7%, year on year, with capacity (AFTKs) down by 36.9%.
But the significantly elevated cargo rates due to the dearth of global lift have allowed the deployment of passenger planes for cargo-only missions. Cathay was among the first carriers to embrace the concept; in December it operated 713 pairs of such flights; for the full year 2020, the tally was well in excess of 5,000 flight pairs.

Difficult economics of 'preighters'

Taking this approach one step further, Cathay has converted four of its B777s into 'preighters', with seats removed in the Economy and Premium Economy cabins and modifications made to the seat track to enable cargo to be secured to the floor, as well as markings for the lashing points and bespoke, fire-retardant, cargo bags. Enabling the aircraft to carry 12 tonnes of additional cargo on the upper deck, the concept involves some extra efforts, such as getting the necessary approvals and training people to load and unload them – and far longer loading times.

For example, in the Cathay Pacific Cargo Terminal, the team loads AKE containers to replicate the bag positions in the cabin. These are towed aircraft side by ground-handling subsidiary HAS, and unloaded one box at a time into Cathay Pacific Catering Service trucks that rise up to the rear doors of the aircraft. Boxes are then wheeled into the cabin, loaded into cargo bags as per the load plan, and finally zipped and secured by another HAS team.

The costs of this additional handling complexity are obviously significant. "It's not inexpensive doing the preighter," acknowledges Owen. "There's quite a challenge making sure we're optimising the investment."

"

It's not inexpensive doing the preighter. There's quite a challenge making sure we're optimising the investment

"

Tom Owen

Therefore, the preighters are deployed on trade lanes where Cathay has regular demand

Cathay's freighter fleet has mostly maintained its schedule

and knows it can charter a flight to individual customers. "Getting our heads around the use of passenger aircraft with no passengers on board has been a real lesson for us," says Owen.

Continuing passenger cargo flights

The combination of elevated cargo rates and the prospect of a slow return to pre-pandemic passenger numbers means that Cathay is poised to keep running quite large numbers of cargo flights with passenger planes all over the world. The transpacific sector has been a major arena for them and Owen expects this to continue in 2021. "We're also looking to our European operations and, indeed, regionally," he says.

With passenger aircrafts operating on cargo missions, Cathay has been able to mount new freighter routes, or resume some of those that had been suspended. For example, on 4 January it started a weekly freighter run to Riyadh, a destination that dropped off its network with the cuts in passenger flights last year.

Maintaining the freighter schedule

The airline has also been able to utilise spare capacity on Air Hong Kong, its joint venture with DHL. In the main, this serves the integrator's intra-Asian network, but Cathay has access to the planes to use them on intra-Asian sectors during windows when they are not hauling traffic for DHL.

For the most part, Cathay's 20-strong Boeing 747 freighter fleet has maintained its schedule. Arguably the airline could have made more money deploying some of them more on charter work as those rates went through the roof, but Owen and his team have resisted that temptation of short-term gains.

"We remain a scheduled operator," he notes. "We want to make sure we can offer reliability to our key customers around the world. We have not been chopping out large parts of our schedule to take opportunistic advantage of an improved market."

> "*We remain a scheduled operator. We have not been chopping out large parts of our schedule to take opportunistic advantage of an improved market*"
>
> **Tom Owen**

While short-term shifts have occurred to optimise operations, redeployment of freighters has not been done at the expense of long-term commitments to Cathay's forwarder clientele, he emphasises.

"We built long-term relationships with them, and we're not going to ruin these for short-term gains," he stresses.

Instead of shifting freighters around aggressively, the idle bellyhold capacity of Cathay's grounded passenger planes has been the main tool to respond to opportunities in the cargo market.

These have included seasonal opportunities. For example, Cathay has fielded a preighter to start a seasonal service to Hobart since December to haul fresh produce to Asian markets, and it mounted preighter flights to Pittsburgh between September and November to connect the US city with Ho Chi Minh City.

Greater responsiveness

This mix of schedule integrity and responsiveness to market opportunities characterises the airline's progress through the turmoil caused by the pandemic. It forced it to be more agile so it could change plans quickly and respond to unprecedented demand to fly to new points where regular capacity was no longer available. Setting up

service to new points, which used to take months, can now be done in about six weeks, according to Owen.

This agility requires closer collaboration across different teams – pilots, commercial and operations teams, for example – that historically functioned in separate silos. They had been co-operating, but were on slightly different cadences, Owen said.

It also helped that Cathay reinstated the position of a dedicated director of cargo last year, which had been subsumed in the portfolio of its chief customer and commercial officer a few years ago.

But Owen says the airline has had to plan for the passenger business environment being very different to how it was before the pandemic, which has meant significant restructuring – including the closure of the 'Cathay Dragon' brand, although it has been "replacing Cathay Dragon metal with Cathay Pacific aircraft on most affected routes".

Strategic objectives

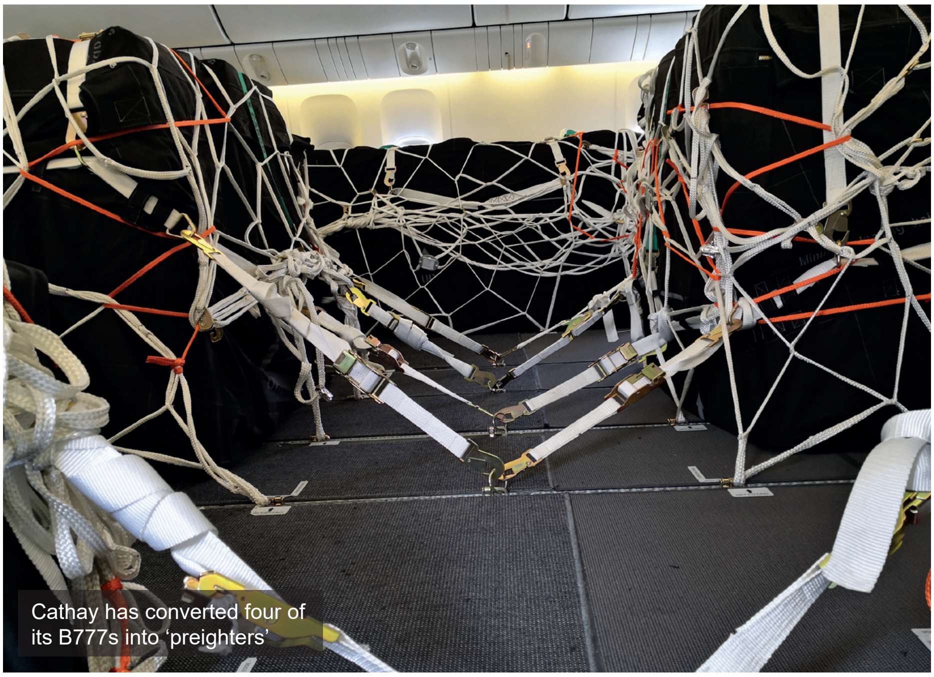
While it has honed its flexibility, the cargo division has also continued to pursue long-term strategic objectives. One of these is to move the booking process closer to the set-up on the passenger side. The first step in this direction is the development of an effective booking engine. Cathay has some online booking capability in place today, but it is not universal for all agents to use. By the end of this year, Owen wants to have a fully functioning engine up and running that can be accessed 24/7.

The preliminary step of digitising all pricing should be completed by the end of the second quarter to lay the ground for the launch of the booking engine.

This still will be some way off dynamic pricing capability, Owen admits. Getting to a set-up that is comparable to the passenger side, the ultimate goal, will take several years, he reckons.

Another target is the creation of an integrated data hub, a database that pools all cargo-related data in one place to allow cross-referencing of them – from service and revenue data to operational and customer information. It will allow insights into many things that will improve the operating and service and revenue efficiency of the airline, Owen says.

This is going to be a multi-year project, which is currently being developed into a business case to present to top management. He hopes that this project can kick off this year.



Cathay has converted four of its B777s into 'preighters'

Blockchain technology for ULD chain of custody

Cathay also wants to use digital systems around more mundane things like claims and day-to-day issues, he adds. Last year, the airline blazed a trail with the adoption of blockchain technology for its ULD management system, which essentially makes sure that when ULDs are handed over to other parties, Cathay can still keep that chain of custody. The technology is in place and is working. It has reduced cost and some of the complications of managing that inventory, Owen says, adding that Cathay will be working on taking this further in 2021.

These initiatives are playing out before the background of a dire financial situation. Cathay reported an after-tax loss of HK$7.361 billion (US$950 million) for the first half of 2020. It went through a refinancing exercise and a restructure that included the demise of the 'Cathay Dragon' brand and the loss of 5,900 jobs. Cargo has been less affected by the workforce reductions but it is feeling the pinch on budgets.

"We are obviously constrained in the shorter term by the cash preservation initiatives underway," Owen remarks. "It's an intense and challenging time for everybody, but there are projects we will keep moving forward that we think have strategic value for cargo, because cargo remains a core part of our group." Although benefiting from higher freight rates from the capacity restrictions in the short term is some compensation for the loss of that capacity, "we also remain very optimistic over the long term for the ongoing success of the business", he notes.

Given Owen's previous group role as director for people, it's perhaps not surprising he values and highlights the contribution of staff in the cargo division's past and future potential successes.

> *It's an intense and challenging time for everybody, but there are projects we will keep moving forward*
>
> **Tom Owen**

"Although all these initiatives will deliver long-term value, the real secret to our success over the years remains firmly in the commitment and passion of our people in Hong Kong and around the world," he notes. "They have been tested during these unprecedented times like never before and our results are due to the great teamwork and agile responses they have shown. It has been humbling for me how they have all stepped up to whatever has been thrown at them, time after time." ■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THE COLLABORATIVE IT PLATFORM
FOR AIR FREIGHT INDUSTRY:
ECS, ICS, E-FREIGHT, TRACKING AND TRACING...

Digital momentum

Covid-19 and e-commerce have accelerated the drive towards digitalisation, with government agencies also increasingly facilitating the shift to paperless air cargo processes. And with the benefits of automating data flows already starting to show, cargo handlers are becoming more ambitious in their plans to generate cost and efficiency gains, reports Ian Putzger

Hactl has created a real-time dashboard covering facility utilisation, service levels, workloads, ULD and truck activity in the terminal, flight status, working conditions and weather warnings

Responding to moves by several carriers, ULD providers and their technology partners to introduce greater digital visibility to the movements of cargo containers and pallets and the cargo they carry, some of the large multinational cargo handlers have been busy installing Bluetooth readers in their warehouses. Such devices have gone live in Worldwide Flight Services' locations in four European and two US gateways, and the handler is continuing the roll-out through its network this year.

"In today's challenging market conditions, it is more important than ever to implement new technologies that support the efficiency of our worldwide operations and which give our customers greater visibility of their cargo and assets to either generate new revenue opportunities or achieve business efficiencies," commented John Batten, executive vice-president cargo for WFS in the EMEAA region.

"It is more important than ever to implement new technologies that support the efficiency of our operations and give customers greater visibility of their cargo and assets"

John Batten

Hactl has overhauled the integration between its terminal and ramp handlers

Batten's former employer Swissport has also been among the first to move. By the end of January, it had equipped 45 warehouses with the technology, and the results have been positive, according to Hendrik Leyssens, vice-president of global cargo operations.

"It allows for a lot more transparency," he reports. "It is saving us quite some work, and the airlines as well. They don't have to wait for our message in a specific format."

Benefits of IoT technology

For the benefits of the installation of internet of things (IoT) technology to come to full fruition, the establishment of a 5G network will be critical, remarks John Ackerman, executive vice-president for global strategy and development at Dallas/Fort Worth International Airport (DFW). Delivering this for the entire airport will be the airport authority's job, part of its overall digital strategy. And the complexity of the task will be a challenge and take several years, he reflects.

For handling agents, the next step is to link the IoT capability with their systems. "The next thing is to feed the data into our warehouse management system," says Alan Glen, vice-president for cargo development at Menzies Aviation, whose organisation is currently working with two providers on the installation of IoT sensors.

Real-time dashboard

To improve visibility of operations for all staff, from frontline personnel to senior management, Hong Kong Air Cargo Terminals Ltd (Hactl) created a real-time dashboard last year, which covers facility utilisation, service levels, workloads, ULD and truck activity in the terminal, flight status, working conditions and weather warnings. Utilising a hybrid cloud design that links in-house systems with cloud services, it provides historic and current data as well as forecasting.

In another measure to improve connectivity, Hactl has overhauled the integration between its terminal and ramp handlers. This is intended to pave the way for anticipated digitalisation initiatives that will require tighter integration and leveraging of cloud services, machine learning, IoT and data analytics technologies, reports CEO Wilson Kwong.

"The next thing is to feed the data into our warehouse management system"

Alan Glen

“It is necessary to have community platforms at both ends”

Amar More

The integration with ramp handlers and truckers, which has started on the import side, will be extended to export operations, he says, adding that Hactl intends to continue to explore the use of robotic process automation and analytic process automation – to increase cross-platform data synchronisation speed and analytical capability.

Wearable technology

Inside the warehouse, some operators have been experimenting with wearable technology, such as smart glasses. Swissport has not used these yet, but plans to trial them. “It is on our road map to do a pilot,” says Leyssens, adding that the company has experimented with smart watches, mostly to communicate process steps. There are interesting use cases on the ramp, he notes.

Currently the company is in the process of replacing its mobile devices across the globe, having developed new software in partnership with technology provider Champ. The new technology has more capabilities and is more user-friendly than the current equipment, says Leyssens. “This will allow us to share a lot more data. It holds the key to more improvements to digitise more processes.”

