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Game-changing new  
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## Opinion: Managing a super-peak

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# Editor's NOTES

Will Waters

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## Waking air freight's digital potential

After navigating last year's extraordinary challenges, air freight and the entire logistics sector and its customers have continued to battle this year with a further set of unprecedented circumstances.

For those with still-collapsed passenger-related businesses, the challenges may still be existential. For freighter specialists, it may mean coping with rapid growth and volatility. And customers and supply chains face different, major issues. As Kuehne + Nagel's Frank Sumerler observes on page 32: "We have had crises before, but never before both sea freight and air freight at the same time... for a sustained period."

With the return of long haul widebody passenger services to pre-pandemic levels still some way away, Sumerler expects forwarders will continue relying on freighter capacity much more than pre-pandemic for the foreseeable future – and for the trend among forwarders to build their own-controlled freighter capacity networks to continue.

It seems this winter's peak season is going to be a particularly severe bunfight, with most scheduled and charter capacity booked well in advance, and Covid-related shutdowns adding to the complexity, volatility, and crunch on capacity. ACL Airshop's Steve Townes offers some tips on page 30 on managing a super-peak. Meanwhile, air freight continues to play a vital role distributing vaccines and other key products globally. Leading pharma logistics players have been learning lessons triggered by the pandemic, and its 'accelerator effect' in certain areas (page 38). The rising collaboration between stakeholders in some cargo

communities and organisations like Pharma.Aero are impressive examples.

Many see the work being done via leading airport cargo communities, systems and platforms as game-changing, (page 18) with the arrival of cloud-based technology supporting a new breed of collaborative ecosystems offering the potential to significantly improve transparency and efficiency of cargo processes and resources. Frontrunners are beginning to see some benefits of this.

And as Menzies' Rory Fidler points out in the Handling Technology article on page 4, as the flow of data between handlers, airlines and forwarders improves, airlines and forwarders "are getting to the point of shedding the paranoia about sharing the air waybill data on a platform".

This seems to be key to accelerating change management via new technology: once people see the benefits outweigh the risks of sharing data, they come on board. As many of us have in sharing our personal data with the likes of Google, Amazon and various social media and networking platforms. Up to a point!

And as GSSAs have found (page 10), we don't need to see automation technology as a threat, even if it replaces some of what we do. Despite airlines' growing use of digital sales and booking platforms, sales is just a small part of a GSSA's role. And GSSAs are continuing to see strong growth, as carriers seek to outsource ever more of their cargo functions. They just may spend a bit less time emailing rates sheets – or faxing them...

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# Contents / AUTUMN 2021



Issue 35 2021  
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ISSN 2054-8958



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#### Published by:

EVA International Media Ltd  
Boswell Cottage  
19 South End, Croydon  
London, CR0 1BE, UK

Tel: +44 (0) 20 8253 4000  
Fax: +44 (0) 20 8603 7369

www.evaintmedia.com

#### Printed by:

The Manson Group Limited  
St Albans, Hertfordshire  
AL3 6PZ, United Kingdom

#### Distributed By:

Central Mailing Services  
59-60 Gravelly Industrial  
Park, Tyburn Road,  
Birmingham, B24 8TQ, UK



#### 04 Handling Focus: Technology Breakthrough

Cargo handlers and their customers are seeing the benefits of greater data visibility on the ability to analyse and improve the efficiency of operations

#### 10 GSSA Report: Beyond Sales

Despite growing use of digital booking platforms, carriers are still keen to outsource cargo services, including a growing range of functions



#### 18 Airport Cargo Communities and Systems

Cloud-based technology is supporting a new breed of platforms and ecosystems. And developments have accelerated, as Covid has heightened companies' motivation to digitalise and collaborate

#### 30 Opinion: Managing a super-peak

This year's fourth quarter will be an unprecedented challenge, believes ACL Airshop's Steve Townes. But with the right attitude, it's an opportunity for strong companies to excel



#### 32 Forwarder Interview: Kuehne + Nagel

Frank Sumerler, SVP for air logistics development, believes the rise in freight forwarders building their own-controlled freighter capacity networks will continue in the post-pandemic world

#### 38 Vertical Focus: Pharma Logistics

After successfully managing the huge challenge of keeping PPE, vaccines and other goods flowing, air freight's healthcare logistics leaders are building on any lessons and 'accelerator' effects triggered by the pandemic



#### 46 Handler Interview: Dnata

CAAS talks to Bernd Struck, senior vice president for UAE Cargo and DWC Airline Services, about recent industry developments and local and global initiatives

#### 50 Airport Focus: Leipzig/Halle

LEJ has prospered despite – and to some extent because of – the Covid-19 pandemic, boosted by booming demand for all-cargo flights and its express and e-commerce customers



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# Technology breakthrough

With digital cargo data becoming increasingly available from multiple sources, handlers and their customers are beginning to see the benefits of greater visibility and the ability to analyse and improve the efficiency of their operations, reports Ian Putzger

Visibility of air freight containers and pallets has taken a huge step forward with the deployment of Bluetooth readers and tags, and this process is now well underway among the major multinational cargo handlers. Dnata has completed the worldwide roll-out of Unilode and Descartes technology in its facilities; Swissport's drive was delayed by COVID but is now approaching completion; and Worldwide Flight Services (WFS) started its network-wide deployment last December.

And some of the benefits have been immediate – and go well beyond the ability of carriers and handlers to keep track of the ULDs themselves. “From the moment we had them installed, forwarders were able to collect shipment data on these readers as well,” reports Hendrik Leysens, Swissport's vice president for global cargo operations. “Previously our facility was a bit of a black hole for them. Now they can collect data, for example temperature data for pharmaceutical goods.”

The technology is quickly taking root. It serves as a platform for Dnata, airlines and forwarders to access informa-



tion that previously required communication between their respective IT systems, remarks Terence Yong, cargo development director for Asia Pacific at Dnata.

### Enhanced visibility

“It’s becoming one of the expectations of carriers,” he highlights. “Basically, it enhances what we can offer in terms of visibility.”

In Australia, where the imbalance of imports and exports has led to ULDs piling up as airlines cannot rotate them fast enough, the enhanced visibility helps Dnata work with carriers and forwarders to pinpoint where the boxes are and how long they have been there.

And the flow of data between handlers, airlines and forwarders is improving.

“Airlines and forwarders are getting to the point of shedding the paranoia about sharing the air waybill data on a platform,” says Rory Fidler, vice-president for cargo technology at Menzies Aviation.

“

*Airlines and forwarders are getting to the point of shedding the paranoia about sharing the air waybill data on a platform*

”

**Rory Fidler**

Still, he finds the progress so far rather slow. “In digital data flows, I don’t think a huge step forward has happened, but I think where we will start to get quick acceleration is in airport cargo community systems,” he explains.

Etip Pektas, CEO of Chicago-based handler MIC, observes: “I think people want that to happen. Some forwarders want scheduled pick-up times”

Most up-and-coming cargo community

systems (CCSs) are concentrating first on truck management before adding other functions, but some handlers are also going it alone on that front. Last November, Dnata introduced a cloud-based truck appointment and dock management platform at its Dubai base, which seamlessly integrates into the handler’s Calogi system. The platform considers multiple parameters, such as shipment characteristics and vehicle types, to identify the optimal slot. It also leverages data on historical behaviour.

all that data. Today it’s more in a stand-alone solution,” he remarks. “This is one of the elements that fit into a bigger scheme of data integration.”

In early September, Swissport began the introduction of a new mobile application developed by CHAMP Cargosystems that allows the handler to record every step of the warehousing process. In conjunction with real-time visibility, this will allow customers to keep track of their shipment status according to Cargo iQ standards. According to Leyssens, this opens the



*Enhanced visibility has helped Dnata work with carriers and forwarders to pinpoint where ULDs and their cargo are*

### More developments to follow

While the flow of data from the newly installed sensors in Swissport’s warehouses to handlers has exceeded expectations, for Leyssens there are more developments to follow. “The next step is to really integrate

door for new tools that Swissport will deploy down the road. Moreover, it is driving in the same direction as the integration of new sensor technology, giving customers and warehouse staff more data at their disposal, he said.





**Rory Fidler,**  
Menzies



**Terence Yong,**  
dnata



**Hendrik Leysens,**  
Swissport

“A lot of value, for ourselves and our customers, sits in this data. When we start connecting all these building blocks, that is incredibly powerful,” he reflects. This drive aims towards the establishment of a new IT platform. “When we start connecting these building blocks, the idea is to build this ‘brain’ in the middle. There are so many possibilities we would have – looking at dynamic storage, looking at yield management, volume optimisation or workload distribution,” Leysens adds. Pektas also emphasises the need of a core system to integrate the different technologies his company has invested in. It is currently in the process of installing the iCargo system, which was chosen in part because MIC could drive more analytics off it. Until the platform is in place, MIC won’t be able to fully pursue its plans with AI, he says.

**Unified platform critical**

Menzies’ Rory Fidler also regards the establishment of a unified platform as critical, with data channels that can manage electronic messages and standardise them. “It’s about unification, it’s about messaging and data, it’s about ensuring it’s efficient and you can automate redundant tasks,” he says. Swissport will look into the platform scenario in the next 18 months, Leysens says.



Swissport is replacing half of its ramp fleet with electric vehicles by 2025

“  
***A lot of value, for ourselves and our customers, sits in this data. When we start connecting all these building blocks, that is incredibly powerful***  
”

**Hendrik Leysens**

Before Menzies goes for a core system it will first implement a control tower that is driven by business intelligence at messaging level. “You can’t control anything until you measure it, so introduce a concept of a business intelligence analytics-driven control centre that allows you to see and monitor your global operation,” Fidler says, adding that this should go towards being able to manage the operation by exception rather than by every shipment.