The deployment of self-serve kiosks is another ongoing major initiative for Swissport. Like the installation of IoT sensors, this has been slowed down somewhat by the Covid-19 pandemic, an experience common to many operators. At DFW a cargo community system was launched last March, just before the outbreak unfolded in the US.

“Training was slowed by Covid,” recalls Ackerman. After the restrictions were lifted, the CCS was re-launched and has since attracted about a dozen companies, with the main handlers on board.

Catalyst for digitalisation

On the other hand, the pandemic has been a catalyst for the adoption of digitalisation. “The pandemic mandated reducing congestion, reducing paperwork. That was a shot in the arm for digitalisation,” says Amar More, CEO of Kale Logistics Solutions.

Further impetus has come from the rapid rise of e-commerce. “E-commerce is basically about two things – visibility and speed. For both of these aspects, digitalisation is extremely critical,” he adds.

E-commerce has also pushed the envelope on risk assessment, highlights Kwong. “The increasing presence of lithium battery-related products adds complexity to the cargo acceptance process, as well as the ICAO 2021 added security checks, prolonging the acceptance process and generating additional checking in the back office,” Kwong notes.

“Our recent enhancements redefine the advance pre-declaration data required before cargo arrival and streamline the whole cargo receiving and handling process.”

Pre-arrival information

The old regime of a handler seeing trucks arrive without any idea what they were carrying is rapidly falling out of fashion, cargo handlers say. For starters, more and more handlers and airports are moving to a slot-booking system for trucks.

“Trucking is quite challenged. Noise about inefficiencies and waiting times have increased,” notes Glen.

Menzies has been working with technology providers to bring in a slot-booking system. The initiative started in December and quickly advanced to beta tests, which were expected to be running in February. “We start with a North American station where truck parking is not necessarily ideal,” says Glen.

Swissport has been operating a door and yard management system in Frankfurt since last November that automates the entire process. Forwarders book slots and receive access codes, which the truckers scan in upon arrival from their mobile phones and the system assigns them to a truck door – for instance at the pharma centre if the truck is carrying pharmaceuticals. The system keeps track of available doors and staff numbers and notifies employees which truck is at which door.

“We connected our tools to Frankfurt’s community system. It’s easier for forwarders to have one platform to use,” says Leyssens.

“

It is necessary to have community platforms at both ends

”

Amar More

Truck management priority

Truck management is often the first functionality of a CCS that come into play. DFW and Atlanta Airport, which spearheaded the proliferation of such platforms in the US, both started off with this aspect.

At this point it is too early to tell how much the slot booking functionality has impacted truck turn times, says Ackerman, although it has proven highly effective in some European examples. “In Brussels, once they got scale, they saw 30% reduction,” he adds. DFW has picked Nallian as the provider of its CCS, the same as is used in Brussels and where truck slot booking was a key motivation to persuade companies to participate.

But DFW’s airport management is looking to bring on more CCS features over time. “We have a rough road map. Ultimately this will be driven by the community,” says Ackerman. A pick-up and delivery app would be useful to complement the slot booking function, he adds.

For Stephanie Wear, director of air service development at Philadelphia International Airport (PHL), truck staging is one of the main priorities in her plans to set up a CCS, but she aims for broader functionality down the road. “We hope this can help us with several things. We will outline the details in the RFP,” she says. The airport authority aims to have a contract up and the CCS under way within nine months.

Advance shipment information

“The next step in line with the pandemic is look at e-air waybill and advance shipment information,” said Kale’s More.

He points out that there is an abundance of functionality harboured in CCSs. Kale has 124 use cases of digitalisation in its platform, from advance shipment information and temperature tracking for pharmaceuticals to electronic booking, electronic dockets and electronic certificates of origin.

He likens the array of options to a buffet, adding that usually adoption happens in stages. “If you do everything together, clients are overawed,” he says, adding that this company will launch at least four to five use cases this year.

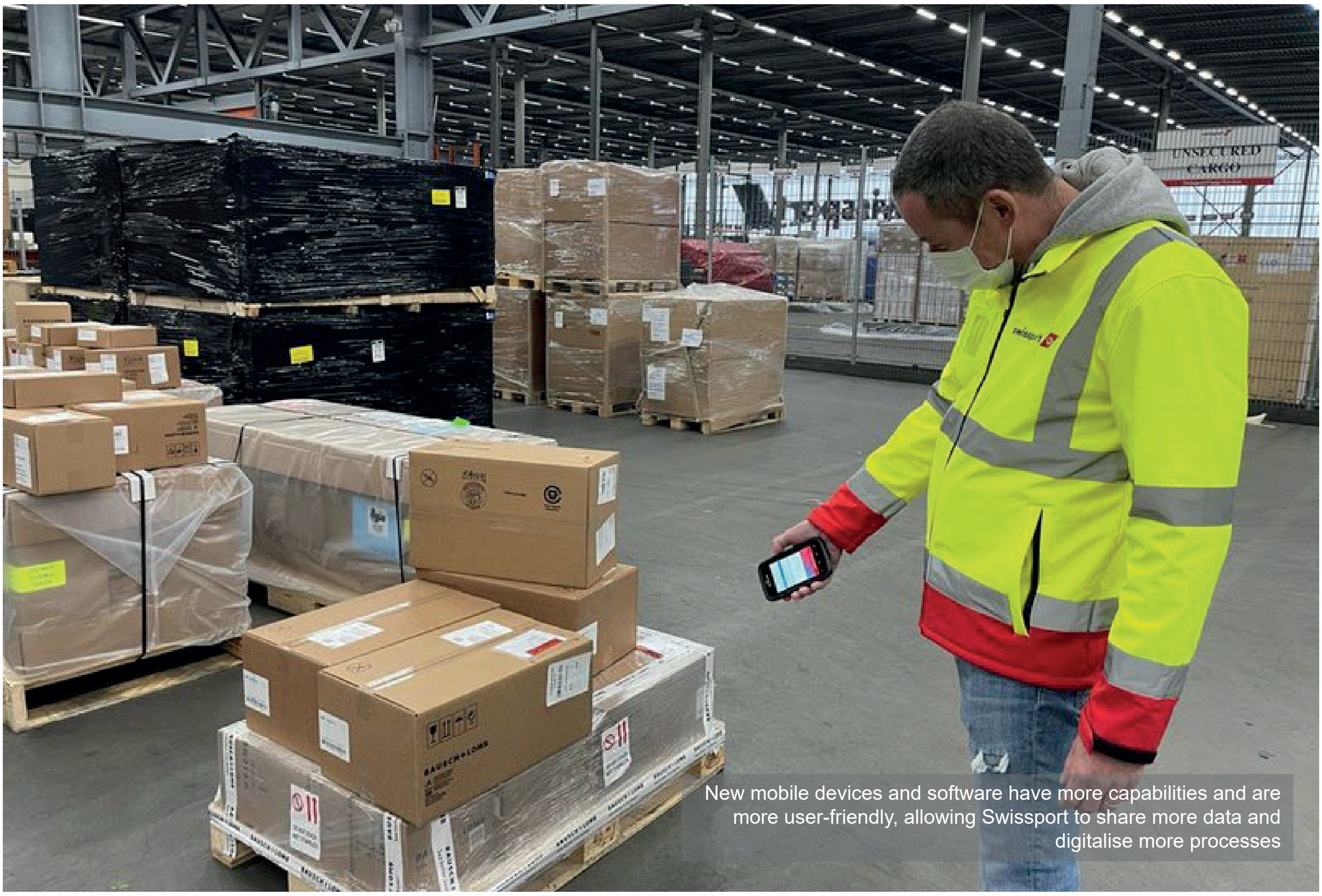
Interest in AI mounting

Interest is mounting in artificial intelligence to make better use of data. Kale has built AI into its platform, but developments so far barely scratch the surface, More said.

“There is so much more data that’s available for use for machine learning,” agrees Glen. Menzies and partners have begun to work with universities to get a better idea of the possibilities involved.

HACTL is moving in a similar direction. “We will examine the feasibility of applying data analytics to generate actionable insights on

> “*The next step for CCSs is to link with other airports*”
>
> **Stan Wraight**



New mobile devices and software have more capabilities and are more user-friendly, allowing Swissport to share more data and digitalise more processes

real-time operations," remarks Kwong.

While CCSs are set up to speed up the flow of data between the members of the community, increasingly people are looking to them to serve as conduits for flows with other communities. The concept of a data and logistics corridor is gaining ground.

"The next step for CCSs is to link with other airports," comments Stan Wraight, president and CEO of Strategic Aviation Solutions International.

Linked communities

The first such corridor that Kale set up was between Mumbai and Amsterdam. "It is necessary to have community platforms at both ends," says More.

Wraight describes the concept as a critical element for airlines to develop high-yield traffic, based on the fact that a flight between two points offers the fastest possible transit time that no integrated express carrier can match, provided the services on the ground are up to speed. To organise ground services and processes so incoming cargo is moved within hours instead of days, automation and unimpeded flow of data to all stakeholders is key. If those at the receiving end know what cargo is headed their way and whether or not there are any delays, they can allocate resources accordingly and move the cargo faster, Wraight points out.

Airports like DFW and PHL are moving in this direction. "This ties in with our bigger strategy to link with other airports," says Wear.

Pharmaceuticals shipper base

Philadelphia has a large pharmaceuticals shipper base and wants to build a data corridor to other gateways for this traffic – first in Europe, but also in Asia and Latin America. Overall, the airport is looking to cultivate premium cargo, where an improved and accelerated flow of data can make a significant difference.

According to More, the development of a data corridor goes through two stages. In the first, all the dark spots in the supply chain have to be eliminated to achieve better visibility. The second stage marks the actual transfer of shipment documents. "That's really transformational," he says.

Government incentives

The pandemic has induced government agencies to move more document requirements from paper to electronic formats, he observes, citing the Indian government's decision to shift the clearance process from stamps on paper to an electronic method, which uses community platforms to get certain information. Likewise, the authorities now accept an electronic version of a certificate of origin.

The rise of cybercrime has raised concerns over data security in an interconnected world. By their nature, CCS seem potential

Leyssens: Bluetooth readers have already been positive, allowing a lot more transparency and saving work for Swissport and its airline customers

targets that could disseminate viruses across many systems. But Kale has built in robust defences, says More.

"First and foremost, we leverage the seven layers of security provided by established cloud providers like Azure," he explains.

Multiple levels of security

"I believe large governments already trust Azure and we have leveraged the same to provide tight security infrastructure against cyber attacks. There are multiple levels of data encryptions along with appropriate authentication and authorisation. For key transactions, we have multi-factor authentication as well."

Leyssens is philosophical about the issue. "As everyone is more interconnected, it is one of the risks that we continuously need to manage," he reflects. "We are able to manage security from a central platform. We don't have systems running on local servers. That's easier to protect." ■

African air cargo navigates through Covid turbulence

Lockdowns, curfews and capacity cuts have challenged air cargo stakeholders throughout the continent in the past year, with freighter operators profiting at the expense of passenger capacity providers and changing the profile of cargo handlers' businesses, reports Donald Urquhart

No country or territory has been spared the agony of the ongoing Covid-19 pandemic crisis, nor the economic destruction that has come with it. And Africa is clearly no exception, with severe slowdowns or contractions apparent in several of the continent's largest economies amid lockdowns, travel restrictions and other containment measures.

For the air cargo market, this has had obvious implications, some predicable, others less so. Take, for example, the very substantial export flower market out of hubs such as Nairobi. Flower exports – a life-blood of both the Kenyan economy and the air cargo sector – took an immediate hit, with demand plummeting as the pandemic wrought tragedy through Europe last spring.

Sanjeev Gadhia, founder and CEO of Astral Aviation, notes that exports of cut flowers out of Kenya plummeted nearly 70% due to lack of demand from March last year. But with some demand remaining and gradually recovering, this potential bright spot was hit again from April due to a lack of capacity.

While cut flower volumes have steadily risen from 122,800 tonnes in 2015 to 173,700 tonnes in 2019, Astral estimates they will come in at about 50,000 tonnes for 2020.

As an all-cargo airline, Astral found itself – like other maindeck operators in the industry – in a tricky but nonetheless relatively sweet spot as demand for cargo uplift soared. But the standard playbook was suddenly rendered irrelevant.

"Astral continued to operate its scheduled flights during the pandemic despite the significant reduction in volumes of cut-flowers; however, the demand for vegetables resulted in most of the flights being operated with very high volumes into Europe," notes Gadhia.

> "
> ***Demand for vegetables resulted in most flights being operated with very high volumes into Europe***
> "
>
> **Sanjeev Gadhia**

Perishable demand surge

Demand surged, and continues to be robust, for perishable fruit and vegetable exports out of East Africa to Europe and the Middle East, as consumers around the world clamoured for fresh produce from their local supermarkets. This translated into soaring demand for freighter services, particularly given the dramatic reduction of passenger belly capacity.

But it wasn't just perishables that were driving up demand – and with it, yields; it was personal protection equipment (PPE) and a whole raft of healthcare cargo. "Our flights continued to operate on our scheduled network, while we increased capacity and offered priority for PPE and related COVID materials, which enabled us to distribute the products to over 42 countries in Africa," says Gadhia.

And as the capacity crunch became even worse, carriers with maindeck fleets took some solace from their ability to serve this demand. "We were very fortunate to acquire additional freighters during the pandemic and launched new routes – which include the Nairobi to Johannesburg, Lusaka and Maputo routes that continue to operate to date," says Gadhia.

For other carriers in the African market, much depended on the makeup of their fleet. Ethiopian, with its substantial freighter fleet, was better positioned to supply capacity to meet the surging demand than many others – even to the extent that in November 2020 it kicked off a transpacific route, extending from Incheon to Atlanta via Anchorage with a B777-200F.

The innovative air cargo industry solution to press grounded passenger aircraft into all-freight aircraft, or 'preighters', gradually spread across the globe with carriers like Ethiopian and Kenya Airways joining the ranks.

Kenya Airways took this passenger innovation a step further, as others around the world had earlier begun implementing, by removing seats on the main passenger deck to boost the cargo carrying capacity.

What was novel in Kenya Airways' approach however, was to reconfigure two B787 Dreamliners for cargo missions. The fact Ethiopian had been given the green light by Kenyan authorities to deploy extra freighter capacity on the Nairobi-Amsterdam route to help move cut-flowers may well have been the spark for this world first.

> ***"We were very fortunate to acquire additional freighters during the pandemic and launched new routes"***
>
> **Sanjeev Gadhia**

Indeed, as Astral notes, the flower industry has recovered somewhat in 2021, reaching nearly the same levels of exports as 2019 in the same period, along with the exports of fresh fruits and vegetables from Kenya – which have surpassed pre-Covid levels, as European consumption continues to grow as a result of ongoing lockdowns.

Lockdown pain

One of the key impediments for the air cargo supply chain in many African countries was the implementation of strict curfews in much of the continent, as governments put restrictions on public movement. Applied universally, there was typically no slack cut for logistical movements.

As Malcolm Tonkin, general manager for cargo (South Africa) at Worldwide Flight Services (WFS) highlights, the lockdown hit hard. South Africa's perishable exports are flown almost exclusively out of Cape Town, and the hard lockdown in South Africa – which stretched from end of March last year right through until September – hit Cape Town's significant tourism business and associated belly capacity, as the airport was completely closed during the lockdown.

Trucking to Johannesburg was the only option, but both limited trucking capacity and uplift out of Joburg hampered those efforts. "Our local market was flooded with very good export-quality perishables – which was good for (local) consumers, but not the rest of the world, and not good for our economy," Tonkin notes.

Cape Town reopened in October 2020, but with significantly reduced schedules and capacity. And while restrictions eased off a little bit in both Cape Town and Joburg, it was short-lived because at the end of December the country's 'second wave' saw the government re-introduce curfews. And with that, "civil aviation decided to match the flying times with the curfew hours, so no aircraft movement was allowed between 9 PM and 6 AM", he says.

Daytime-only handling

The end result is that cargo handling is now solely a daytime operation. This, he notes, has required some adjusting, as "we have flights arriving and departing very much straight

WFS' facilities in Johannesburg (this photo) and Cape Town (below) are both GDP Pharma accredited after one another", and this creates outbound backlogs. While pre-Covid times saw staggered flights through 24 hours, previously early departures from South Africa have now moved to midday. This has also had a major impact on shift scheduling.

The curfew problem also hit Astral, forcing it to re-examine all its ground processes during the pandemic as the Kenyan government had initially imposed a 19.00 – 05.00 curfew. This was later extended to 22.00-04.00, which remains in place to date.

"During the first curfew, we had to work with our ground handling agent so that the operations continued during the day, while having a smaller shift during the curfew. This worked very well as we did not experience any service failures in terms of pre-flight preparations," says Gadhia.

For Nairobi's main cargo hander, Siginon Aviation, they too had to grapple with the drastic changes in airline scheduling and capacity. Jared Oswago, acting general manager at Siginon, notes that among the adjustments were the conversion of passenger belly cargo to freighters, growing numbers of passenger aircraft charters carrying loose cargo on the maindeck, and reduced perishables volumes.

The cargo handler, like many in the industry, took the opportunity to improve its business processes, infrastructure, and staff training.

"At Siginon Aviation, we proactively focused on keeping our costs extremely slim; this also coincided with adoption of solar as an alternative energy source. There was also a move to integrate our processes, and automate more of the processes to ensure seamless and uninterrupted service delivery," says Oswago.

Other measures were logical outcomes from the pandemic, such as investing in workplace safety for Siginon's staff, customers and other stakeholders using its premises. It also undertook internal campaigns to refresh the Covid-19 safety message to all staff.

Security of vaccines will be a challenge in Africa

Malcolm Tonkin

The third wave

The world has clearly adopted new terms into its everyday lexicon. 'PPE' is well understood, as is the term 'lockdown'; and we've all come to grasp a basic understanding of virus variants. And then there are the 'waves'.

Many countries are now experiencing a 'third wave' of viral assault. South Africa now has its own eponymous variant and with it a third wave hitting in late December, causing even more restrictions. This, unfortunately, saw WFS temporarily lose one of its largest customers, Emirates, which pulled out of Cape Town in mid-January because of severely flagging passenger load factor demand, although it is scheduled to return.

Emirates is still flying into Joburg, Tonkin notes, and other carriers such as Qatar and Turkish continue their services to Cape Town.

A silver lining

While there is no shortage of doom and gloom, not all the news is grim. WFS scored a substantial win with a cargo handling contract for Lufthansa and Swiss WorldCargo's air freight operations at Joburg. As part of this, WFS acquired the lease on a further 3,600 sqm of warehouse capacity in Johannesburg, purchased additional cargo handling equipment, and increased its workforce.

John Batten, executive VP of cargo for EMEAA at Worldwide Flight Services, says

it's a move that the carrier group had been contemplating for nearly 10 years. "Because of Covid, they took the step to do it and we were in the right place at the right time, or coming in at the right offer," he says.

This highlights an interesting aspect in the ongoing turmoil of the pandemic environment: the harsh impact on companies across the air cargo supply chain will inevitably result in some rationalisation, including among cargo handlers.

"When you look at all the local carriers in these markets, they're decimated as well," says Batten. "And the foreign carriers coming in are reduced because of Covid, and passenger volumes are minimal, so the outbound business in certain places has been decimated because of the cancellation of flights." This is true the world over, he notes.

"There have been a number of cargo-only flights that are supporting some of the business, but that's not going to keep them going in the longer-term; so we're very keen to step in and take over and work in partnership, or take over the business," he says.

Most would agree that consolidation has been needed in a number of segments of the air cargo supply chain for some time, something the Covid crisis may just spur. The African ground handling market, on the other hand, doesn't need consolidation as much as it needs competition and liberalisation. And here too, Covid might just foster that change.

Another positive note for WFS is the fact the changing demand patterns have reshaped the cargo handler's business.

"We've changed over the last 6-8 months," notes Batten. "We've changed the profile of our business from being dominated by the passenger carriers with a few freighters to having a lot more freighters coming in." This is a strength in the business, he says, because they are not as dependant on passenger traffic as they used to be.

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We've changed the profile of our business from being dominated by the passenger carriers with a few freighters to having a lot more freighters coming in

"

John Batten

Outlook

Astral says it remains cautiously optimistic in 2021 despite the threat of the new variant which has resulted in a severe lockdown in South Africa. "The first half of 2021 will be a challenge as passenger flights have not fully resumed, which will result in capacity challenges for air cargo," says Gadhia. "But we remain bullish that the second half of 2021 will result in better levels of air exports into Europe while remaining optimistic that African economies will start to rebound with the arrival of the much-awaited Covid vaccine."

In a similar vein Siginon sees 2021 as a recovery year, albeit fairly modest, with the industry needing to embrace the 'new normal', as Covid-19 will remain.

Likewise, for WFS the outlook is for numbers closer to 2019 figures; but Tonkin cautions that change is a constant, citing the situation of carriers. "One carrier will tell us they're doing three flights a week and two days later will get notice that they're going five days a week; and then a week later, they are modelling again," he highlights.

Vaccine handling

With the global rollout of Covid-19 vaccines now underway, a key focus for the air freight industry will clearly shift to this important commodity.

As Astral's Gadhia notes, 2021 will see an increase in demand for vaccine charters from the second quarter, as Africa starts to get its allocation. He does caution, however, that the new variant in South Africa may cause some disruption to the vaccine flow, as countries re-evaluate their vaccine strategies.

> ***"We are ensuring the facilities are refurbished and ready to receive the vaccines at the right temperature"***
>
> **Jared Oswago**

Siginon's Oswago says he is fully confident that its cold store facility is well equipped for the handling of the COVID-19 vaccines. "We are ensuring the facilities are refurbished and ready to receive the vaccines at the right temperature," he adds.

And in South Africa, Tonkin notes that investments for pharma handling were coincidentally done prior to the pandemic, and as a result its facilities in Johannesburg and Cape Town are both GDP Pharma accredited, and capable of handling Covid vaccines in the +2 to +8 degree Celsius range, but not -70 Celsius. He reckons this particular vaccine requiring a product temperature of -70 Celsius to be maintained is not ideal for the African environment, given the difficulty in maintaining proper temperatures in the field.

But he says biggest challenge in Africa will likely come not from the storage of vaccines, he says, but from keeping them secure – because they will become a high-risk commodity on the continent.

Extraordinary times

Selected international air freight stakeholders from across the sector share their reflections and expectations for 2021

2020 was quite some extraordinary year, and one that I am fairly sure none of us predicted...

And despite the vastly greater knowledge most of us now have of the characteristics of a coronavirus and a global pandemic, its effects on the airline and air freight sectors, and the various vaccine types that may help protect us against it – not to mention the nature of a lockdown, or several – we are still in a situation of much uncertainty and volatility.

Nevertheless, that should not stop us trying to anticipate what may happen next so that we can prepare as well as possible for what lies ahead. To some extent, that inevitably involves reflecting upon some of the events, changes, features and patterns that have emerged or developed during the last year for the air cargo community, and particularly in the latter months – what lessons have been learned, and how these elements might develop in 2021 and beyond.

As in previous years, Cargo Airports & Airline Services (CAAS) has asked a small number of selected stakeholders involved in the international air freight sector about their reflections on recent months and their expectations for the coming year. And given the undoubted difficulties – and caveats – we are particularly grateful to those that took on the challenge...

Managing the biggest ever disruption

It's difficult to talk about the legacy of Covid when its consequences are still at the forefront of everything we are doing, notes Barry Nassberg, group chief commercial officer for Worldwide Flight Services (WFS). But he hopes we don't forget the flexibility and agility, innovation and ingenuity, cooperation and camaraderie shown by businesses in our industry, which have enhanced a lot of customer-supplier relationships

We remain in the biggest period of disruption I'm sure any of us have seen in our careers. The impact of Covid-19 on the aviation and handling industry has been devastating and an estimated 50% of commercial aircraft fleets remain grounded, with little certainty of when operations can, or will, resume.

Some countries have been more proactive than others in offering support to national businesses and industries, which has provided some opportunities to protect jobs and operations. However, even in countries where there has been financial aid for national carriers, governments have still failed to recognise the need to find ways to ensure business continuity for ground and cargo handlers.

There may be an assumption that once vaccines take effect and lockdown restrictions are eased, that passenger capacity will begin returning to the market with some velocity and provide much-needed stimulus to the aviation industry and, subsequently, the global economy. However, for that to happen, ground and cargo handlers need help too.

"It's difficult to talk about the legacy of Covid when the consequences are still at the forefront of everything we are doing on a daily basis"

Barry Nassberg | Group Chief Commercial Officer at WFS

WFS is particularly impressed by the initiatives it is involved in as part of the Brussels Airport community, where WFS has just opened a major new facility

Retaining expertise and resources

At WFS, since the pandemic took hold, we have been working very hard to retain the majority of our highly trained and experienced workforce so we can be ready to support the recovery of the aviation industry and national economies as the effect of the virus subsides. If we lose this expertise and these resources, it will be months before we can re-recruit, train and accredit teams across our global network to enable our airline customers to have the reliable, safe and secure operations they and their customers expect.

It's actually difficult to talk about the legacy of Covid when the consequences of it are still at the forefront of everything we are doing on a daily basis. We have seen a lot of focus on supply chains – and the important role of the air cargo industry within them – and a sudden realisation by governments, businesses, and consumers that the supply and demand equilibrium we have enjoyed for so long is, in fact, very fragile when all the components are unable to operate uninterrupted. So, I hope this is remembered in the long-term because it is vital to the sustainability of our industry.

Cooperation and ingenuity

I also think there has been a lot of cooperation and camaraderie between businesses in our industry, as well as innovation and ingenuity. The best examples are the way the cargo industry was at the forefront of meeting international demand for PPE, and the emergence of 'preighters' to replace capacity lost by the suspension of passenger operations. The way we've all shown flexibility and agility to support these operations has really enhanced a lot of customer-supplier relationships, and I hope we don't forget this either.

Like every business connected to the aviation industry, we are under enormous financial pressure. We are a company with over 22,000 employees serving 270 airlines at 175 airports in 22 countries, and the pressure this brings at a time like this is enormous. While the scale of disruption from Covid is unprecedented, we have been able to draw upon our experiences of other crises, notably 9/11 and the 2008/9 global financial crisis, and benefit from some of the lessons we've learned. At the same time, we know we will come through this time. In many respects, the fact that the major part of WFS' business is still cargo handling has helped us and given us a degree of resilience not afforded to some of our competitors whose core handling business largely depends on passenger operations.

Biggest priorities

Our biggest priority will always be safety and security, and this remains at the forefront of every decision we take. Whilst acting as prudently as possible in all areas of our business in terms of reducing our cost base, we have also been determined to retain strategically important investments that are essential to the future growth of our business. Some examples include our investments in technology and digitisation, including cyber security monitoring, Bluetooth tracking to improve ULD visibility and utilisation, and more self-service kiosks for truck drivers to reduce loading and unloading times and improve productivity for customers.