One challenge he sees on the way to a central platform is the absence of commercial solutions that accommodate the sometimes-vast difference in size of operations, which has significant ramifications in terms of the requirements. “One size doesn’t fit all. Small stations don’t need the complexity of a big hub,” he explains. “What needs to change is a solution that fits the size of the warehouse and the throughput, an ABC-type set-up.”

The cost involved is another factor. Investments like those made by Amazon or DHL are not viable in an environment where most tenders come up every three years. “It’s a unique commercial position which completely strangles investment,” he said.

#### Pandemic’s acceleration effect

In the meantime, handlers continue the quest to digitise processes, a vital element to enable the advanced data capabilities

that they aim to develop in the future. The pandemic has accelerated this drive, owing to the desire to minimise human touch points, Dnata’s Terence Yong notes.

Dnata is digitalising the acceptance process and is now leveraging automation in this process to measure outbound cargo. In Singapore, it has been using new technology called ‘Cargo Eye’ that combines 3D cameras with proprietary algorithms to accurately capture shapes and dimensions of cargo. This is backed by ‘Cargo Mind’ for the planning process, which helps maximise what can be loaded on a flight by ensuring better distribution of cargo across various ULDs, in line with all safety parameters and airline rules. The Dubai-headquartered handler is planning to implement this similar automation in other locations. “That’s being looked at in Sydney,” says Yong. The handler is about to expand its footprint there. Menzies’ Fidler is also impressed with the

Cargo Eye technology. “I’d like to have the dimension piece and some sort of proof of concept in place in our Heathrow facility by the end of Q1 next year,” he says. He intends to use Menzies’ terminal at the London airport to develop some level of innovation and pilot concepts to be rolled out elsewhere later on.

#### Data analytics advances

With data analytics capabilities on the advance, Fidler views pallet building and space utilisation as the first areas where these will make their mark in air freight handling. He sees potential gains in the region of 10% from the use of these tools. Dnata has already been leveraging data analytics and insights for forecasting and advance planning. Among other things, managing an on-demand workforce depends on data from the system, notes Yong.

Swissport is also using AI for its weekly and monthly forecasts. This uses some

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external macroeconomic data sets in combination with historical data. “The next bridge to cross is to elevate this technology to a more granular level,” says Leyskens. For instance, this could indicate how many trucks are expected at which point in time and what loads they carry, allowing the handler to prepare accordingly.

All of this is based on digitalisation and adequate data quality.

“This is the prerequisite that automation works,” says Yong. “Without proper and rich data, there’s really no AI.”

Overall, he has no complaints there. Most airlines are now Cargo iQ-compliant, which guarantees a minimum quality standard there, he notes, so Dnata can use their information without problems. “Internally we may need to do a bit of mapping to make sure the data flow is accurate,” he adds.

#### **Augmented reality in the warehouse**

Meanwhile, IATA has been championing the use of augmented reality (AR) in the warehouse. In 2018, it was involved in a pilot which indicated that operators could achieve a 30% improvement in the speed of cargo handling and a 90% reduction in errors through the use of AR.

Some logistics warehousing operations have already leveraged augmented reality, equipping their employees with smart eyewear, but in air cargo warehouses this has yet to make a major impact. Apart from some training purposes, Swissport is not looking very closely at augmented reality at this point.

“You need a strong and intelligent warehouse management system behind that. It comes down to having this ‘brain’ in the centre before you use augmented reality,” observes Leyskens.

#### **Pilots of wearables**

In terms of using wearables, Swissport has used smart watches for a few pilot projects, mostly on the ramp, such as feeding information on a flight to crew members.

This autumn the handler is running a pilot project in its cargo terminal in Frankfurt. It is testing an automated guided vehicle developed by Lodge Industries, a supplier of air cargo terminal equipment. With a load capacity of up to 6,800 kilos, this autonomous vehicle can transport a variety of ULDs. This eliminates the need for fixed routes in the warehouse.

“It’s a nice addition to our standard infrastructure blueprint,” says Leyskens. “It helps us be more flexible. There’s no need to install fixed equipment, so we can adjust a lot quicker.”



**Use of robotics**

Although elements of robotics are increasingly being used in logistics warehousing, particularly among e-commerce fulfilment processes, its use in air cargo handling has mostly remained limited to the odd pilot study or express operator handling regular-sized, smaller shipments. But Hactl has been looking again at where it might be meaningfully deployed and has devised a new automated parts store for its handling systems which features a robotically operated dispensing system for urgently needed spares that can be accessed around the clock.

This robot, which can lift up to 40 kilos, manages over 200 multi-compartment bins that hold the most commonly used parts. Technicians can simply scan the code for the required parts and the quantity needed, whereupon the robot takes the shortest route to retrieve the parts and deliver them. And Dnata is looking at the use of a robotic

arm to help with the container build-up. This unit can pinpoint the exact cargo where it is staged in a project that is currently in the proof-of-concept phase, says Yong.

**Sustainability theme**

While much of the talk around technology is about efficiencies and new possibilities, the theme of sustainability is also now coming up more frequently and more strongly. Leyskens sees the strongest potential there in the digitisation. “We can make quite a few isolated efforts,” he says, pointing to the fact that Swissport’s facility in Frankfurt is solar-powered, and to the company’s commitment to replace half of its ramp fleet with electric vehicles by 2025. “But in the end, I feel data and technology will open doors to do more on a larger scale. That will have a bigger impact than certain isolated events. We really need to look at the entire lifespan of a shipment.” ■

“  
*It’s becoming one of the expectations of carriers. Basically, it enhances what we can offer in terms of visibility*  
”

Terence Yong

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# Going far beyond selling

**T**heir airline clients may still have a lot of widebody aircraft on the ground, but GSSAs have reported strong increases in their business in the last 12 months – despite airlines’ growing use of digital booking platforms.

For example, ATC Aviation Services, which has a network of offices across Europe and the Americas, China, India and South Africa, handled 170,000 tonnes of air freight in the first seven months of the year, an increase of 31% over 2020, says CEO Ingo Zimmer – although that is admittedly compared with an extraordinary period last year. According to Zimmer, ATC has been dealing with an “incredible number of tenders” every week.

In part, this growth is due to record high load factors, but there are also many airlines looking to GSSAs to shoulder more business. “We’ve gained a lot of new customers,” Zimmer says. And there will likely be more.

“Airlines want to get rid of fixed costs. The process of outsourcing is ongoing,” he observes.

Despite airlines’ growing use of digital booking platforms, GSSAs are unconcerned and seeing continuing strong growth in carriers seeking to outsource cargo sales and services, reports Ian Putzger







Stephen Dawkins, CEO of Air Logistics Group (ALG), also sees “many opportunities”, noting: “A lot of airlines are looking at outsourcing. There are many new airlines that are looking to a third-party company to sell and manage their capacity.”

#### **Total cargo management**

And the range of services provided continues to grow, including among more

established or larger cargo carriers. For example, Air Malta recently renewed its “Total Cargo Management” contract with Network Airline Services (NAS) for another two years. Besides marketing the carrier’s capacity, this includes revenue management, reservations, accounting, back-office administration, IT systems, cargo handling and interline contracts.

“Total cargo management is usually for

“  
*The question is what happens if things don’t go to plan, if there’s a problem with the documents, or three boxes are missing?*  
 ”

**Jens Tubbesing**



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smaller or mid-sized airlines, but some bigger ones are also using it,” remarks Zimmer. ATC does not have a complete outsourcing contract at this point but is currently working on such an arrangement with an airline.

#### Multi-market deals

While many carriers are still balking at the idea of outsourcing their cargo department altogether, there is a growing willingness to engage with a GSSA for more than one route or market, he reports. ATC recently signed two agreements that give it the respective airlines’ capacity to sell across Europe, and another recent deal is for six countries.

“In the past there were lots of single contracts; now there are more global and regional deals,” Zimmer says.

In light of the shortage of lift to meet demand, which has driven load factors and yields into the stratosphere, airlines might feel tempted to simply put their capacity on a booking platform, but most are leaning on their GSSAs to maximise their loads.

“Airlines want to maximise the tonnage on their aircraft. They’re looking for more services from us,” says Joe Lawrence, president of Airline Services International (ASI).

Servicing what you sell

“This is where the second ‘S’ in ‘GSSA’ comes in,” says Dawkins. “It’s not just selling, but servicing what you can sell. Get as close as possible to the airline, work with handling companies and truckers. It’s about taking ownership of cargo.”

Because of this, he and Zimmer are not fazed by the traction that booking and pricing platforms like Web-Cargo or cargo.one are gaining.

“Airlines are using platforms just for booking. That’s maybe 5% of my job. We have to plan the flight, make sure ULDs are available, organise truckers, and a lot more,” Zimmer explains.

“  
***Airlines are using platforms just for booking. That’s maybe 5% of my job. We have to plan the flight, make sure ULDs are available, organise truckers, and a lot more***  
 ”

**Ingo Zimmer**

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Some larger carriers are now looking at full cargo management outsourcing

Moreover, these platforms are almost exclusively used for general cargo that does not require any special attention. "A lot of shipments are not standard, and not everything is point to point. You may have to interline cargo, or you have a transit through an airline hub," Zimmer says.

Jens Tubbesing, CEO of Airline Network Services (ANS), views these platforms as a logical progression in the industry's move to digitalisation, but he points out stumbling blocks. "The question is what happens if things don't go to plan, if there's a problem with the documents, or three boxes are missing?" he remarks.

#### GSSA booking platform

ATC is close to launching its own online booking platform. It will first come into play in Germany for capacity on one or two of the company's airline clients, says Zimmer. Subsequently, it will be rolled out through the GSSA's network, with more airlines coming on board. The ultimate goal is for all participating airlines' capacity to become available for online booking in all

32 countries where ATC has a presence.