We have also just opened a new 250,000 tonnes capacity cargo terminal at Brussels Airport, and we're continuing to enhance our services for handling pharmaceuticals at our 14 pharma centres across the globe, including more IATA CEIV and GDP certifications, while, in France, WFS has launched dedicated Pharma trucks from the provinces to Paris CDG to support our airline customers' premium products. And, I am delighted to say, throughout the entire Covid period, we've continued to win new handling contracts and signed extended agreements with many of our existing customers.

These areas of focus will remain in 2021 and we will continue to look to make the best decisions for WFS and our customers which give us both new opportunities. Even with all the current market uncertainty, there are still many strong opportunities for growth. I also think airlines are looking to their handling partners for new ideas and innovations, and that's something we welcome.

"I think airlines are looking to their handling partners for new ideas and innovations, and that's something we welcome"

Barry Nassberg

Technology and digitisation will play an increasingly important role, and the lessons of Covid are likely to accelerate some projects which were previously sitting on the side-burner waiting for the right time, and money, to implement. But, of course, we've got to be able to fund these developments and to do that we all need to be able to operate profitably in every location because, to be most effective, many of the benefits of the technologies available are optimised by standardisation across networks – and this is also true across communities. I am particularly impressed by the initiatives we are involved in as part of the Brussels Airport community and we will most certainly be a willing partner in similar projects as they emerge across our international network.

"To be most effective, many of the benefits of the technologies available are optimised by standardisation across networks"

Barry Nassberg

From the ground up

Improving the air cargo industry first and foremost means improving ground processes with digital solutions, but also in customising and modernising the facilities accordingly, believes Dorothea von Boxberg, the new CEO and chair of the executive board of Lufthansa Cargo

Looking back at 2020, I have to say that it really was a challenging year. Air cargo is always a very volatile business. But what we have experienced in 2020 is even more extreme. At Lufthansa Cargo, we are proud of the fact that we have managed to maintain our global freighter network at all times, despite a multitude of ever-changing regulations as reactions to the pandemic. We – and the rest of the industry – are dearly missing the capacity on passenger aircraft. The lack of capacity was then the reason for what we called the 'preighter' at Lufthansa and contributed to the worldwide supply. First, of personal protective equipment, and later of test kits and vaccines. After all, it has perhaps never been as clear to the world as it is today what an important contribution air cargo makes every day.

Three key topics for 2021

For 2021, three topics will be very important for Lufthansa Cargo. The first one is helping to ease the pandemic. Whether it is flying vaccines, test kits or PPE – we are there to bring back normal life as soon as possible. We now offer a new product, Covid-19 Temp Premium, which meets all specific requirements of the vaccine transportation. By preparing early for the global distribution, we are now ready to tackle this enormous challenge. Being flexible and adjusting our network – even on short notice – helps us find quick solutions and compensate for the lack of capacity.

Apart from that, sustainability and digitalisation will remain important topics for us. Lufthansa Cargo is eagerly driving forward both of them with several projects and initiatives. When it comes to sustainability, we take our responsibility seriously by committing to the United Nation's Sustainable Development Goals. Climate action is important for us. We recently operated the first CO2-neutral freight flight and we are planning on offering a green product to our customers. Also, we are driving digital solutions and initiatives in the air freight sector. Among others, we will roll out our PreCheck offer worldwide – which is the air freight equivalent to off-airport check-in for passengers.

Additionally, we are part of different IATA working groups, such as for One Record. I am convinced that the pandemic was and is a strong catalyst for digitisation. That's why I'm very pleased that we as Lufthansa Cargo have already made considerable progress in recent years in terms of digital services for our customers. And it is and remains right to continue on this path with a lot of emphasis. In times of extensive cross-border e-commerce, it is simply not conceivable that some data errors only become apparent on a paper manifest during a physical check at goods acceptance and then lead to an offload.

"In times of extensive cross-border e-commerce, it is simply not conceivable that some data errors only become apparent on a paper manifest during a physical check at goods acceptance and then lead to an offload"

Dorothea von Boxberg

We will only be able to further accelerate air freight with further and, if possible, complete digitisation along the value chain. Improving the air cargo industry first and foremost means improving ground processes with digital solutions, but also in customising and modernising the facilities accordingly. ■

Coming to the forefront

In a post-pandemic world, quickly moving from paper-based processes to the digitalisation of the entire industry will be the key issue – and the past year has provided a glimpse of what is possible, highlights international freight forwarding federation FIATA

The world will never be the same after 2020. The COVID-19 pandemic has shaken all industries and only time will tell how long the impact will last. The aviation industry has experienced by far the sharpest traffic decline in its history. Today, the overall capacity available for air freight remains well below the demand. This has led to higher air freight rates, as well as making the freight forwarder need to charter aircraft to meet the demand from the shipper. With aircraft belly capacities depleting almost overnight, and only freight capacities available, the greatest challenge was and remains to find space available at affordable rates.

Customers have been running amok in search of affordable space, and airlines are struggling to offer what customers demand due to various challenges. Whether it be limited freighter capacities, even-more-limited passenger-to-cargo (P2C) capacities, and trade imbalances in place due to ever-changing country regulations caused by the pandemic, the situation is not easy.

Despite the challenges, freight forwarders have shown great resilience at adapting to the new situation and developing new capacities in freight. Air freight businesses and airlines will further need to collaborate to overcome these challenges, so finding a balance equitably is going to be critical in the coming months.

A glimpse of what is possible

Looking into the future in a post-pandemic world, the main issue will be to quickly move from manual, paper-based processes to the digitalisation of the entire industry. Last year gave us a glimpse of what is possible. Digitalisation in logistics had perhaps never been as fast as it was in 2020. It was not a choice, but a matter of survival. The 'work from home' culture became a reality for many, and without efficient systems, this could not have been achieved. But digitalisation is always an ongoing process, as things change rapidly in this sphere.

In this sense, the supply chain industry remains fragmented on many counts. Freight forwarders still need to communicate with different airlines and ground handlers in most parts of the world using their different systems, rather than using mutually accepted platforms which would enable the seamless flow of cargo information. Hence, the need in logistics to have integrated digital ecosystems which allow stakeholders to leverage new and legacy technologies – and build automated processes around them. At FIATA, we recognize the lack of interoperability between systems and are working tirelessly on delivering our digital strategy, which will enable this seamless data exchange across the industry.

E-commerce effects

The demand for air freight services is expected to remain high, due to increased online shopping from consumers triggered by lockdowns. Consumer technology (smartphones, laptops, tablets and related devices) will continue to be in high demand. Even during these difficult times, e-commerce remained largely unaffected and, in fact, grew in strength. Air freight transports 80% of cross-border business-to-consumer (B2C) shipments and consumers demand fast deliveries – and speed is air freight's distinct advantage. Demand for pharmaceutical and healthcare products is also expected to increase, not only for vaccines but overall. The aviation industry must therefore gear up to handle such time-sensitive and temperature-controlled commodities, as they are here to stay for a while.

General cargo, on the other hand, has severely dropped and it could take a very long time to recover. As shipping lines have caused many disturbances through schedule changes and very high rates, general cargo normally shipped by sea might be changing to air freight. The pandemic will have long-lasting effects and recovery could take a while.

As for the enormous task of vaccine distribution, air freight has certainly come to the forefront, with airlines and freight forwarders alike treating this operation with the sensitivity and urgency it deserves. The challenges are different in and for every continent, region and country, but it is possible to solve the problems. According to the December 2020 Sunrays Project report, an initiative supported by FIATA, nearly 46% of the air freight industry stakeholders (including airlines, forwarders, ground handlers, airport operators, and IT solution providers) felt better prepared for transportation of COVID-19 vaccines, compared to 28% two months earlier.

Vaccine distribution challenge

Today, at this early stage of vaccine distribution, the challenge lies not so much on the supply chain – which possesses the capabilities to ensure delivery – but on the production side, which is experiencing delays. Nevertheless, combined with the resilience and flexibility of logistics stakeholders at all levels, we are confident that all challenges will be met with care and determination to efficiently organise and distribute the vaccines on a large scale. FIATA, in collaboration with IATA, are working to provide the necessary guidelines to all players in the sector.

FIATA plays a pivotal role in the development of air freight globally. Our Airfreight Institute interacts extensively with airlines, through IATA, to promote the air freight industry. FIATA also liaises regularly with the International Civil Aviation Organization on training and security matters. During these unprecedented COVID-19 times, where air freight space has been drastically reduced and aviation is severely affected, FIATA continues to represent its members by advocating air freight assistance initiatives to address disruptions in global supply chains.

FIATA would like to thank Keshav Tanna, Airfreight Institute (AFI) Chair, and Lothar Moehle, AFI delegate, for their contributions to this article. ■

The long haul

A likely long-term decline in business travel will lead to less intercontinental wide-body 'cargo friendly' belly capacity in the coming years, which will keep yields higher than pre-COVID levels in the coming years, believes Sebastiaan Scholte, CEO of cargo GSSA Kales Group

It will be capacity, or better said the relative lack of capacity rather than demand, that will influence the air cargo market in the coming years. Most of the passenger planes have been grounded in the last year and most likely will also be in the first half of 2021. Demand has not fallen as much as supply, resulting in higher yields. The higher yields will continue in the foreseeable future.

Most likely, the yields will decline as soon as the world is vaccinated and starts going back to normal, resulting in more passenger flights. However, even though everybody will start flying to touristic destinations again, business travel will be affected in the long run because remote working will remain popular. Therefore, there will be less capacity in the coming years due to less long-haul wide-body 'cargo friendly' passenger aircraft. Yields are therefore expected to remain higher than the pre-COVID levels in the next years.

Technology challenge

Due to the COVID crisis, digitisation and remote working have accelerated at a pace that otherwise would have taking many years. The technology is there, but not always adapted as much as in different industries. The air cargo industry is definitely not driving technological changes, but very slowly adapting technology that already exists.

The challenge is not so much about inventing new technology to optimise the processes, but more the adaption. People love to talk about the technologies yet not even adapted in more tech savvy industries instead of applying what is available now. We need to walk properly first before we start talking how we can fly to the moon.

Digital, connected and smart

We need to be collectively as an industry more digital, connected and smart. Information, in many instances, is moving at the same speed as the cargo, which leads to inefficiencies in the air cargo supply chain. Information can and will need to move faster than the physical goods.

"Information can and will need to move faster than the physical goods"

Sebastiaan Scholte

Certain companies do not want to share the information because it will show up errors or flaws. But each hiccup in the chain will lead to more inefficiency further up the supply chain. Sharing information, even though it shows operational inefficiencies, is a strength and will help other companies react to it and adjust. Companies should be rewarded for sharing their information real time, including delays, and not for an on-time performance report that is made afterwards monthly, and mostly used to reduce prices instead of optimising operations.

More outsourcing to GSSAs

More airlines will focus on their core business and may want to become more flexible in their workforce. There will be more outsourcing to GSSAs, especially dynamic customer-focused ones – like Kales Group. This allows airlines to save cost and become more agile.

E-commerce now represents 20% of total air cargo demand and around 80% of cross border e-commerce is transported by air. It is logical that large shippers and e-commerce companies are acquiring more of their own capacity. Large shippers like Amazon, Inditex, Alibaba, and Mercado Libre will continue to be consumers of traditional air cargo capacity but are also increasingly becoming suppliers of capacity themselves. It may well be that in the future these large shippers will be able to offer more air cargo capacity than some of the major cargo airlines now. ■

"In the future these large shippers may be able to offer more air cargo capacity than some of the major cargo airlines now"

Sebastiaan Scholte

Contributing to the COVID-19 economy

Air cargo industry has played a vital part in the fight against the pandemic; it will play a vital part in the COVID vaccination challenge, and in the subsequent economic resurgence, observes Glyn Hughes, CEO of TIACA

"We anticipate the continuing situation of passenger aircraft operating cargo-only operations"

Glyn Hughes

As 2021 unfolds, we see a different world from 12 months ago. This different world will impact how the air cargo industry operates and performs during the year.

Many influences have changed the fabric of society, from how we work, how we interact, how we consume goods to how we deal with our own and each other's health and safety.

The COVID-19 pandemic pretty much grounded international passenger operations whilst generating the COVID-19 economy – which created consumer demand for PPE products which were previously restricted for use within hospitals and health facilities; and it generated an even greater acceleration towards ecommerce.

And these new realities have shaped 2021 expectations and the operational environment; we now focus on the global distribution of several vaccines, with more on their way to approval, with varying specific supply chain handling requirements. We can also expect to see the continued growth of ecommerce as well as economic regeneration following the severe impacts experienced during 2020.

Positive demand scenarios

So, air cargo will continue to benefit from positive demand scenarios whilst balancing the continued reduction of passenger networks which traditionally account for about 50% of overall cargo capacity.

We anticipate the continuing situation of passenger aircraft operating cargo-only operations until global passenger demand returns and results in the resumption of global passenger networks – although the rising cost of fuel and the softening of rates on certain trade lanes will introduce new challenges in making these new networks sustainable.

Freighter fleets will continue to operate at high levels of utilisation and combination carriers will continue to focus on maximising cargo revenues to supplement reduced passenger-based incomes.

The air cargo industry played a vital part in the fight against the COVID pandemic; it will play a vital part in the COVID vaccination challenge, and it will play a vital part in the subsequent economic resurgence. ■

The courage to invest

With air freight being tested more than ever before, the sector needs to find the courage to invest in technological solutions to drive progress, believes Moritz Claussen, co-founder and managing director at cargo.one

2020 turned the world upside down – it confronted us with unprecedented challenges, it changed the way we operate as a society, and it changed our perspective on many things. Many predictions that had been made for 2020 were suddenly rendered useless when COVID-19 hit the globe. The world went into survival mode.

Astonishingly, one prediction proved, for the most part, not to be affected: the digitalization of the industry took a big step forward – fuelled by a growing understanding that technology is here to support, and the necessity to cope with the effects of a global pandemic.

At cargo.one, we continue to believe that this trend will go on and that the global air cargo industry will go through a large and challenging transformation process. This process will leave players that value change and embrace customer-centricity to come up on top, while those that decide to hide behind the status quo will be challenged.

We have identified a couple of trends that we believe will shape the air cargo industry in 2021:

"As our needs and wants as consumers develop further, global air cargo will have to keep up"

Moritz Claussen

Digital collaboration

The past year, in many areas of our industry, people started using digital tools to work together – proving that online collaboration is possible. Online meetings over Zoom or Teams became the norm – something that seemed unthinkable just 15 months ago. We believe this trend will continue and even more collaboration will happen online.

At cargo.one we enable digital communication between freight forwarders and carriers, but we have also added many features that support digital communication between colleagues on the platform. Bookers are now able to share quotes with their colleagues, track shipments booked by their stations, or send reserved quotes for a team member. In many cases, digital collaboration enables the exchange of real-time information; it creates transparency and thus, it ultimately helps to create a better user experience.

Customer-first mindset

As our needs and wants as consumers develop further, global air cargo will have to keep up. In many countries, we are now used to same-day or next-day delivery. We are used to full transparency of where our shipments are, accurate information, and great customer service. Much of this was pioneered by companies like Amazon, which were following a simple mantra: putting the customer first. We would be wrong to assume that global air cargo would be exempt from the growing expectations of customers.

The needs or wants of our customers have changed and will continue to change, as they are being exposed to faster and better solutions as consumers. After all, why does it take me three hours and 10 emails to book 100 kilos of air freight, if I can book a holiday flight with a click of a few buttons in minutes?

At cargo.one, we have always relentlessly focused on customer experience. Today we are proud to have a Net Promoter Score of 68 among freight forwarders and of 60 among our airline partners.

And we have seen very encouraging developments, as some players have taken big steps towards driving a customer-centric approach by implementing new technology. A great example is the implementation of iCargo by American Airlines or the continued growth of Nallian's communication cloud solution. We believe that this trend will continue to grow and to gain in importance in 2021.

"The exchange and sharing of data will only continue as our customers' expectations for real-time insights and information increase"

Moritz Claussen

Supply chain transparency

For too long, the industry has hidden behind the argument of 'data security and ownership' and was slow to implement synchronous exchanges of information. We finally now see a movement towards more transparency of our supply chains, increased information flow between industry participants, and thus, a bigger focus on the user experience.

There were some great initiatives started recently, like IATA's One Record. But setting standards across a large and wide variety of industry players is a tedious endeavor and smaller groups of players in coalitions of the willing make faster progress. A great example is Nallian's BRU Cloud, where players connect and exchange crucial data. At cargo.one, our entire technological infrastructure is cloud and micro-service-based, which allows us to connect to any player in the industry to synchronously exchange information, for example booking data with our airline partners. We believe that the exchange and sharing of data will only continue as our customers' expectations for real-time insights and information increase, and we believe that 2021 will be a catalyst for this development.

As an industry, we need to continue investing in technological solutions and into putting our customers first. In times like these, our industry is being put to the test more than ever before, and we need to find the courage to invest and to drive progress. At cargo.one, we are excited to help create a connected and digitally integrated global air cargo community that puts its customers first, to become more efficient and successful. ■

High demand and rates set to persist

The current low stock of freighter capacity and buoyant demand mean we can expect elevated prices to continue during 2021, possibly even beyond, believes Pierre Vanders, director for cargo operations at Chapman Freeborn Group

"We can expect to see new cargo charter airlines emerging, older aircraft being reactivated, and passenger-to-cargo aircraft conversions becoming even more common"

Pierre Vanders
Chapman Freeborn

As we enter 2021, we are continuing to see an absence of belly capacity on scheduled passenger flights, due to the travel and tourism market still largely being on pause. This means cargo operations remain to be fulfilled by freighter aircraft and converted 'preighters' (passenger aircraft converted to cargo aircraft). I believe this will continue throughout the rest of the year, and additional pressure from the e-commerce and pharma sectors, caused by COVID-19, will further exacerbate it. The low stock of freighter capacity and high demand that we are seeing mean that we can expect the current high prices to continue during 2021, possibly even beyond.

Prior to the COVID-19 pandemic, e-commerce grew 25%, year-on-year; but lockdown across much of the world has boosted this even further, putting even more pressure on capacity. To alleviate this pressure, we can expect to see new cargo charter airlines emerging, older aircraft that were previously in storage being reactivated, and passenger-to-cargo aircraft conversions becoming even more common. Together these solutions will help to produce increased charter capacities to serve the demand that has emerged since the pandemic; however, we are yet to see whether this will be sufficient to return the market to pre-pandemic pricing levels this year.

Necessary innovation

Roger Samways, vice president commercial for American Airlines Cargo, believes a renewed focus on digitalisation – 'born out of necessity and the agile mindset we all had to develop last year' – will allow companies to streamline work, launch solutions, adapt and provide capabilities to meet customer needs

Whilst 2020 was tough in a number of ways and the situation resulting from COVID-19 created challenges for everyone, it also helped underscore the importance of air cargo and presented unique learning opportunities that will benefit us for years to come. We've seen tremendous innovation in response to the issues we faced, including the development of cargo-only networks, carrying cargo in the passenger cabin, the launch of new products and the approach to vaccine distribution — just to name a few.

As we move forward in 2021, I believe the learnings from last year will benefit us in several different ways. For starters, our focus as an industry upon digitisation will grow. We will begin to make even more progress (finally!) in an area we have talked about for decades. This renewed focus will be born both out of necessity and the agile mindset we all had to develop last year. At American, we recently finalised the implementation of our new technology platform. Unfortunately, we were faced with making substantial reductions to the size of our team due to the pandemic; but leveraging this new platform to streamline our work, launch solutions, and provide self-service capabilities will be essential in allowing us to continue to adapt and meet customer needs.

Robotics Process Automation

Technology and innovation often go hand in hand, and I believe we will also see an increased focus on innovation. The ability to make rapid changes through technology – simply being more prepared to 'try new

"The ability to make rapid changes through technology – simply being more prepared to 'try new things' – will be key tactic as we adapt to what the year brings"

Roger Samways

things' – will be a key tactic as we adapt to what the year brings. At American, we began to leverage artificial intelligence and Robotics Process Automation to support capacity forecasting and shipment profiling. This effort has helped offload busy work, empowering our teams to be more efficient.

Partnerships across the industry will also become more important this year. While we hope for a quick industry recovery, the likelihood is that most airlines will be operating smaller networks with less capacity for some time. Demand is still robust, however, and we need to work together as an industry to grow networks and increase capacity to meet customer needs.

More efficient booking models

Last year taught the world about the value of cargo capacity, and this year will continue to underscore its importance. We need to move away from inefficient booking models and build new practices which support carriers receiving more accurate booking information. This will lead to better capacity utilisation, improvements in service and, ultimately, increased customer satisfaction.

For many passenger airlines, cargo will play a larger role in making network planning decisions, in the short term at least, as airlines seek to benefit from the current environment. Many passenger carriers – American included – have used cargo-only flights to support resumption of passenger service. This will be increasingly important in 2021 as passenger demand hopefully begins to recover.

Despite its challenges, 2020 paved the way for us to be more effective, and I look forward to seeing how the industry evolves as a result.

Priority business

The new US administration must recognise air freight's vital role in the current crisis, prioritising airport cargo workers for Covid vaccinations and supporting airport cargo infrastructure, argues Brandon Fried, executive director of the Airforwarders Association. And carriers must realise that efficient handling remains their responsibility, regardless of the subcontractor performing the task on their behalf

"Carriers must realise that customer satisfaction relies on the expedited and efficient handling of their product and remains their responsibility"

Brandon Fried

As government agencies within the Biden administration set their priorities and legislative agenda for the coming years, the Airforwarders Association urges the new administration to focus on a critical priority on behalf of the freight transportation industry.

As the United States and the world rallies to bring the approved vaccine to the public as quickly as possible, we must acknowledge that this supply chain does not have to be the bottleneck. The shipping, forwarding, and freight transportation industries have rapid distribution resources as unique challenges are an everyday occurrence within the logistics industry. However, hindrances regarding infrastructure could cause significant issues.

The congestion and bottlenecks at airports are not new, but with fewer planes in the sky and a limited workforce, it is approaching a critical mass. Not only is this harming the high priority distribution of COVID-19 vaccine, but it is also impairing economies in the United States and throughout the world, particularly in a year when E-Commerce has grown exponentially.

Solutions to solving the airport congestion dilemma will not be simple, but stakeholders working together is essential. First, health authorities must consider the fundamental nature of airport cargo workers and get them vaccinated immediately. Second, the pandemic proved that air freight is not only essential to commerce but in saving lives as well. Airport planners and government officials must consider its importance in providing workable infrastructure for stakeholders operating within their facilities.

Finally, airlines should not hire independent ground handlers and walk away from the process. Carriers must realise that customer satisfaction relies on the expedited and efficient handling of their product and remains their responsibility, regardless of the subcontractor performing the task on their behalf.

Meeting demand, delivering vaccines

The rapid and secure distribution of COVID-19 vaccines will be a key priority this year, to get people and communities back on their feet, rebuild consumer confidence and economic activity, and support the long-term stable growth of the air cargo industry, says Nabil Sultan, divisional senior vice president for Emirates SkyCargo

2020 was a year unlike any other for the aviation sector and the air cargo industry. Although the challenges posed by the near complete suspension of passenger flights and the resulting drop in cargo capacity were massive, the industry reacted quickly to mitigate some of these challenges and keep communities and economies connected to the goods they required – whether these were medical supplies and PPE to fight COVID-19 or food items or commodities for manufacturing and industry.

At Emirates SkyCargo, we deployed our Boeing 777-300ER passenger aircraft as cargo aircraft to make up for some of the lost capacity and to meet the surging demand for the urgent transport of PPE and other medical equipment during the early stages of the COVID-19 pandemic. Because this had never before been done in the history of our operations, our teams had to work extremely hard to develop a new route network and to work with the relevant authorities and partners to operate these cargo flights, offering about 40-50 tonnes of capacity per flight.

Given the continued demand for cargo capacity, we introduced loading of cargo on the passenger seats and overhead cabins in our passenger aircraft and eventually, we followed this up with our 'mini freighters', Boeing 777-300ER with passenger seats removed from the Economy Class to make room for more cargo inside the cabin. We also operated cargo-only flights on our A380 aircraft, making optimal use of our aircraft fleet to meet the demands to transport cargo across the world. We also rapidly reinstated our destination network, reinstating our cargo connectivity to more than 100 destinations between March and June 2020.

Once we had developed our network and a flexible solution for providing adequate air cargo capacity to meet our customer requirements, we then focused on planning for what was coming next and as early as August 2020, we were putting into place a strategy dedicated to harnessing our strengths, capabilities including our 'fit for purpose' GDP-certified infrastructure at our hub, to help distribute vaccines to fight COVID-19.

COVID-19 vaccine hub

In October we announced that we were

setting up the world's largest dedicated airside GDP-certified hub for the distribution of COVID-19 vaccines. Overall, we have close to 15,000 square metres of GDP-certified temperature-controlled space that we can use for the storage of COVID-19 vaccines. The aim is to utilise our infrastructure as a global hub for vaccine distribution – especially to developing countries where there may be limited sophisticated cool chain infrastructure for storing COVID-19 vaccines. We can store a large quantity of vaccines in Dubai and then distribute them regularly on our flights to various destinations.

"The aim is to utilise our infrastructure as a global hub for vaccine distribution – especially to developing countries"

Nabil Sultan

In January 2021, we also announced that we were going to be working as part of the Dubai Vaccine Logistics Alliance to expedite COVID-19 vaccine distribution to developing countries. We're working with DP World, International Humanitarian City and Dubai Airports to support WHO's COVAX initiative to distribute COVID-19 vaccines equitably. Dubai's strategic geographic location, well developed infrastructure, and the track record of each partner make the alliance unique and Dubai at the centre of the global response to the pandemic.

As we look at 2021, one of our priorities will continue to be the rapid and secure distribution of COVID-19 vaccines. This is a priority because without the vaccines, people and communities cannot get back on their feet, and this is essential for consumer confidence and economic activity to bounce back. This will also feed into the long-term stable growth of the air cargo industry.

The last year has proven to the world that air cargo plays a crucial role in the rapid and effective transportation of urgently required commodities, and air cargo will continue to play its role as a seamless conveyor belt for transporting goods across different markets in the years to come.

Better together

Now, more than ever, the sector needs to collaborate in setting up standards and systems for reliable service delivery – to develop and implement a variety of products that meet their customers' varying demands, believes Cargo iQ executive director Ariaen Zimmerman

2020 made one thing very clear: the world as a whole, and the airline industry in particular, depend on air cargo. While air cargo could have become somewhat of an afterthought for many an airline executive by the end of 2019, it was at the forefront of their thoughts at the end of 2020. By then, air cargo had proven one of the few revenue sources that kept going strongly and, in many ways, even improved its financial results. Many professionals in the air cargo industry couldn't help but feel that their work had finally received the recognition it deserves.

As a result, going into 2021, one may be tempted to think that air cargo now has a secure position as core to the air transport industry, but I fear that is not the case. So far, the health of the air cargo industry has primarily reflected the balance between capacity and demand, and nothing has really changed. The COVID crisis had some limited effects on demand, but it had a huge effect on capacity, with increasing rates as a result.