#### Fast access to pricing needed

In the current market conditions fast access to pricing is critical. "The key is how quickly can you get a quote from an airline to customers so they can book as fast as possible. That's going to be key for the next two years," Dawkins remarks.

"Digitisation is the key. We continue to digitalise our business," he continues, adding that this extends far beyond websites and booking, including elements like back-office functionality, providing accurate information to forwarders and speed to market. Zimmer is also driving digitalisation with a view to automating more time-consuming processes. ATC has introduced bots that read e-mails from customers and enter the monthly bookings into the system.

"We're also working with the data lake, where we're using information from different sources, for example to do market studies for airlines," Zimmer says.

#### Market intelligence role

For ALG, market intelligence, obtained from several sources, is also an important

tool. "We brief airlines on markets and where to go," says Dawkins. These briefings include information about challenges and opportunities to find solutions as well as on issues in other modes serving those markets.

"We encouraged airlines to open direct flights to some destinations, maybe with smaller aircraft. For example, fly direct to Philadelphia with a freighter instead of flying a freighter to Chicago and trucking to Philadelphia," he explains.

“  
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 as possible. That's going  
 to be key for the next two  
 years*  
 ”

Stephen Dawkins



One new element that GSSAs have had to grapple with is the rise of passenger planes flying cargo missions.

“We’d never done cabin loading before,” says John Gilfeather, sales director of NAS. “For a lot of airlines, cargo was a by-product. In the pandemic, cargo had to cover the cost of the entire operation. We had to understand the full operational costs and present a business case to operate as cargo-only.”

When NAS worked with Avianca on such plans, it had to take the carrier’s full network into consideration, not only the route from the UK to Bogota, he recalls.

### Slow return of belly capacity

Zimmer does not expect belly capacity to make a full return to pre-Covid levels any time soon. He notes that people tend to travel regionally rather than longhaul these days. Moreover, airlines have increasingly been deploying narrow-body passenger planes like A320s and B737s on interna-

tional routes, replacing small widebodies, he adds.

ATC has a number of freighter operators in its airline portfolio, which make up the majority of the GSSA’s overall lift at its disposal. “Capacity on passenger flights is limited. The key is freighter capacity,” Zimmer says.

The company set up a charter department during the pandemic. In addition to scheduled activity, it has organised quite a few charters over the past 18 months. “Our charter department has been super busy,” Zimmer explains.

### Charter service need

For ALG, charter has been a huge part of its activities recently. “We’ve matched airlines to provide solutions. We’ve operated over 2,000 charter flights last year,” says Dawkins.

Charters have also been a massive part of Air One Aviation’s business. In the first 12 months of its tenure representing Aerotran-

scargo, which had previously fielded its four B747-400 freighters purely on an ACMI basis, the GSSA generated over 145,000 tonnes of cargo for over 1,300 flights.

Canada-based ASI demonstrated that GSSAs can do more than serve exports from their home patch. It has organised several charters this year, of which some were into Canada, reports ASI’s Joe Lawrence.

### Backhaul sales role

Opportunities for charters have increased markedly. Dawkins points to Chinese freighter operators that have recently begun to expand internationally. While their outbound loads are strong, they need support to market the capacity on their planes on the backhaul, and ALG is happy to assist.

Dawkins sees this as an attractive opportunity for the coming three years for GSSAs. “We can generate maximum yield for the airline,” he says.

By the same token, the move of a

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growing number of forwarders to secure dedicated freighter capacity to serve key markets opens opportunities on the backhaul for GSSAs to sell excess capacity, notes Zimmer.

**New lines of business**

Attempting to broaden the scope of services they can offer to their airline clients, GSSAs have also added new lines of business. ATC added on-board courier service to its portfolio. “In each of our origins we’ve got one OBC that we represent,” says Zimmer.

ASI has had good experiences with OBC business over the past few years. During the pandemic it changed providers. The new set-up gives Lawrence and his team more scope for selling.

“Besides door-to-door by air, we now offer door-to-door by ground as well. That’s changed the dynamics a bit,” he reports. “With OBC we were limited with the size of our shipments; now we have no restrictions with size.”

ALG is also broadening its portfolio. “We continue to diversify. Selling is now probably only 25% of our business,” says Dawkins.

**Interline changes**

Over the years, the larger GSSAs have leveraged their networks to create more possible routings and business opportunities. The cull of passenger flights has put a serious dent into this. Not only are widebody flights still down massively, but the airlines have ditched their interline agreements, as they see little merit in sharing revenues for a shipment if they can claim full price on the route they cover.

“Many agreements have expired,” observes Ron Buschman, managing director of Aerodyne Cargo Services. “With some carriers, we’ve renegotiated and are paying higher rates now.”

ASI has continued to feed traffic to airline clients that are offline in Canada, but doing this has been fraught with challenges. “It’s not an easy process,” says Lawrence. To feed one Middle Eastern airline client, ASI has to move the cargo to Europe. “I have to request a rate for each and every shipment,” he says.

Tubbesing notes that there are considerable differences between markets. Given the small number of airlines that serve Africa from North America, interlining is often in play in this trade lane and remains an important element.

“The question is, are the numbers adding up?” he muses.

**Trucking challenges**

Trucking has also brought its challenges, with capacity tight and rates seriously higher. “It’s so difficult to manage capacity because the onslaught on the inbound side is overwhelming the trucking network in the US,” Tubbesing says. “Plus, on top of it we have the new security guidelines and requirements,” he adds, referring to the new mandate to screen main-deck cargo.

“If you haven’t got a full trailer to deliver, the LTL will screen your cargo, but then it goes with four or five other shipments, and the truck is opened several times. Your cargo becomes an unscreened shipment,” he highlights.

The offline business is getting a little bit less attractive because of the trucking rates,” says Zimmer.

For ASI, trucking cargo to US gateways for a Latin American client airline only works for maindeck cargo. Rates from Miami to Viracopos are between \$3 and \$5 per kilo, but European carriers offer less than \$3 to fly cargo from Canada to their hub and back across the Atlantic to Brazil, notes Lawrence.

“With the trucking component to Miami, only cargo that requires freighters makes sense,” he says.

The pandemic and the restrictions it entails have slowed down GSSAs’ push into new geographies; but they haven’t stopped it altogether. For ASI, India was a major target before the pandemic. Since the outbreak, it has still added cities there to its footprint.

“We’re moving forward, just at a slower pace,” says Lawrence.

ATC is also looking to spread its presence. “We’re strong in Europe and in North and South America,” says Zimmer. “We’re going to push Asia, especially China.” ■



**Stephen Dawkins,**  
ALG



**Jens Tubbesing,**  
ANS



**Joe Lawrence,**  
ASI



**John Gilfeather,**  
NAS

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# Waking up to the potential

**A**s mechanisms for collaboration and data exchange between the various air freight stakeholders, airport cargo communities are often built on or around cargo community systems (CCS) set up to enable accurate, secure and efficient exchange of information via a single point – a ‘single window’ system or concept. Often originating as platforms to exchange import and export messages with the respective customs authority, these have evolved and expanded considerably over the years, as technology has developed.

The arrival of cloud-based technology in the last few years has supported the development of a new breed of cargo community systems and platforms offering valuable new functions and capabilities that have the potential to transform air cargo handling and accelerate its digitalisation journey. And that journey has accelerated further in recent months – as the Covid pandemic has

Airport cargo communities and systems have evolved significantly as new technology has developed, with the arrival of cloud-based technology supporting a new breed of platforms. And developments have accelerated in recent months, as the Covid pandemic has heightened companies’ motivation to use digital processes and their willingness to collaborate, reports Megan Ramsay

heightened companies' motivation to use digital processes in place of manual touchpoints, and their willingness to collaborate.

Freight technology specialist Kale Logistics Solutions notes that most of the major airports across the world have airport cargo community systems for information exchange between their various stakeholders via a single window system for trade – consistent with the trade facilitation aims and guidelines of the World Trade Organisation (WTO) – “to help make trade across borders, both imports and exports, faster, cheaper and more predictable, while ensuring its safety and security”. Kale defines a CCS as “a neutral and open electronic platform aiding intelligent and secure information exchange between its stakeholders”, describing it as “a crucial tool in optimising operational efficiencies and enabling digitalisation of the end-to-end air cargo value chain”.

Lionel van der Walt, global chief commercial officer at freight payment



Lionel van der Walt, PayCargo

technology specialist PayCargo, highlights: “In the earlier days, pure message exchange between any two stakeholders – such as forwarder and airline, or airline and Customs, etc. – was considered to be a cargo community

system or platform.” But today’s cargo community platforms go well beyond that function – focusing more on solving problems and digitalising more processes, and have many more features than pure message exchange.

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Steven Polmans, Nallian

Steven Polmans, former head of cargo and logistics at Brussels Airport and now chief customer officer at digitalisation specialist Nallian – the company whose technology underlies BRUcloud, the open data-sharing platform at Brussels Airport – recalls: “We saw the integrators growing, achieving high yields and keeping their customers happy. So, we decided we (the airport cargo community) needed to become a virtual integrated player by creating a cloud to share data.”

**Ecosystem of apps**

BRUcloud consists of an ‘ecosystem’ of apps designed to help stakeholders improve efficiency and quality. Existing apps include Slot Booking, Freight Management, Acceptance and Delivery, and Digital Desk. The Door Management, Traffic Guidance, Regulator and Acceptance & Delivery GHA apps are to become available in due course as

BRUcloud continues to develop. One example of how these apps work together is Brussels Airport’s digital green lane – digitalisation of the landside pick-up and delivery process – launched in June this year and implemented by 12 ground handling agents and freight forwarders that combined represent 75% of the freight volumes at Brussels Airport. The initiative by Brussels Airport and air cargo community representative group Air Cargo Belgium – which recently celebrated its fifth anniversary – aims to create a uniform standardised and digitalised pick-up and delivery process between freight forwarders and ground handling agents, supported by the BRUcloud Landside Management applications. This means that all freight is being picked up or dropped off at a registered time slot, all freight information is shared digitally throughout the process and all actions during

the pick-up and drop off process are registered by the driver on a mobile device. Using BRUcloud’s Slot Booking App, Freight Management App, Acceptance and Delivery App and Digital Desk App, the partners say those participating “will be able to avoid waiting lines and optimise their capacity and resource planning – including a priority service when picking up or delivering freight”.

Many of today’s CCS support APIs (application programming interfaces) instead of traditional International Air Transport Association CARIMP messaging, while some incorporate deep tech interventions such as artificial intelligence, machine learning or Internet of Things.

**Expanded stakeholder coverage**  
Some CCS have expanded their

stakeholder coverage beyond the traditional coterie of airlines, Customs and forwarders to include truckers, Customs brokers, chambers of commerce, regulators, overseas agents, banks, exporters and importers, further connecting communities.

And air cargo community systems continue to evolve. According to van der Walt, key drivers for change include: a focus on trade facilitation at airports or ports due to WTO trade facilitation agreements; a focus on sustainability and the need to reduce paper; congestion at airports and ports; the introduction of social distancing and contactless processes in response to the Covid-19 pandemic; and shippers' expectations of quality of transport in light of their experience of e-commerce.

"As a result of the above trends, PayCargo is seeing more and more community platforms growing at global airports and ports to bring in touchless, paperless, transparent processes," van der Walt continues. PayCargo's contribution is



to enable the movement of money and remittance information between vendors and their clients via a cloud-based platform.

**Broader benefits**

The introduction of a platform that allows stakeholders to exchange

information has in many cases led to a broader community approach to solving problems and improving processes and cargo throughput, as stakeholders work together on areas of common interest. Liege Airport's 'Flexport' cargo community has been focused on freighter

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**Roos Bakker, Amsterdam Airport Schiphol**

operations for over 20 years, and its success has required it to respond to rapid growth in demand in recent years. To help manage this growth, in 2018 the airport launched a cloud-based platform to enable its stakeholders to operate in a more collaborative, integrated way, using Nallian’s data-sharing platform. With demand continuing to grow rapidly, the airport’s vice president commercial and strategy Steven Verhasselt highlights some of the recent and current priorities of the airport and its cargo community, noting: “The seamless connection between the first and second line of warehouses has been the main focus. The growth of e-commerce flows, especially inbound, has increased the requirements for sorting space. The inclusion of the second line, and Liege Logistics, as part of the Customs zone of Liege Airport, has been very important.” His expectation is that these aims will be facilitated by a collaborative approach supported by greater data-sharing.

“The next step is to better control the physical and digital process, and to decrease cargo dwell times and waiting times both airside and landside,” he highlights. The benefits of improving processes at Liege would be mostly measured in time savings, Verhasselt says. “From our customers, we know that consistency and reliability are more important than actual speed. Goods should be released within an acceptable and reliable time frame – but it’s better to aim for six hours and deliver, than aim for three hours and not make the grade often enough.”

**Efforts intensify at AMS**

Roos Bakker, director business development cargo at Amsterdam Airport Schiphol, notes that the gateway already has a very active cargo community, where all major players and government representatives interact, but that efforts to facilitate communication between stakeholders have intensified in recent

months, specifically in response to the pandemic. “We launched Vaccines Gateway Netherlands to bring together 60 companies at the airport to prepare for the Covid-19 vaccination shipments,” Bakker highlights. “This is a job the cargo companies are well prepared for... but it is also important to keep cargo companies informed about the (rapidly changing) Covid-driven international state policies and consequences, including ways to keep working. “As a result of our Covid preparations, freight moved efficiently through at peak-levels, even in challenging Covid circumstances,” she adds. Meanwhile, Schiphol’s Smart Cargo Mainport Program – another cargo community initiative – is introducing airport-wide digital pre-notification with E-link software, as part of the airport’s new ready-for-carriage conditions set to launch in September 2021. The new digital pre-notification system

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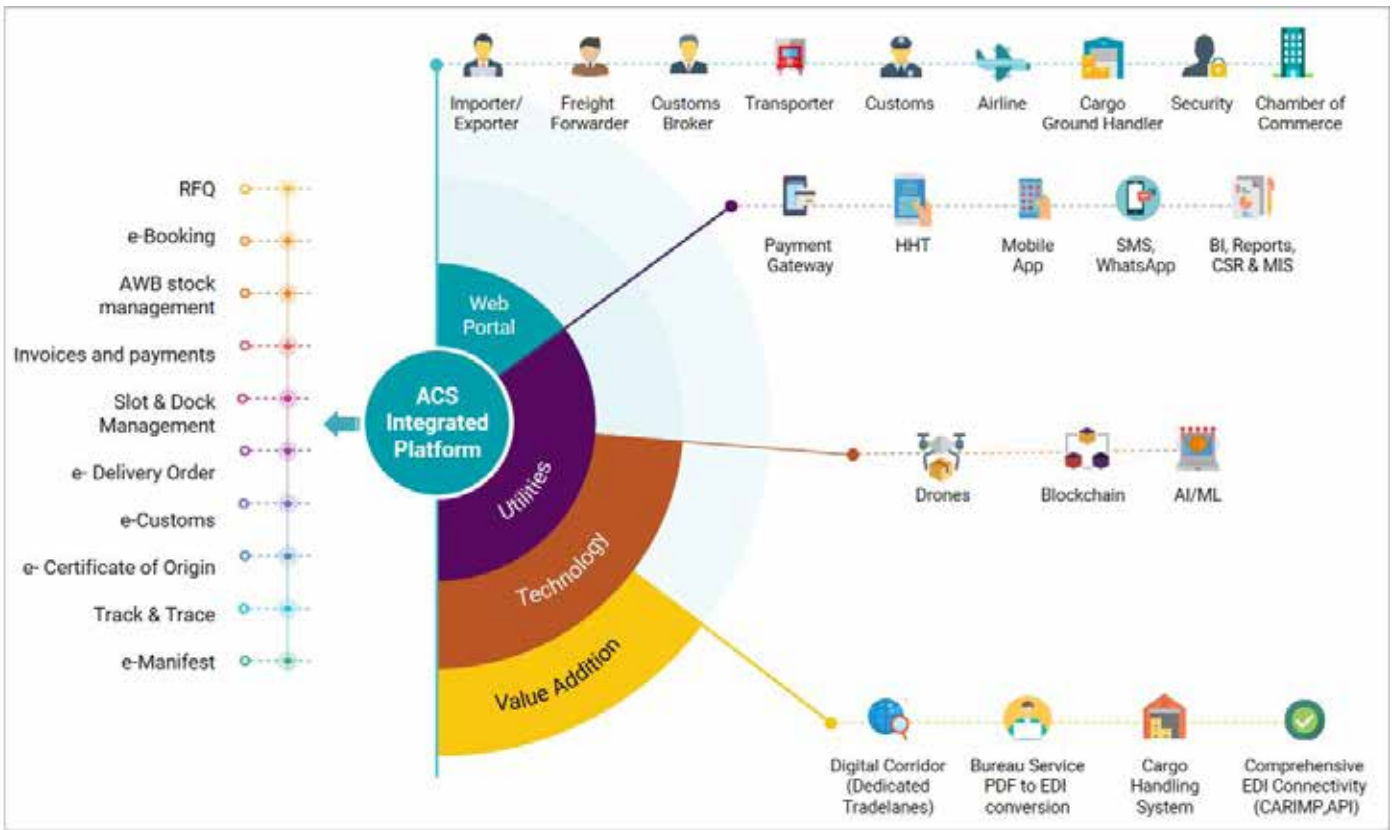


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Airport Cargo Community System Context Diagram

Kale's representation of how a CCS connects airport community stakeholders

will drive efficiency at the airport and reduce the paper trail, and the airport will be working to encourage its adoption among all stakeholders in the supply chain as well as carriers, Bakker says.

**Evolution from systems providers**

Meanwhile, providers of CCS platforms continue to adjust their systems to serve their customers better.

Kale Logistics Solutions has been working with several airports and ports globally to build cargo communities, Mumbai being a prime example. Kale has received two UN awards for its work at the Indian gateway – which, with just one runway and over 1,000 flights per day, is the world's most congested airport.

At the time of writing, Kale was working on a yet-to-be-announced initiative, also at Mumbai, that would eliminate six paper copies of documentation per shipment – around 7 million copies per year, confirms Kale CEO Amar More. Atlanta Airport Community, meanwhile, which is also powered by Kale's digital

solutions. More estimates that digital solutions like Kale's "can reduce paper usage by eight million pieces of paper annually at an airport – the equivalent of planting 1,500 trees – and reduce cargo dwell times by up to 70%, lowering carbon emissions and fuel expenses", as well as obviously improving throughput efficiency.

**Pandemic effects**

Despite the ongoing fallout of the Covid-19 pandemic, "it's been a transformational year", says More. "Airports have become more aware of the need to decongest their facilities and increase throughput. The pandemic has made airports realise digital infrastructure is necessary."