"So far, the health of the air cargo industry has primarily reflected the balance between capacity and demand, and nothing has really changed"

Ariaen Zimmerman

The aircraft of dedicated cargo operators and integrators became incredibly valuable. Consequently, the relative share of integrators on the air cargo market will have gone up, and in 2021 the air cargo industry will have to show how serious it is about creating a sustainably profitable activity for the future in that changed landscape. More so when passenger capacity will have come back.

Now, more than ever, the air cargo industry will have to show it is willing to collaborate in setting up standards and systems for reliable service delivery – to be willing to develop and implement a variety of products that meet their customers' varying demands.

The air cargo industry works with a single infrastructure of flights to satisfy a plethora of different shipment needs. Some shipments are urgent, some need care, some need low costs, but all of them are driven by one overarching need: they all look for the most economic logistical solution.

To deliver the best solution to its customers, the air cargo industry has to work together: forwarders, truckers, carriers, ground handlers. Essential to that cooperation are reliability in delivery to each other and sharing information; thorough planning, control and evaluation of all the various partners that make up the air cargo logistics chain.

I believe that the industry should now pick up and use the momentum that COVID has given it through recognition, and make some serious steps forward, in line with Cargo iQ's mission: Plan. Deliver. Control. Together.

Rising to multiple challenges

Alongside maintaining its cargo network to a greater extent than most carriers over the past year, Qatar Airways has also moved forward with several freight digitalisation initiatives such as Robotic Process Automation for shipment tracking, IATA's One Record pilot project, and the rollout of ebookings, highlights chief cargo officer Guillaume Halleux

Our resilience and adaptability have been key traits that have helped us in our revival during the COVID-19 pandemic last year and enabled us to move forward despite the enormous challenges.

As countries try to curb the spread of the second or third wave of the virus, while adapting to the new normal, we are already seeing the effects across the world. We are continuing to operate our scheduled freighter flights, passenger freighters, cargo charters and belly-hold flights to ensure global trade continuity.

As part of our strategy for rationalisation and optimisation of our fleet, we took delivery of three brand new Boeing 777 freighters. The Airbus A330 freighters have exited our fleet – we retained them until the end of 2020 to cater to the growing capacity requirements, while waiting for the arrival of the three Boeing 777 freighters. Our current fleet that consists of 24 B777Fs and two B747-8Fs will enable us to support the worldwide demand for air cargo.

Reversal of the blockade

The opening up of borders with neighbouring country the Kingdom of Saudi Arabia has allowed us to resume air freight and air travel. We have also started flights to the Arab Republic of Egypt and the United Arab Emirates. Shortening routes is a huge benefit and the reversal of the blockade has significantly reduced our costs; so this will benefit our customers as well.

"The reversal of the blockade has significantly reduced our costs"

Guillaume Halleux

Qatar Airways is rebuilding its passenger network, which today stands at over 120 destinations (1,500 weekly belly-hold flights), and we recently launched flights to new destination Seattle. This is good news for cargo in terms of belly capacity as that is our business model.

We have also made enhancements to our products and solutions, eg: our hub in Doha is now IATA Pharma CEIV certified; this came at the right time when we are handling the logistics around the COVID-19 vaccine.

Sustainability programme

While we are keeping supply chains in place by working with freight forwarders and other stakeholders to overcome challenges as best as we can, we also want to ensure our operations and development is sustainable. We want to give back to communities we serve and make a difference. Sustainability will be top on our agenda this year as we introduce more chapters in our WeQare programme. We recently launched Rewild the Planet, Chapter 2 of our WeQare programme to show our commitment for conservation of wildlife. More chapters will be launched this year. Good deeds have a ripple effect and we are indeed receiving very positive feedback on WeQare; it shows that people in cargo really care and want to do something positive that will impact the world.

Digitalisation focus

Digitalisation is also a key area of focus for us this year as it is set to bring a massive change to our fragmented industry. It is the need of the hour. Though the cargo industry is known for being behind our passenger counterpart, we are now taking huge steps to bring about digitalisation in our industry. Our aircraft, physical infrastructure and warehousing capabilities are all improving as we look to automation and design improvements. We are moving towards more systems that allow for dynamic pricing, automatic quotations, robotic integration and improved reporting.

"We are moving towards more systems that allow for dynamic pricing, automatic quotations, robotic integration and improved reporting"

Guillaume Halleux

COVID-19 has fast-tracked the demand for digitalisation and we have introduced several digitalisation initiatives such as Robotic Process Automation for shipment tracking, Salesforce (Service Cloud), IATA's One Record Pilot project with Champ – and ebookings via WebCargo by Freightos, which has gone live in selected countries on 7 February 2021. Through WebCargo bookings, forwarders in these countries will be able to conduct real-time eBookings, access live rates and see available capacity with us. We are actively promoting digitalisation as we see the many benefits our customers will reap.

High flyer

In spite of the hurdles and challenges that the pandemic presented, we have done the highest flying of any airline in the world and it has allowed us to maintain sufficient cargo capacity – which was good for our customers as they could continue their activities. As a result, Qatar Airways Cargo's market share in CTKs, as published by IATA, increased from 6.8% pre-COVID to 8.6% by the end of 2020.

The cargo workers worldwide truly deserve our praise; what they have done in 2020 is beyond amazing – they have been truly exceptional. ■

Flexibly navigating in disrupted markets

Mike Short, president of global forwarding at C.H. Robinson, discusses how recent and current air and ocean freight market conditions are affecting cargo owners' shipping decisions

Global transportation – like many industries – has faced unparalleled disruptions over the past year. As 2021 is now underway, there are new and different challenges added to the mix.

Many of our global shipping customers were up against the clock with Chinese New Year (CNY) in mid-February, while also navigating potential changes from a new US administration. Of course, fast-changing consumer behaviors, port congestion, and continued uncertainty around the impact of COVID-19 continue to bring changes to the market as well.

Demand recovery

The global logistics market is forecasted to grow over 17% in 2021. And only a couple of months into the year, that growth seems to be on track, due to heightened demand across major global trade lanes. In January, we saw volumes between China and the US increase by 30% compared to that time last year. And it is likely the demand will continue through Q1.

We historically see a small spike in demand before CNY, but this year looked different. Many companies were stockpiling and replenishing stock rooms in the wake of COVID-19 disruptions. And with a continued need for PPE and the dramatic uptick in ecommerce shopping, it's no wonder there was – and continues to be – greater amounts of freight being moved.

Air freight challenges

Air passenger travel is still down and predicted to not recover until 2024. With that and continued demand, capacity for air cargo remains tight. Today, COVID-19 vaccine distribution has had minimal impact

"With a continued need for PPE and the dramatic uptick in ecommerce shopping, it's no wonder there continues to be greater amounts of freight being moved"

Mike Short

on capacity, but we're closely monitoring the situation as it could and likely will change rapidly.

The majority of COVID-19 vaccines will not require intercontinental air lift; however when doses do need to be transported via air, many airlines are already prepared to reposition capacity. When this happens, expect heavy demand from both Europe and India. And if or when this capacity is pulled from today's already tight air market, your global supply chain may need to pivot in response.

With new COVID-19 strains and outbreaks, many countries are now requiring pilots and airline crews to quarantine or limit overnight deliveries. These changes will likely add to the inconsistencies and put pressure on air freight costs.

Ocean congestion effects

Ocean freight customers are likely to see the most congestion and capacity constraints when shipping via ocean service in early 2021. Significant increase in demand and (container) equipment shortages in Asia have led to longer dwell times for vessels, which inevitably delays export shipments. In the United States, carriers continue to reduce the amount of exports in order to reposition empties back to Asia. Before CNY, ocean carriers announced they would only remove 2-4% of capacity from the market during the holiday due to the continued high demand and equipment shortages likely to continue through March. Historically, carriers remove a larger portion of capacity, average of 15-20%.

Global trade changes

While President Biden has indicated he does not plan to focus on trade and tariff changes immediately, he has already expressed his intention to approach trade differently than the previous administration. Additionally, shippers both in and out of the UK will need to stay up to date on changing regulations as Brexit continues to progress, and any change may directly impact many supply chains.

Despite the challenges, it is possible to mitigate delays due to congestion and equipment shortages. We've been able to help multiple customers avoid 10+ day delays by routing shipments through a different port or shifting freight across modes.

A disruption action plan is key to creating an agile, flexible, and well-rounded supply chain. ■

Change on the horizon

This crisis is an opportunity to make air cargo visible, attractive, smart, and sustainable, believes Celine Hourcade, managing director of Change Horizon and former head of cargo transformation at IATA and transition director of TIACA

In 2020, cargo has been the saviour of aviation: airlines, airports, ground handlers and air cargo contributed to make the world healthier and the economies connected.

We saw how a year in turmoil pushed this industry to work harder than ever together and advance in its digitalisation much faster than in the years before. A sign our industry can do it, it is time to accelerate the digital as well as the sustainable transformation of air cargo and ensure it gets the visibility, attention, and recognition it deserves in the boardrooms, at schools and universities, in politicians' agendas and in people's minds.

My wish for the coming year and decade is to not waste any more time nor opportunities to define sustainable recovery and how the 'good next days' should look – and make it happen.

In my opinion, the focus should be on these four strategic priorities:

Raise the profile of air cargo: Highlight air cargo' immense value on the global economic, social, and health systems and to aviation's bottom line. That is the role of industry associations at global levels like TIACA, and at local levels – especially through the local air cargo communities. CEOs and CFOs of airports, airlines, and ground handlers need to understand better the contribution of cargo to their company's success, to reprioritise cargo investments in adequate physical and digital infrastructure and skills. What can be done to help heads of cargo to demonstrate the value cargo brings to their company's bottom line and to their communities?

> *"It is time to accelerate the digital as well as the sustainable transformation of air cargo"*
>
> **Celine Hourcade**

Focus on people: Recognise the supply chain heroes; attract, develop, and retain talent; ensure diversity and inclusion in the workplace at every level. On that last point, I really expect drastic changes in the coming years: we need diversity in air cargo leadership, within boards, in the speaker line-ups at air cargo events!

Define the new air cargo business: Rethink business and partnership models to establish balanced and winning strategies for all; redesign the physical cargo journey, embedding digital technologies and automation. I have no doubt digital technologies will drive 'smartization' of air cargo: data will be shared and intelligently processed to ensure assets are smartly utilised, optimised, and maintained – and processes are efficient from start to end, maximising customers' satisfaction and business profitability. I am excited to see so many new or well-established companies embracing digital opportunities!

Ensure air cargo is a sustainable freight transport option: Encourage sustainable innovations and practices to reduce the negative environmental footprint of air cargo; invest in sustainable alternative fuels (SAF), new vehicles, eco-friendly packaging, lightweight material, alternatives to single-use plastic, as well as the development of unmanned aviation for the transport of goods where it makes sense. Governments have a critical role to play here to ensure regulatory frameworks support the production and commercialisation of SAF, the development of safe operations of new unmanned vehicles, etc.

Ultimately, I see this crisis as an opportunity to make air cargo visible, attractive, smart, and sustainable. ■

"We are taking a leap that would normally take us five years, and those new standards will remain the new normal after the pandemic is over"

Steven Polmans

In the spotlight

The COVID-19 pandemic has turned attention on air cargo – and the role of digitalization to facilitate the transparency, efficiency and agility that have become a 'conditio sine qua non' in today's processes, says Steven Polmans, chief customer officer at Nallian

The COVID-19 pandemic has turned the spotlight on air cargo. While passengers remained grounded, cargo always kept on flying. For many logistic companies, 2020 has actually been a good year. This being said, our industry remains very much connected to what's happening at the passenger side and as long as there's no recovery on that end, we will continue to feel the impact. While many actors can absorb this as they are benefiting from higher yields, others can't and they might potentially weaken the cargo value chain. But all in all, I think that as a sector we are doing ok.

Last year we said 'the only thing certain about the future is that it's uncertain'. This remains true today more than ever, with so many questions related to Covid-19: about the vaccines, about the vaccination programmes. Covid-19 may not change the outlook of the world, but it is definitely a catalyst that is accelerating and raising the bar for various things: think of the boost in e-commerce, telework, digitisation. We are taking a leap that would normally take us five years, and those new standards will remain the new normal also after the pandemic is over.

Digitisation is playing an important role in this new normal as it facilitates the transparency, efficiency and agility that have become a 'conditio sine qua non' (an indispensable condition) in today's processes – also in air cargo. As a nice side effect, it also helps respecting social distancing norms by reducing physical touchpoints. With air cargo moving 'front stage' – because of its crucial role in the distribution of Covid-19 vaccines and because of the value it keeps on generating regardless of the drop in PAX – we notice a growing interest in adopting digitisation: to streamline today's cargo operations, and to prepare for tomorrow.

I am expecting capacity to improve in the final quarter of this year and believe that by the end of the many lockdowns and restrictions, the economy will pick up and demand will rise. Until we achieve full recovery of capacity and demand, yields will probably remain higher than what we were used to pre-COVID. ■

Hoping for less growth this year

While 2020 was a record year for freighters and for Liege Airport, VP commercial Steven Verhasselt hopes for everyone's sake that the airport's health hub can be turned back into a passenger terminal soon. But the airport's ready for that not to happen

When first assessing the potential impact of the Covid pandemic for Liege Airport, in February 2020, I was asked by my colleagues to be realistic. My assessment was that passenger flights would come to an end, belly capacity would disappear, and the freighter market in LGG would flourish. I was told to not be too optimistic at that time. Fact was that I was optimistic for the airport, but pessimistic for the aviation industry and for our lifestyle. Unfortunately, I was right. By June, budgets were revised; three months later, they were thrown from the window. 2020 was a record year for freighters, for Liege Airport. And still...