Indeed, it seems that the impact of Covid-19 has accelerated several CCS-related trends, such as: the reduction of paper to reduce risk of transmission of the virus; an emphasis on cargo in the face of lost passenger revenue; and reduction of human and truck congestion

so as to implement social distancing. Kale has been at the forefront of such trends. Its truck slot management solution can now allocate slots based on AI, for instance. The company has also introduced machine learning to enable a PDF of an e-AWB or house manifest to be uploaded, read and converted to an electronic format for upload to its platform – and then sent to the handler's own database.

**Linking to warehouse systems**

The company has also linked its community platform to warehouse systems to better ensure the integrity of the cold chain – pharma is a huge market in India and particularly in Mumbai. The exporter and importer can now view the status of shipments, with real-time temperature information. Kale's introduction of QR codes for truck drivers, in place of multiple paper documents, is "transformational", More says, and not only from a public health standpoint: it eliminates time-consuming

documentation processes when trucks arrive at airports. It has also added chambers of commerce to its platform, making it possible to obtain a certificate of origin online rather than in person. This saves time and was especially convenient during lockdown, More says. Finally, the system now also includes exporters and importers – such as Siemens, the largest shipper at Mumbai. “We have linked their in-house system into our platform to provide full visibility,” More confirms.

**Managing change**

An obvious difficulty that platform providers face is the need to satisfy customers with varying requirements. It is hard to customise a community platform for individual stakeholders, particularly when that platform serves a community of hundreds – or even thousands – of companies. However, some platforms do give stakeholders various choices. Smaller



Amar More, Kale Logistics Solutions

companies can use a community platform portal not just for data exchange but for their own digitisation; medium to large companies can connect their in-house systems using APIs to avoid duplication of work; and ‘PDF to EDI’ services like

Kale’s are another option. “Interoperability is the key word,” van der Walt says. “If community platforms require the stakeholders to give up their own systems, then they will never succeed. A platform that gives choice



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*Efforts to facilitate communication between stakeholders at AMS have intensified in recent months*

and flexibility for the stakeholder to meet his or her needs will be preferred by the community.

“Ultimately, you need a party such as an airport authority to proactively take the lead and drive implementation,” he continues. “What I am seeing is that if you leave it to community members to decide, there are too many opinions, the result being no alignment and ultimately no consensus and implementation or adoption. Don’t get me wrong, inclusion and collaboration is key; but you need an ultimate decision maker or you risk getting stuck in endless debates and making no or limited progress.”

### **Change management**

Polmans agrees, but adds a note of caution. “You need maturity in a community in order to get everyone to work together. Airside, the airport is in a strong position, but landside, the airport is like the conductor of an orchestra: it has to manage stakeholders and get them all to work together.

“You can’t just implement big changes suddenly; if you go too fast and don’t follow a proper process, you will actually slow things down. Change management is very important.”

Involving the whole community in bringing about change can increase complexity as individuals calculate not only what they will invest and how they will benefit, but also what their competitors will put in and get back out. Of course, the cost of implementing a platform should be borne by those who benefit from it, not solely the airport, says More.

A short-term vision that focuses on profit and loss, or daily operations, instead of reaching out to help improve a weak spot in the logistics chain, will slow progress. But many companies are willing to move forward alone, with a vision of integration in the long term.

### **Individual and community progress**

For instance: “Nallian’s slot booking app is intended and developed to

maximise benefits for all stakeholders, but we’re also installing it for individual companies,” Polmans says. “If other companies install it in future, then the whole community will benefit. You don’t necessarily need ‘big bang’ changes – small steps at the individual level can add up.”

An open mindset is vital to accelerating collaboration. Fortunately, more and more companies are using tools that allow data sharing. And Nallian is not building software or systems, but instead trying to integrate systems, and add tools that enhance them, Polmans points out.

“The good thing about digital integration is that it avoids talking – it is action – which is what this industry needs,” he adds. “Digitalisation enables collaboration but it doesn’t stop there – when people install digital solutions, they also start to collaborate at a physical level.”

### **Linking communities**

Van der Walt believes that eventually, platforms at the level of individual ports

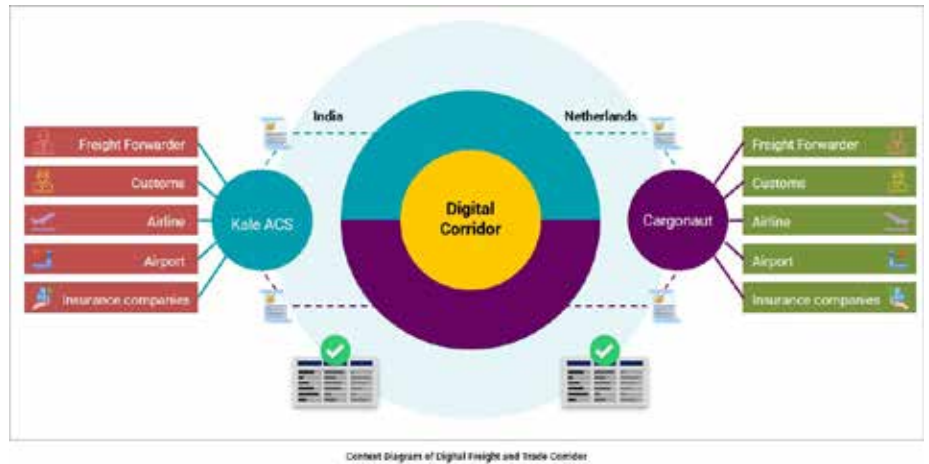
and airports will be connected through digital corridors – such as Schiphol’s collaboration with Atlanta to establish a trade corridor through data exchange, or Kale’s partnership with Cargonaut to develop a digital corridor linking Mumbai with Amsterdam – to create a digitised global ecosystem.

Brussels Airport supports that too, noting: “Increasing efficiency and smoothing processes at BRUcargo is one thing, but in the end, the shipper and our end customer are looking for end-to-end quality and transparency. The BRUcloud concept and/or its individual apps can be implemented in other communities.

“Linking the BRUcloud with other community clouds is a priority on our roadmap. By making information exchange between communities reality, a fully paperless and highly efficient air cargo supply network becomes possible.”

**Momentum building**

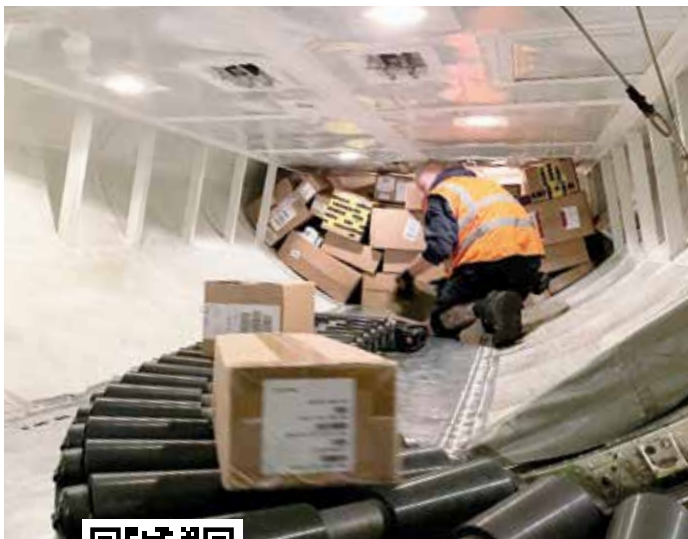
The signs are certainly encouraging



as more and more airports and their stakeholders are seeing the benefits of CCS and the potential to expand and develop their capabilities.

At Hong Kong International Airport (HKIA), Airport Authority Hong Kong

(AAHK) is developing a community-wide data platform to connect, integrate and digitalise air cargo handling processes in order to offer key stakeholders along the supply chain – including cargo terminal operators, freight forwarders, truckers and



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*Brussels Airport's digital green lane initiative to digitalise landside processes launched in June and has been implemented by 12 ground handling agents and freight forwarders*

screening facility operators – enhanced shipment traceability and operational efficiency.

Not only it is equipped with the latest smart technologies, the platform also allows data exchange among multiple stakeholders via standard IATA ONE Record models and protocols.

A spokesperson says: “An industry pilot project was successfully completed earlier this year through joint efforts with Cathay Pacific Cargo and other Hong Kong air cargo community members. In this pilot, live shipment content and status from various sources were exchanged using ONE Record models and protocols through a single trusted view.

“Leveraging on this platform, more community-based digitalisation initiatives will be introduced in future to further enhance the airport’s global connectivity, in a bid to drive more innovative business and trade activities to fortify HKIA’s role as the world’s leading air cargo hub.”

**Cohesive collaboration**

Demonstrating the “cohesive and effective collaboration” between government, AAHK and the airport cargo community, the airport highlights the smooth implementation of ICAO’s new policy direction for 100% security screening for export air cargo.

“AAHK worked closely with the Hong Kong government in the introduction of the Regulated Air Cargo Screening Facility (RACSF) scheme to increase air cargo security screening ability at off-airport locations, while at the same time allowing local freight forwarders to preserve their current workflow, hence minimising the impact of the new screening requirement,” an airport spokesperson notes.

**Coming together**

After a slow start to air freight’s journey towards digitalisation and collaboration, it seems that a number of factors have been aligning to speed up this process.

These include the expansion of cloud-based technology leading to new cargo community systems and platforms offering valuable new functions and capabilities; higher visibility expectations among e-commerce customers; the Covid pandemic heightening companies’ motivation to use digital processes and their willingness to collaborate; the development of cross-industry standardisation options for data exchange among multiple stakeholders via IATA’s ONE Record models and protocols; and a growing willingness to develop further end-to-end quality and transparency by linking multiple airport cargo community clouds.

And, as highlighted in the Handling Focus: Technology article in this magazine, the observation that airlines and forwarders are getting to the point of shedding the paranoia about sharing air waybill data on a platform.