I hope that 2021 will be the back-to-normal year. Our budget for 2021 has been based on the 2020 budget, not on the 2020 actual numbers. In a back-to-normal year, we still look for growth.

These have been exciting times in Liege, with projects completed with a little delay. The AirBridgeCargo hub in a dedicated WFS operated warehouse is fully operational. The Challenge Airlines hub, in a dedicated LACHS operated warehouse, is taking off. That will create great advantages for the Challenge Group, and additional third party handling capacity at Lachs in Liege South.

Cainiao hub

Later in 2021, phase 1 of the Cainiao Smart Logistics hub will be ready for operations after summer, and completely up and running for 11.11 Alibaba E-commerce festival. All that, while of course not forgetting all our partners who are in Liege already. The LGG Cargo Community, our integrator, all the airlines, handlers, freight forwarders, service suppliers, air freight truckers, and all the others will get all the support we can give. The airport infrastructure is more than runways and parking bays; we are working to develop access to the airport, 2nd and 3rd line warehousing, as well as digital infrastructure. On top of that, we want to continue cooperating with our colleagues worldwide: from Bangkok to Nairobi, from Pittsburgh to Hangzhou, we reach out for more collaboration.

All that in the back-to-normal year. In order to get there, we are pitching in, in fighting the virus and reaching the back to normal. The first shipments of vaccines have been handled in LGG with a great deal of care and attention. LGG has already had vaccine shipments from two pharma customers, different freight forwarders, handlers and airlines to and from different destinations. The cargo volumes in LGG in this are not important; reaching the final destination, and getting as many people as possible vaccinated is what counts.

On a local level, the passenger terminal has been turned into a health hub – a testing centre and hopefully sooner than later vaccination centre, for staff, crews and the local population; a vaccine logistics centre for shippers and freight forwarders monitoring vaccine shipments.

We sure hope the terminal can be used in 2022 for the return of passenger flights, the next edition of WeCargo, and our No Curfew terminal party for all the staff working on Liege Airport. ■

Emerging stronger

With 2021 set to be another challenging year, operators must stay agile and resilient to decisively adapt to changing trends, believes Dnata's VP for UAE cargo, Bernd Struck

2021 will be another challenging year for the industry, with continued solid demand for quality and safe cargo services and innovative solutions that deliver value. We will stay agile and resilient to decisively adapt to changing trends and emerge stronger from the COVID-19 crisis.

Continued travel restrictions on the passenger side imposed by governments due to the pandemic will continue to influence our overall growth pattern and keep belly capacity of passenger flights limited. However, we expect continued growth of courier and small parcel traffic as e-commerce continues to expand globally.

Vaccine distribution corridor

We are excited to see our role in the transportation of vaccines unfolding. Having invested significantly in our cold chain and pharma-handling capabilities in recent years, we are well positioned to move every pharma and vaccine shipment safely and efficiently, in compliance with the highest international standards. Our certified warehouses are capable of handling large volumes and can be further expanded when demand increases, likely in the second half of the year. We work closely with our partners and have joined forces with Dubai Airports and GMR Hyderabad International Airport to support them in creating a focussed Covid-19 vaccine distribution corridor.

We will continue to invest in cutting-edge technologies to further improve efficiency and offer more value to our customers. We will redevelop our cargo community platform, Calogi, to provide one-stop services, including appointment and customs services management, to the air cargo community. As a result of a recent investment, our just-in-time freight handling platform, which seamlessly integrates into Calogi, will reduce the average freight handling time at our cargo terminals by more than 60% to an average of 30 minutes.

"As a result of a recent investment, our freight handling platform will reduce the average handling time by more than 60% to 30 minutes"

Bernd Struck

Upskilling and reskilling staff

We will also continue to invest in training to upskill and reskill our staff in an effort to further optimize our resources and maximize efficiency across our operations.

We will cooperate closely with the Dubai government and our local stakeholders to support the 21st-century reincarnation of silk road traffic and optimize sea/air traffic through the emirate by introducing automation and pricing schemes. Furthermore, we will actively support the exhibitors of the Dubai Expo 2020, a fantastic event that will take place from 1 October, near our cargo hub at Dubai World Central airport (DWC). ■

Long-term benefits from short-term problems

The need for contactless cargo and remote working have forced through technological advancements that have kept the industry connected, changed our ways of working, and delivered significant time savings from the new workflows, highlights David Linford, director for global sales at CHAMP Cargosystems

As the pandemic struck in early 2020, our industry was brought to its knees as planes were grounded around the world. Crucial revenue was lost before supply chains could be re-established and the air cargo supply chain would be redeployed as the lifeline of our collective recovery from the pandemic. Responding to the immense pressure on the air cargo industry, this year has already seen delays and postponements in the digital transition of regulatory bodies and other organisations. The pandemic remains the key driver for the next year, with the key focus on the basics: fulfilling demand and streamlining operations.

While many of us transitioned to remote working, and others operating with reduced workforces and resources – the industry has proven itself resilient to sharp shocks to the system. Air cargo is the lifeline for a world in urgent need of PPE and other medical supplies, as well as doing its fair share of the distribution of the much-awaited vaccines. Likewise, air cargo has also become a lifeline to airlines with a grounded passenger fleet. An industry traditionally slow on the uptake for adopting new technologies, air cargo has been agile at this crucial moment. As we have seen from the examples – airlines, forwarders, GHAs, and GSAs are investing in technology and tools to remain competitive and serve the industry.

For 2021, there is reason for some cautious optimism as many airlines have shifted their strategy and looked at optimisation. With air cargo demand outstripping capacity, rates rocketed to unseen levels justifying the effort for airlines to reconfigure their passenger cabins for cargo, or 'preighters'.

"Many airlines have shifted their strategy and looked at optimisation"

David Linford

The immediate challenge for such conversions remains the safe and efficient cargo load planning for aircraft designed for pax travel. To meet this challenge, CHAMP has adapted its load planning solution, Weight & Balance, to accurately accommodate new weight distribution for cargo loading in passenger aircraft cabins, as well as the conventional cargo holds.

CHAMP's Cargospot Mobile application has supported GHAs going contactless and establishing COVID-secure working operations while simultaneously enhancing productivity in warehouse operations by 12-17% – offering long-term benefits to short-term problems.

APIs and portals offer flexibility

Solutions such as APIs and portals offer stakeholders the operational flexibility our industry needs to be responsive to changing circumstances and optimise their capacity. APIs allow shippers to keep updated on the progress of their shipments, GHAs to capture ULD weights from a weight scale directly into their cargo management applications, and forwarders to see lists of eligible flights for a routing and the prices for each. Personalised portals, enabled by such APIs, power airline and third-party sites to provide information and booking for available flights and rates based on latest data from their cargo management system, such as Cargospot Airline.

Others will use this moment to expand their service offerings. In recent years, visibility offerings have grown in demand from our customers' customers. As call centres operate remotely, and self-service portals and functionalities reach new peaks, forwarders choose to offer online tracking services – automating repetitive administrative tasks often done with time-zoned restrictive phone calls. As a result, both customers and providers operate more efficiently and happily with a superior service.

Even with travel restrictions in place, CHAMP and its clients still have been able to bring technological projects to life through the pandemic and will continue to do so in order to serve the industry's demand for air cargo capacity. Likewise, with the help of CHAMP Academy, customers have been able to on-board efficiently and safely by training staff remotely, bringing them up to speed wherever they might be.

'The new normal' is a phrase thrown around often lately – for our side, operations do continue as normal. As travel is still at essential-only levels, our technological advancements have kept the entire industry connected. All the while, everyone in air cargo has made significant time savings from these workflows. Indeed, being thrown into the deep end on such ways of working has resulted in many of us personally and professionally changing our means of working internally, as well as to the wider air cargo industry. ■

Building a resilient cargo ecosystem

Shipment visibility and connectivity has become more important than ever during this unprecedented period, which is best achieved through a community approach, believes Lim Ching Kiat, managing director for air hub development at Changi Airport Group

Amid a reduction in global air cargo capacity and disruptions to global supply chains as a result of Covid-19, Changi Airport has prioritised the restoration of its air cargo sector, with a focus on tackling the challenges with resilience and agility.

Covid-19 has resulted in an unprecedented grounding of passenger flights, causing a reduction in global air cargo capacity. Pre-Covid, the majority of Changi's air cargo capacity came from the bellyhold space of passenger flights. To close capacity gaps, our immediate response was to work closely with our airline partners to increase capacity on key trade lanes. Our airline partners were quick to respond by either increasing the utilisation of their freighter aircraft or repurposing their passenger aircraft for cargo conveyance, if not both.

During this period, shipment visibility and connectivity has become more important than ever. To boost the resilience and long-term competitiveness of Singapore's air cargo hub, the Changi Air Cargo Community System (ACCS) was launched in June 2020. This is an open ecosystem of collaborative and community-based applications underpinned by an information-sharing platform that aggregates data from all parties involved in the cargo handling process, to optimise operational efficiencies and enable end-to-end digitisation of the air cargo supply chain.

Efforts are ongoing to raise the preparedness of Changi's air cargo community in effective vaccine air transportation and handling, as well as to support a vaccination programme among the aviation community.

Vaccine-ready taskforce

Together with the Civil Aviation Authority of Singapore, Changi Airport Group (CAG) has established the Changi Ready Taskforce – a joint public-private taskforce comprising government agencies, forwarders, airline partners and cargo handlers, to enhance the preparedness of our air cargo industry in transporting and handling the Covid-19 vaccines.

The Taskforce has since created higher transparency of Changi's cool chain handling capabilities and capacity. It has also introduced enhanced Standard Operating Procedures (SOPs) to expedite the processing of vaccine shipments and mitigate exposure to temperature deviations. In parallel, the taskforce has formed a workgroup to identify data gaps and areas where the community can collaboratively improve end-to-end shipment visibility.

Beyond local collaborations, CAG and its ground handling partner SATS, are part of Project Sunrays – a global taskforce formed by TIACA and Pharma.Aero to create greater transparency between the vaccine manufacturers and the global air cargo industry, as well as to establish effective guidelines for the air cargo industry to ensure the proper handling, storage, and transportation of Covid-19 vaccines.

Cargo's pivotal role

Given Changi Airport's pivotal role in ensuring that Singapore's air borders continue to remain open, more than 20,000 frontline aviation workers have been

scheduled to receive Covid-19 vaccinations. This is an important step towards reviving the aviation industry.

The Changi Ready Taskforce is set to continue its efforts into 2021. With every vaccine shipment, there will be new learnings and improvements that the air cargo community can review and work on. Together with our partners, CAG will continue to focus on enhancing Changi's cool chain capabilities to support global

vaccination and the restoration of air travel.

The digital transformation of our air cargo sector will also continue to be a key priority in 2021. There are ongoing initiatives to identify and address data gaps, and to forge pharma corridors on key trade lanes to improve end-to-end shipment visibility.

Resilient sectors

Overall, we expect cargo segments such as e-commerce, pharmaceuticals and semiconductors to remain resilient in 2021. The growth trajectory of B2C e-commerce is likely to be accelerated due to the structural change in consumer purchasing behaviour, such as a higher reliance on online shopping. Semiconductor demand will remain strong with the higher consumption of personal computers, smartphones and home equipment as a result of home-based work and learning. In addition, global demand for pharmaceuticals will be boosted with the distribution of Covid-19 vaccines and therapeutic drugs over the next one to two years. ■

Cargo team spirit

Global cargo players have been working especially closely together since last year, and that collaboration has paid off, says Pierre Dominique Prümm, executive director for aviation and infrastructure at Frankfurt Airport operator Fraport

2020 will go down in history as aviation's worst crisis since World War II. No one would have ever imagined such a worldwide collapse of passenger traffic. Closed borders, grounded aircraft, and many people losing or fearing for their jobs: these are some of the negative experiences that all partners in the aviation industry had to deal with. And it looks as if it will take a long time for the aviation sector to get back to what could be considered normal.

Nevertheless, there were also positive developments during these challenging times. The air cargo business proved its vital role for supplying the world's population with urgently needed goods – such as protective masks and other medical equipment or technical products to enable remote work. At Frankfurt Airport, in December alone almost 181,000 tonnes of air freight were handled – the second highest volume since 2007. I believe, this is a great success that we can be proud of.

Closer collaboration

One important prerequisite for this success is the special cargo team spirit here in FRA. We are very proud of all of the global cargo players who are working closely together to ensure best results. Especially in 2020, all partners involved showed their flexibility and, in the end, that collaboration paid off. The pandemic put air cargo into the focus. We at Fraport believe that the current situation shows that close collaboration

"From this year, we will concentrate the cargo and the passenger development team under one management in the aviation division, to ensure the best people are working for our customers – whether cargo or passenger airline"

Pierre Dominique Prümm

of cargo and passenger marketing is indispensable to strengthen Frankfurt Airport as a whole. We work hard to ensure that Germany's biggest airport comes out of this crisis even stronger than before. One step to reach this is intensifying the possible synergies. That is why from this year on, we will concentrate the cargo and the passenger development team under one management in the aviation division. That way, we can strategically further improve Frankfurt Airport's attractiveness for all our customers – regardless of whether their business is focused on the cargo or the passenger area.