As Kale’s Amar More succinctly notes: “The world is waking up to CCS.” ■

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# Managing a super-peak: Perspectives from the CEO of a strategic supplier

Steve Townes, CEO  
of ACL Airshop



This year's peak season will be a monumental challenge unlike any other, believes ACL Airshop's Steve Townes. But it's also an opportunity for strong companies to excel, with the right attitude. He shares his advice on how to bring out the best in a company's most-valuable asset, its people

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**I**t is imminent. In fact, it is already starting... 'Super-Peak' is upon us, worldwide in air cargo. This year's rushed and gargantuan peak season will be a monumental challenge unlike any other. Like a global wave of air shipments and rising demand, this surging tide already has momentum and mass.

There are convergent factors which enhance and accelerate the high demand for air cargo this year. Think of it as a perfect storm of mega-trends. Belly loads are still at least partially hampered by Covid around the world. Ocean ships are backed up in harbours across the globe. Supply chains are disrupted,

yet world trade continues, turbo-charged by e-commerce. Consumers in all developed nations are ordering more and more from home, and they want it delivered quickly. Make your company's list of accelerants that are causing your own business to be reeling in these currents. Whether you are flying or serving those who fly, the challenges affect the entire industry ecosystem.

## Rising with the wave

What are smart companies doing? Rise with this wave, over-perform for customers! Manage the natural "frictions" that

occur when there is sky-high demand, not enough lift, slowed deliveries and rising prices with suppliers, and unprecedented workforce tensions caused by everybody on your payroll working harder despite over 18 months of pandemic stressors.

This is a rare moment that demands more flexibility and resilience than ever in any cargo-centric enterprise. In our just-in-time industry, especially right now, speed is a competitive weapon. Whichever company can answer the urgent call from a customer who is suffering those same stress factors – but needs your equipment or services immediately – that’s who will win in this high-speed fight that we are all living through. It’s like watching a fast-edited movie... but we are in it.

**Prescriptions for success**

Turnaround experts and crisis managers would call this year’s “tsunami of air cargo” a classic opportunity for all

companies involved up and down the food chain. The prescriptions for success would be along these lines, even from my own experiences over the years:

**Sirens blaring:** Manage like a crisis, a full-tilt turnaround.

**Speed of execution:** Energise leaders and staff to act with speed and precision for customers.

**Over-communicate:** Omnidirectionally to all stakeholders, tell people what you’re doing.

**Adjust tactics:** What worked 2 years ago won’t help you in Super-Peak. Adapt!

**Accelerate processes:** Order-to-delivery times can be shortened in resilient companies.

**Mind the cash:** Fast growth causes some companies to run out of capital. Be mindful.

**Take care of the troops:** Now more than ever, your people are the #1 determinant of success.

**Positive attitudes and leadership**

There is a bottom-line takeaway when facing the looming Super Peak.

It’s about people, culture, client service, positive spirit, attitudes... leadership. Our industry’s workforces worldwide have never seen so many divergent, confusing, overwhelming, ulcer-inducing gas pains. Yet many companies will succeed despite the predicted tide of turmoil.

As the famous management guru Peter Drucker once said: “Culture Eats Strategy for Breakfast.” The best companies in the world over-perform when things get tough. That stems directly from the collective will and spirit of their workforce. People are the priceless soul of any successful enterprise. As a sleeves-up CEO in our award-winning enterprise, I know in my heart that our people will amaze themselves and delight our customers during Super-Peak. Because that is who we are. ■

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# The right kind of space

Frank Sumerler, Kuehne + Nagel's SVP for air logistics development, believes the rise in freight forwarders building their own-controlled freighter capacity networks will continue in the post-pandemic world, as part of a longer-term trend to provide stable, regular, guaranteed uplift, reports Roger Hailey



*Frank Sumerler, Kuehne + Nagel's  
SVP for air logistics development*

**A** regional supply chain bottleneck hitting one transport mode for a short time is part of the logistics planner's playbook. But nobody predicted nor prepared for global air freight and sea freight being disrupted simultaneously, for months on end. And yet that is exactly what the world's logistics experts are now facing daily, amid soaring demand, reduced freight capacity and escalating costs.

Frank Sumerler, SVP and global head of air logistics development at international freight forwarding giant Kuehne + Nagel, observes: "We have had crises before, but never before both sea freight and air freight at the same time. This is a convergence of both modes experiencing considerable constraints for a longer, sustained period."

Access to air freight capacity is absolutely "paramount", says Sumerler, but not just

any capacity.

"I think that (access to capacity) is probably the number one dividing factor between larger and smaller logistics service providers; but I also want to underline the need for relevant and frequent capacity," he highlights. "Sometimes we see a once-a-week controlled capacity flight, which is fine, but it also means that the cargo has a dwell time of five or six days to catch that flight. We prefer and strive for creating frequent capacity over just any capacity."

### Secondary airport changes

The Covid pandemic has further underlined the importance for freight forwarders like K+N to have efficient hub and spoke systems in place. This is because the megatrend of the last 18 months has seen demand grow at the bigger air cargo airports, while at many secondary airports it has diminished, as the pandemic hit passenger air travel and with it bellyhold cargo capacity.

Sumerler notes that a few select secondary hubs have coped well with increased demand during the pandemic, such as Frankfurt Hahn and Rickenbacker in Columbus, Ohio – but also freighter-focused hubs such as Liege in Belgium. He also highlights the example of Xian airport in China, which stepped in when major cargo airport Shanghai Pudong (PVG) was in lockdown due to Covid. "The bulk of the business still revolves around the main airports, and a few others have taken the opportunity to push themselves forward; but I can't really name too many," he notes.

### Coping with volatility

"Look at what happened in Shanghai, when all of a sudden Xian airport was handling cargo. I guess we need to get used to this kind of volatility because if a major hub like Shanghai shuts down, what do you do? The freight needed to flow, and we were pushing cargo from Shanghai all the way down south to

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Hong Kong, which is quite a distance. Having contingency plans in place and access to alternative solutions is our core competency.”

The convergence of sea and air cargo disruption has led to substantial freight cost increases and posed some difficult questions for shippers – such as when, or if, to shift from ocean to more expensive air. But those who decide quickest can reap benefits, whereas those that delay can see the extra costs escalate.

“When they realise that they do need air freight if they want to have product on the shelves, then they come to a point where air freight already is at a premium,” Sumerler highlights. “I think this is the main contradiction within an organisation; being a bit bold earlier on and saying ‘yes, it is going to cost me more, but I can maintain a steady supply chain’.

#### **Better forecasting**

While some cargo owners are better than others at forecasting their air freight capacity needs, one potential additional factor is that consumer demand patterns have changed and become less predictable

due to e-commerce – especially during the pandemic – adding to the challenges.

“Consumer demand is very asymmetrical because of certain limitations – such as when government lockdown restrictions kick in suddenly and last for two months; and then there is a huge reopening and things start flying again,” Sumerler highlights. “This stop and go is a problem for forecasting.”

Despite being less predictable, air freight is expected to continue to see growing e-commerce demand – including for next-day delivery.

“Consumers have become very impatient,” Sumerler observes. “Everyone expects their order to be there next day. It used to be a week or 3 to 4 days, but now we order something online, click goodbye and expect it next day. The day after is already too late.”

#### **Alternative supply chains**

Another changing dynamic has been an increased focus on environmental considerations. Prior to the pandemic, some shippers were already looking at alternative supply chains – not only to increase supply chain resilience, but also

to reduce their carbon emissions from aviation.

This trend is likely to accelerate when there are more predictable logistics in play, Sumerler believes, noting: “Some shippers had already started to move in that direction before the pandemic. The trend was focused on carbon emissions and environment, spending less energy in getting products to the market. Sea-air, which used to be big in the early 2000s and even in the late 90s, was seeing a great resurgence.

“We had a good pick up on our sea-air product before the pandemic, but since the pandemic it has actually made a lot of sense – because you had a couple of hubs that were less constrained and you are able to reach those hubs in a way that didn’t really create an issue on a sea freight perspective, such as Dubai. You are able to get uplift from capacity-rich airports that were far less constrained as opposed to starting off from China or northern Asia.”

Rail and sea-air options

He continues: “So, that really made sense and we are now seeing some customers have fully introduced rail or sea-air







alternatives into their supply chain. But I would like to still see more of this multimodal thinking, with alternative uplift points taking place.”

Surprisingly, given current container ship waiting times outside US west coast box ports, K+N says that Los Angeles has proven an “interesting point of transfer” for sea-air solutions – for example, from China to Europe.

“Likewise, from northern Asia to central and southern America from Los Angeles, which has also been very effective. When the port is not congested it is an excellent alternative to reach central and South America as well as Europe.”

#### **Accelerated digitalisation**

One legacy from the pandemic will be the accelerated adoption of digitalisation in

the air freight industry, which has lagged behind the passenger sector.

Sumerler says that many stakeholders in the air freight supply chain are now more actively engaged in going digital, noting: “We have been quite held back as an air cargo industry compared to the passenger (industry). It is because ours is a very fragmented and very paper-based industry; but in the last 18 months, digitalisation has accelerated in certain parts of the chain – and that is very welcome, because we needed it.

“Communications between the logistics providers and the airlines are becoming increasingly digital, as it should be.

As an industry, we have increased communications with most of our customers. They have an increased need to know what is happening, and we find it very positive to engage, inform and to be like a trusted advisor to them. It has opened increasingly more dialogue between us and the customers.”

#### **Remote-working adjustment**

The pandemic caused a very quick loss of ‘manpower’ in freight forwarder offices around the world, so the industry needed to be more process-oriented with its own operations. Sumerler observes: “There was a lot of soul-searching or process optimisation in many organisations because suddenly you couldn’t bring your workforce into the office. They needed to work remotely, and they needed to work in some level of synchronised manner to be close to the productivity levels they had when they were back in the office, side-by-side.”

K+N was one step ahead, says Sumerler, because it had replaced its early 2000s transport management system around three years ago prior to the pandemic’s arrival; and with it, the forwarder was able to finish its process optimisation. “To a large extent we were ready to work remotely even a year prior to the pandemic,” Sumerler says.

Although digitalisation in the air cargo sector has risen rapidly due to the pandemic, Sumerler cautions that it is still very much a work in progress. “The train has left the station but there is still

some way to go,” he notes.

### **Bellyhold cargo challenge**

Among the many obvious changes forced on the air freight sector by the pandemic has been the loss of much of the bellyhold cargo capacity in passenger aircraft, which accounts in normal times for at least 50% of global uplift. One of the results of this has been a recent surge in freight forwarders expanding their existing capacity-controlled freighter networks or launching them from scratch. But rather than being just a temporary response, Sumerler believes it will continue in the post-pandemic world, noting: “It is a long-term trend because it is really about relevant and frequent capacity. It is about having the capacity in the right place with the right amount. Passenger aircraft are nice, but we have seen just how fragile bellyhold capacity is; and the airlines are still in such dire straits.”

He continues: “We just cannot rely on belly capacity to be a mid-to long-term strategy because the minute it doesn’t make sense financially for the airlines, they will pull it back. So that is why, for predictable mid-to long-term supply chains, we need capacity that we can count on – and, ideally, freighter capacity on the major trading trunk lanes.” Freighters – passenger aircraft flown in freight-only mode, including those with reconfigured upper decks for low weight packages – were deployed in large numbers at the start of the pandemic, primarily to manage the surge in demand for personal protective equipment (PPE). While many have continued to operate, they are clearly not a stable, long-term solution.

“Freighters were great because they provided instant capacity; but there is a caveat: the minute a freighter flight cannot sustain itself, then it just does not make commercial sense,” Sumerler highlights. “The airlines are not just going to keep an aircraft running just for the sake of it.”

### **Near-shoring trend**

Alongside these capacity considerations, there has been fresh talk of an increasing trend towards near-shoring

of production by shippers in a post-pandemic future in order to add resilience to supply chains – with the pandemic adding further urgency to the discussions that started a year or two before Covid hit, when US president Donald Trump launched his trade war with China. But Sumerler is less convinced that it is really feasible to switch major production from China.

“This trend started a few years ago and I think it will continue; but it was a terrible time to try near-shoring – in the middle of the pandemic,” he highlights. “Companies will try to nearshore where and when they can, but it is not so easy when you see just how great the manufacturing capacity of China is. Plus, all the infrastructure in China has proven to be fairly capable.” ■



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# Adapting to a new world

After successfully managing the huge challenge of keeping PPE, Covid vaccines and other goods flowing, air freight’s pharma logistics leaders are building on any lessons and ‘accelerator’ effects triggered by the pandemic, reports Donald Urquhart

**I**n a world turned on its head by the global pandemic, normal life, interactions and many business models clearly changed dramatically and rapidly – not least for the air transport sector. But the world required air cargo to keep functioning, especially its role transporting vital healthcare goods and products, including pharmaceuticals and vaccines. Despite significantly reduced and disrupted air freight and personnel capacity, and

even before shipping of the vaccines that are key to fighting the Covid-19 pandemic, air freight “was the only and fast way for providing the personal protective equipment (PPE) for healthcare workers and civilians worldwide”, Frank Van Gelder, secretary general of air freight pharma best practice association Pharma Aero, reminds us. “We showed a flexible adaption to the new normal,” despite the many difficulties – including a lack of correct informa-

tion to match the operational needs, and other “acute surprises” in the operations of the cold chain, such as concerns about limited dry ice supplies, he notes.

## Headstart for some

Nathan De Valk, head of cargo product and network development at Brussels Airport (BRU) and chairman of Pharma Aero, says the rapid spread of the Covid-19 pandemic made it clear that a vaccination strategy was the only way out, and

that BRU would play an important role. “With a large concentration of pharmaceutical shippers near Brussels, and a world waiting on the much-awaited vaccines, our existing expertise and pharma infrastructure gave us a headstart,” he notes. As a leading pharmaceuticals hub in Europe, Brussels Airport already had a well-established track record for specialised solutions for high-value, as well as time- and temperature-sensitive shipments.

Even before the pandemic struck, BRU was continuously growing its dedicated specialised pharma warehouses, reaching more than 35,000 sqm at the airport, making it the largest concentration of this type at any airport in Europe.

**Preparation key**

That capacity was put to the test as the global vaccine effort ramped up in the beginning of this year, with BRU Cargo shipping more than 300 million doses of vital vaccines in, out or through the



airport, with the various segments of the air cargo sector contributing to this effort, De Valk notes. This includes vaccines flying on the network of DHL Express, on the full freighter airlines operating out of BRU, and also the many ‘passenger freighter’ operations that have been specifically serving BRU to fly vaccine

shipments.

The airport’s close collaboration with Pfizer was also an important factor, highlights Danny Hendrikse, vice president of Intercompany Operations at Pfizer. “Brussels Airport has been an integral partner for us in the rollout of Comirnaty (the Pfizer-BioNTech Covid-19 vaccine).



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DHL has shipped more than 1 billion Covid vaccine doses



As an established centre of pharma logistics excellence, BRU has played a leading role in vaccine distribution

The Brussels Airport team and the BRU-cargo community ensured a high-quality approach to handling the vaccine, as well as to the expected upscaling of transport needs via the airport over (the) coming months,” Hendrikse adds.

**Idea accelerator**

For Pharma.Aero, the Covid-19 pandemic has challenged but positively influenced the air freight of pharmaceuticals. The association says that an acute situation like the pandemic that the industry had

no way of preparing for acted as a perfect “accelerator” for new ideas. This included digitisation – and, in particular, holistic sharing of more detailed industry data. Technology has been an important way to communicate and collaborate as an industry. This includes being able to include the pharmaceutical shippers in enabling their access to valuable information in order to prepare and adapt existing processes. Lufthansa Cargo highlights it had already invested heavily in relevant ground infrastructure before the pandemic and as a result was well positioned with its pharmaceutical hubs in Frankfurt, Munich and Chicago. It also has some 30 CEIV-Pharma certified stations worldwide, giving it one of the world’s largest airline pharmaceutical networks. That includes a large number of additional stations with capabilities for handling temperature-controlled cargo worldwide. The carrier also stresses that it has been “constantly” working to improve services for its customers, “for instance through digitalisation. For example, we aim to increase transparency along the supply chain of pharma shipments with IoT as a key element, to create additional benefits for all involved parties,” the carrier says.

**BRUcure taskforce**

De Valk says BRU “stepped up and launched our local BRUcure taskforce, which currently comprises 42 companies operating at Brussels Airport”, with the community grouping Air Cargo Belgium a key partner in this initiative. To reach the goals and the high standards that were set within BRUcure, four main working packages within the BRUcargo community were created: pharmaceutical capacity; shipper requirements and the creation of a guideline document; a digital solution; and stakeholder validation.

**Community approach**

BRUcargo also brokered a mutual ‘gentlemen’s agreement’ between its taskforce members to share capacity when required. “This clearly underlines our community approach mentality here at BRUcargo,” De Valk notes. As the COVID-19 vaccines were new for



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**Bernd Struck**



**Nathan De Valck**

everyone, there were information gaps around shipping requirements leading to the taskforce creating a guideline document based on the shipper's requirements – sourced through one-to-one sessions with pharmaceutical companies like Pfizer, GSK and MSD.

“One of the pharmaceutical shippers' requirements was to offer full transparency of several parameters throughout the airport supply chain,” says De Valk. He explains that Brussels Airport assigned its BRUcloud partner Nallian to provide a digital solution for the community, leading to the creation of CargoFlow Explorer. Currently a work in progress, this digital data visualisation tool can be used for all pharma shipments (PIL), not only for Covid-19 shipments. The airport proudly points to Singapore Changi (SIN) and Miami (MIA), which are both investigating the use of CargoFlow Explorer as well.

**Readiness label**

And the airport launched the BRUcure Readiness label which, after validation, indicates that a company is fully geared up to securely and efficiently transport Covid-19 vaccines.

Meanwhile De Valk says there has been an increase of investments in infrastructure dedicated for the handling of life sciences and medtech shipments at Brussels Airport.

“All operators at the airport benefit from the community efforts to specialise in the pharma segment, resulting in additional volumes being attracted to and handled at Brussels Airport,” he notes. “We also see a clear focus in our cargo community to continuously improve the handling quality for these time- and temperature-sensitive shipments.”

**Extended pharma acceptance checklist**

An example of how the airport keeps pushing for innovation and improvements, is its 'extended pharma acceptance checklist', De Valk says.

This consists of twelve additional questions on top of the existing six IATA pharma acceptance checks. This initiative was backed by all of the airport's ground handling agents, which will be implementing it on a standard basis for the acceptance of all shipments booked as pharma.

The eighteen checks have been incorpo-

rated into BRUcargo's recently upgraded pharma dashboard and feeds directly into the airport's BRUcloud cargo community platform, with the dashboard acting as a barometer to constantly check the quality level of pharmaceutical shipments flowing through Brussels Airport.

**Strengthened cold chain procedures**

Similarly in Asia, Korean Air says it has strengthened its cold chain procedures and infrastructure, and reviewed all aspects concerning vaccine transport, such as maintaining different temperature conditions for each manufacturer. Already experienced in transporting temperature-sensitive pharmaceutical products requiring cold-chain solutions, Korean Air received CEIV Pharma certification from IATA in 2019.