We want to bundle our expertise to continuously unlock new potential, by, for example, offering digital solutions. And we want to ensure that the best people of our organisation are working for our customers – no matter whether cargo or passenger airline. Even if the pandemic will further impact the aviation business in 2021, air traffic will remain a growth market in the long term. ■

Catalyst for a major re-set

The accelerated growth of e-commerce means it really is time to change air freight's traditional working methods, abandon paper-based processes, and embrace supply chain digitisation, says Wilson Kwong, chief executive of Hactl

The events of 2020 left a huge mark on the global economy, and badly dented expectations for the air cargo industry. Some markets were more badly impacted than others: Hong Kong came through more positively than most, buoyed by traffic re-routing from China, and as a result of large volumes of urgent PPE. These are subsiding now, while general cargo gradually recovers.

The distribution of vaccines will be our next big challenge, but this will also make up for the temporary loss of our normal markets. The accreditation Hactl undertook for WHO GDP and CEIV Pharma has proven very worthwhile – as it led us to re-engineer our facility and processes, so that we are now fully ready to play a key role in the global vaccine airlift of 2021.

For Hactl, the biggest impact of COVID-19 – apart from learning very quickly how to function effectively with a largely home-based workforce – was the sudden loss of so much belly capacity, to be replaced by freighters and cargo-in-cabin flights. We were ideally-placed to respond to this seismic shift in our market, given our experience in handling very large volumes of all-cargo flights, our highly-automated and very productive terminal, and our recent investments in streamlined IT and systems.

Freighter revival

It is interesting that, only two years ago,

"Two years ago, many were predicting the demise of much of the global freighter fleet"

Wilson Kwong

many were predicting the demise of much of the global freighter fleet. We now understand that more and more carriers are taking a fresh look at freighters and P2F conversions. I am sure there is also some discussion in airline board rooms and aircraft manufacturers about the viability of abandoned concepts such as quick-change and combis. If 2020 taught us anything, it was that an airfreight industry that relies heavily on passenger aircraft bellies is a vulnerable one. The air cargo industry needs to be able to respond more quickly and effectively, in the event that there is ever another pandemic.

For air cargo, COVID-19 was a huge challenge – but certainly not all negative. Rates had previously reached unsustainably low levels, and COVID-19 provided the catalyst for a major re-set as demand outstripped capacity, and shippers were compelled to reappraise the value of the industry. Some of the current rate levels will not persist as capacity returns, and that is probably as it should be – but we will hopefully end up with a healthier level of rates that provides the industry with the margins it needs for future investment.

Another positive was that air cargo finally came to widespread public attention in 2020. For the first time, people saw our heroes on TV, loading aircraft with desperately-needed supplies. Next time somebody asks you what you do for a living, you probably will not need to explain what air cargo is!

E-commerce wins

The big winner in all of this has been e-commerce. Locked-down consumers around the world were forced to look online for the goods they had previously bought on the high street. The logistics industry and postal authorities have done a remarkable job in responding to the resulting huge overnight growth. We in air cargo are part of that, and at Hactl we are investing in a new e-commerce fulfilment centre that will enable our customers to compete more effectively for this business.

Although e-commerce will clearly continue to grow, we cannot afford to be complacent. Consumers are now in the driving seat, and they demand reliable, fast and visible supply chains. The lesson we must all learn is that it is really time to change our traditional working methods, abandon paper-based processes and embrace supply chain digitisation. If any of us stand in the way of this progress, we will simply make ourselves redundant. ■

Air freight's post-pandemic opportunity

Covid-19 has accelerated digitalisation and our appreciation of its value. Those who understand that 'information is power' and react now to research, respond and invest can be ready, when supply and demand normalise, for a profitable post-Covid future, argues Stan Wraight, president and CEO of Strategic Aviation Solutions International

The pandemic has disrupted supply chains around the world. This event has created both challenges, especially for those who have been slow or unable to change, as well as significant opportunities. In a recent study published by the Council of Supply Chain Management Professionals, it was stated that "… while historically, it's been costly for companies to develop and maintain an accurate map of their supply chain today, with the right partners, the process can be much more streamlined and efficient". New logistics models offering innovative and cost-saving solutions being developed in Singapore and at Georgia Tech in the USA, for example, should be raising flags in strategists when it comes to the future direction of air logistics.

Transport companies don't create markets; they serve them

Identifying those opportunities of new, and also leveraging existing, markets will be a key element of the future possibilities for stakeholders in air cargo logistics going forward. Will airlines, GSSAs, GHAs and airports now understand what "right partners" actually means? Those that do not comprehend and make those changes required in the short term to be competitive post Covid may prosper for a few more years, but we believe that those many household names that do not will disappear, as we have seen in the past year.

The markets we serve, the products we offer, and who are 'we'?

Technology is at the forefront of post-Covid planning by beneficial cargo owners (BCOs) – the clients who ultimately own the product and, in most cases, make the decisions about logistics. They are demanding efficiency, transparency, speed and quality from their suppliers as they too struggle to survive. These shippers and consignees will not be willing to stand for inefficient solutions any longer when so many alternatives are available from e-commerce companies, mega forwarders on lanes where they are strong, and integrators. Forwarders know that prices charged to BCOs, the difference between buy and sell with airlines, can easily be found out with the internet; transparency and automation alone will force change.

> *“Shippers and consignees will not be willing to stand for inefficient solutions any longer when alternatives are available”*
>
> **Stan Wraight**

For now, I will only focus on who the “we” are who can immediately benefit – no matter what the future holds – by highlighting a few unique selling points (USP) “we” have.

The airline advantage

Any airline operating modern wide-body capacity offer capacity the quickest and most secure capacity available globally. Nothing is faster between Asia and North America or Asia and Europe than a non-stop flight, in both directions. A modern wide-body has on average 10 lower deck pallets (LDP) as a minimum and, depending on route, seasonality, available payload, at least 15 metric tonnes to offer the market, and never less than 100 cubic meters of volume. To leverage that advantage, they must change their behaviour towards suppliers, especially on the ground, from one of cost reduction, to one of revenue enhancement at sustainable costs for both. Through available technological solutions, a very efficient and beneficial-for-all cost structure can be achieved; it is a proven fact. It can and has been done; we have called it for years in SASI the “virtual integrator” model and teach it in our training modules.

Ground handling operations: A mindset change

Delays and problems in GHA facilities are on the cusp of change, as airports more and more are realising that cargo has to move from a real estate transaction to a marketing tool. GHA activities must support airports in ensuring the profitability of the airlines that want to serve their airport. Developers at progressive airports will be told they will only be welcome if the GHA in the buildings (tenants) deliver capabilities that the airline clients will be demanding. More and more route development managers are now telling airports on international services that air cargo is critical for profitability. Typical when low-cost leisure passenger seats resume their downward spiral Post Covid will be that all sources of revenue must be considered core business. And nothing now or in the future offers more potential for airlines to increase profitability and succeed than air cargo for revenue enhancement and cost reduction. The mindset of airlines that cutting costs through stakeholders such as GHAs must stop and return to a menu of services costing approach.

Developing USPs

There has been much publicity for years now

re pharma and e-commerce. A herd mentality towards commonality solutions which in the end will add nothing to the bottom line, but will massively increase costs, must stop. No BCO wants to hear how you will handle cargo that dwells in a warehouse; they want to hear how fast you can move it from aircraft to their waiting trucks – in minutes and hours, not days. Developing USPs will be the way to differentiate as a GHA, in meeting the demands that full transparency to all, speed and quality in product offering, will give in a sustainable future. GHAs have to secure their position as strategic partners to critical stakeholders, work with the airlines' marketing people, and assist in every way possible in finding solutions to deliver the missing elements in a desired airline product portfolio.

> *"No BCO wants to hear how you will handle cargo that dwells in a warehouse; they want to hear how fast you can move it"*
>
> **Stan Wraight**

This will require a mindset change; the often-heard statement that "the airlines won't pay for it" has to stop. Indeed, some will not; but those that do are the clients you must fight to secure, because they are the ones that are the future. If GHAs position themselves this way, they have the USP that airlines will embrace.

> *"The often-heard statement that 'airlines won't pay for it' has to stop. Some will not, but those that do are the clients you must fight to secure, because they are the ones that are the future"*
>
> **Stan Wraight**

Airports: Positive examples

Many airports globally stand out for their appreciation of air cargo, how they have been working for years to position themselves as "freighter friendly" – especially in Europe, the Gulf and Asia. Driven by their own economic needs, but also to serve the economic needs of BCOs in their catchment area or country, they have adapted and invested. Just think about China for an export-driven economy; Liege and Leipzig in Europe for their own economic necessity; special facilities for products such as flower handling in Columbia, Ecuador and Kenya; and Rickenbacker in Ohio to serve the numerous distribution centres they have attracted over the years.

Yet major airports in the USA, Canada and increasingly Europe are either playing catchup, or in some cases really falling behind with regressive moves. Going forward, those airports that understand what must be done in cargo to support a resurgent passenger market post-Covid will see the growth.

Prior to Covid, especially on longer-haul international services, route development managers considering new routes have taken a strong interest in what the cargo market offers, what facilities offer for their cargo marketing objectives, and the contribution that can make on their operation. What type of aircraft? If wide-body, what gauge? If it's not just seats anymore in decision-making, how can an airport show that the route can be sustainable? If for the next years, as the passenger market slowly recovers, you don't need a B777 flying the Atlantic for 100 passengers, when a A321 Neo or 737 Max can do that job very profitably, can cargo make the difference?

Technology and the 'virtual integrator' product

Tying all the "we" elements together, in order to maximise revenues and for a great part substantially reduce costs, will be technology – in warehouses, in airport cargo community systems, and in inter-airport cooperation – to make a SASI-defined 'Virtual integrator' product portfolio possible for airlines.

Airlines must now step up and support all airports, GHAs and any other stakeholders who provide and support your objectives through technology. Trucking companies for RFS services, brokers and forwarders, GHAs and airports are examples of those who must be encouraged to step up. Everything surely has a cost, and through forging a better and more-transparent conversation between all parties, this can be minimised. GHA can save money through greater transparency in knowing what to expect, how to plan resources –most importantly staff; advance information is the greatest tool in planning. Reducing dwell time in warehouses so more cargo can in less space; and most of all, eliminating the need for large and expensive infrastructure in warehouses that technology could negate the need for, must be analysed.

The world is moving to the UN-recommended "single window" initiatives for all modes of transport. China is embarking on complete adoption of E-freight, which serves its belt and road initiatives. Fast containerised trains for cargo moving at 350 kms per hour are already developed, and the rail and infrastructure to support it between Asia and Europe is being built. If trains can move goods in 7 to 9 days from Asia to Europe with many of the air restrictions regarding DGR, etc., eliminated, why would you choose air freight?

The only market left will be the 24/48-hour segment, so all of the above has to be considered and thought through now in the boardrooms to be prepared.

Conclusion: The benefit of hindsight – and experience

Having the benefit of hindsight, I now know what we did wrong in the past, as well as having insight into the possibilities to correct those mistakes. 35 years ago, we as an industry gave away the express and small package market to integrators who understood the customer's (BCO) needs, and how to organise around that. At the same time, though airline incompetence and market ignorance we, through IATA, gave away the rest of the possibilities to retain yield through pallet pricing and giving away customer relations – the only true source of information on the needs and demands so the customer (BCO) can succeed – to forwarders.

Imagine what that decision to go to pallet pricing, which was totally driven by reducing handling costs at airports, has done to intermediaries' positive profit margins in the past years – at the expense of airlines' ability to finance investments and support the high capital costs of running an airline. The forwarders seized the opportunity, and with full understanding of the BCO's needs created the product they wanted: time-definite consolidations. The airlines' ignorance and rush to common solutions through IATA, without understanding at all the ultimate client's requirements, shot themselves in the foot. Now both parties have a common problem and must start to recognise that the relationship must change.

With few exceptions, meaning the mega forwarders, SME forwarders without the tools to compete and resources to invest in the technology needed cannot be counted on to survive, unless there is a mindset change in the forwarder-airline dialogue and what products can be offered. Who would have thought five years ago that Panalpina would no longer be a household name? In an interview with one of their senior managers before the sale, they were very clear: consolidations take too long, they are no longer competitive in the under-300 kilo market, and prices are so transparent they could no longer see any other solution. I see a future for these forwarders, especially the regional SMEs, if airlines give them the products they need.

Will the airlines and their critical partners, like airports, GHAs, GSSAs and IT companies, now understand the opportunity this presents, or again fall back into load factor, FTKs and cost-reduction modes so typical of the past?

Glass half full – or more

We at SASI do not see the glass as half empty; we are very positive and see it as half full – and even better than that, because we know airlines and airports that are starting to understand and react. But sadly, many are not, and that includes some of the biggest names in the industry. Many all-cargo carriers were near or close to bankruptcy serving the traditional market pre-Covid and only survived due to Covid charters that still pay better than twice cost. What will happen when things return to normal, whatever that may be?

Airports and industry associations are letting go of cargo professionals when they should be incentivising them to stay; GHAs are struggling due to pressures either from passenger handling revenue losses, clients stating they are suffering and you must share our pain, or private equity companies' short-term thinking. GHA management have to engage now and react, educate and – although tough – invest. Solutions are available at variable cost, so the lack of cash flow is no excuse anymore.

The best will survive, and those that work on the premise that 'information is power' will invest in that, prepare, and be ready for the post-Covid future that can be a very profitable one for those who research, strategise, invest, and react now.

"The best will survive, and those that work on the premise that 'information is power' will invest in that, prepare, and be ready for the post-Covid future"

Stan Wraight


CHAPTER 2
REWILD THE PLANET
Because WeQare,
we act to preserve wildlife.
Qatar Airways Cargo is committed to preserving our legacy for the next generation. Ecosystems cannot exist without wildlife, and humanity cannot exist without ecosystems. This is why Qatar Airways Cargo brings wild animals back home, free of charge.
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