“We are working closely with multiple special container operators to meet the various requirements from our customers,” a Korean Air Cargo spokesperson says. “We have additionally opened a temperature-controlled warehouse (Cool Cargo Centre) at Incheon International Airport this month to accommodate more temperature-sensitive products and im-

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## Carriers' challenges

**L**ike many airlines, Korean Air Cargo notes that the pandemic resulted in the carrier seeing considerable volumes of Covid-related air cargo demand, including test kits, medical supplies, protective gear and vaccines. But the global reduction of passenger air services belly capacity led to a substantial constriction of air freight capacity, making freighters enormously important in maintaining global supply chains – including now for vaccine transport.

Lufthansa Cargo notes: “In addition to individual patients who depend on the delivery of their medicines, entire societies have been waiting for the transport

of Corona vaccines and medical protective equipment.”. But as developed as its network and services were prior to the onslaught of the pandemic, the constantly changing framework of Covid-19 restrictions “have made planning our network a challenge”.

Lufthansa adds: “Through flexible steering of our freighter fleet, however, Lufthansa Cargo has been able to keep supply chains open.” Key to this success has been the “constant dialogue with customers”. This includes forwarders, shippers – pharmaceutical manufacturers – partners like airports and ground handlers, as well as politicians and authorities who were all “very important in doing this as well”. ■

prove the service quality while in transit.”

### Handling role unfolding

And from a cargo handling perspective, Bernd Struck, Dnata’s senior vice president for UAE Cargo and DWC Airline Services, says the cargo handling company is “excited to see our role in the transportation of vaccines unfolding”. Having invested significantly in its cold chain and pharma-handling capabilities in recent years, Struck says the company is “well positioned to move every pharma and vaccine shipment safely and efficiently, in compliance with the highest international standards”.

The Dubai-based cargo handler also highlights that its facilities at both DXB and DWC were designed with flexibility and unique product handling requirements, taking advantage of the latest technologies. The cold storage areas in the cargo centres are modular, enabling teams to manage changing handling demands with dedicated climate control capability. Web-based monitoring systems are also in place to facilitate real-time management of all areas.

To ensure seamless delivery of temperature-sensitive goods from the warehouse to the aircraft, Dnata introduced ‘cool dollies’ into its operations. These mobile temperature-controlled containers were specially designed to serve the pharmaceutical industry with a closed system, Struck adds.

Technology needs rising

Aside from the sharp impact of the pandemic, “we see a trend in which more technology will be needed for the future”, says Pharma.Aero’s Van Gelder. “This is driven by the constantly increasing value of the products that will be shipped by air.”

While volumes may not dramatically increase worldwide, the value per kilo shipped by air definitely will. “This will impact the service level agreements and operational processes of the air freight industry,” he notes.

### Key further trends

Van Gelder highlights some further key trends from Pharma.Aero’s Master Class

event in September. These trends include:

- Pharma logistics growth being driven by population and disposable income, but also through next-generation pharma such as the Advanced Therapeutic Medicinal Product (ATMP).
- Pharma goods are increasingly valuable which requires special security handling protocols, in addition to full trace-and-track capabilities.
- Factors like reliability, transparency, sustainability and security are increasingly being viewed as critical parameters for pharma logistics.
- Pharma distribution models are changing rapidly, with e-commerce distribution platforms disrupting the classic distribution.
- Big data and technologies like artificial intelligence and advanced analytics will steer future decision-making, and these applications will become integral in the future.

**Broader air freight sector issues**

Some of these trends are reflected in Lufthansa’s view of the evolution of the wider air freight sector. “The usage of innovative and modern IT solutions and digitalisation in general remain important topics in our industry,” the carrier notes. “Additionally, we are expanding our engagement in climate protection initiatives in order to reduce our carbon emissions even more. In cooperation with DB Schenker Lufthansa Cargo performed the first CO2 neutral freighter flight and now offers a regular connection covered by sustainable aviation fuel (SAF).”

**Standardised pharma audit process**

For BRUcargo, continual quality growth is key and it is working to roll-out a BRUcargo-wide standardised pharma audit process. Maintaining and improving quality is a top priority, the airport cargo company says, adding that this initiative will be shared with its cargo community, “so that we can all share the benefits”. On a more global scale, De Valk sees “a lot

of value in collaboration between airport communities.” He says great results have been achieved with Pharma.Aero, and over the past year, a lot of momentum has been building within the Pharma.Aero membership.

“Many new members have joined our neutral collaboration platform and several specific innovation projects were launched, such as using UAVs in the pharma and humanitarian air cargo sectors, pharma corridor mapping, and CEIV validation,” he highlights. While Covid-19 has presented and continues to present significant logistics challenges, it has also highlighted a number of lessons including the importance of collaboration and building resilience in the pharma supply chain, believes Pharma.Aero, which urges: “Lessons learned during this pandemic should be integrated into future supply chains for better preparedness for other major events in the following decades.” ■

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# Next-generation digital transformation



CAAS talks to Bernd Struck, senior vice president for UAE Cargo and DWC Airline Services at Dnata, about recent industry developments and local and global initiatives by the Dubai-headquartered handler



**W**hat investments and improvements have you been making this year and what benefits will they bring?

## Digital transformation

Over the past few years, we have significantly invested in cutting-edge technologies to deliver best-in-class services for customers. As part of our digital transformation, we have revisited all of our processes and support functions to standardise

and simplify services and provide the highest possible level of accuracy and transparency to customers at all stations.

## Appointment and dock management

Last year, we launched a smart, just-in-time freight handling platform across our Dubai operations. A cloud-based platform, Appointment and Dock Management (ADM) ensures improved planning, efficient processing and end-to-end transparency of the entire cargo journey, delivering significant benefits for all freight forwarders.

ADM enables freight forwarders to book an appointment with the cargo terminal to deliver and pick up consignments. The system considers multiple parameters – such as shipment characteristics, flight details, vehicle types, and other business-relevant factors to determine the optimal slot for delivery or acceptance of goods.

A unique feature of the digital platform is its capability to intelligently predict the duration and suggest an appropriate slot based on the historical behaviour of the forwarders and the flight schedule. ADM has reduced the average freight handling time at dnata's cargo terminals by more than 60% to an average of 30 minutes, meeting the industry's needs for planning and transparency to avoid costly idle time for carriers, freight forwarders and terminal operators. The platform also allows terminal operators to see demand in real-time, enabling them to plan the required resources and serve customers just in time. The solution coordinates with Dubai Customs to schedule inspection activities, too. Further associated business processes within the cargo terminal are also integrated as part of automated process connectivity.

**Next-generation community platform**

In addition, we have recently partnered Kale Logistics Solutions to develop a next-generation e-commerce platform for the cargo community in the UAE. The partnership will see us take dnata's existing platform, Calogi, to a new level to provide best-in-class, one-stop services, including appointment and customs services management, to customers through advanced digital solutions.

We launched Calogi as a game-changer platform in 2008 in Dubai. It offers a comprehensive, highly integrated, cost-effective platform to air cargo supply chain stakeholders, including general sales agents, airlines, forwarders, third-party logistics providers and ground handlers. Built mainly for small-to-medium enterprises (SMEs), Calogi enables the cargo community to seamlessly trade in a paper-free environment.

Our next-generation community platform will deliver additional benefits for the cargo community. It will connect partners with their customers and authorities on one platform, sharing information in real time among all users. Customers will be able to integrate the platform into existing workflows through APIs and take advantage of all innovative functions while interfacing with their own system. The platform will also help customers simplify existing processes quickly and efficiently,

without investing in multiple systems.

**What airport infrastructure developments have been undertaken?**

We continuously upgrade our facilities and review our processes at our airports in the UAE. To optimise accessibility, we are currently working with the free zones and harbours to integrate our access approvals for trucks into their IT tools, to simplify the process for our customers to enter all the facilities seamlessly.

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### **How did you manage the volatile cargo flows in recent months?**

Covid-19 triggered the closure of international borders and restricted aircraft movements, but cargo volumes were more resilient than aircraft turns handled. This was due to increased freighter operations.

### **To what extent have pandemic-related handling constraints impacted your business?**

The temporary closure of country borders due to Covid presented some challenges for some of our staff to return to work from their home countries. The reopening of borders enabled these colleagues to return to Dubai. Staff returning from longer leave are all retrained and updated on processes.

### **How did the larger numbers of freighters and the introduction of 'freighters' affect your business?**

In response to the strong air cargo market demand for the rapid, reliable and efficient transport of essential commodities,

several airlines introduced additional cargo capacity during the pandemic by using passenger aircraft with seats fully or partially removed from the cabin. To adapt to changing customer needs, we enhanced services, improved processes and trained more than 500 employees to safely and efficiently handle passenger planes carrying cargo only.

We introduced effective procedures across a range of aircraft types. With no existing industry standards to refer to, we built the necessary procedures from scratch in collaboration with key stakeholders, including IATA and several airline customers. To ensure the procedures were safe, trials were conducted at Dubai International (DXB) using various loading and unloading methods across both narrow and wide-body aircraft. This allowed us to identify the best and safest procedures to serve cargo-in-cabin flights.

### **What will the return of passenger services and cargo belly capacity**

### **mean for your cargo operations?**

We are very much looking forward to the return of more passenger flights to our airports. This will likely decrease the amount of cabin cargo loaded and increase the belly loaded cargo on the airplanes – which are a lot quicker to handle and therefore will increase the speed of processing.

During the crisis we consolidated a lot of aircraft movements into Dubai International airport (DXB), including some freighter movements. With the ongoing recovery, freighter handling will gradually return to Dubai World Central airport (DWC) where we have ample facilities.

### **Has Covid bolstered Gulf/Middle East airports' role as global cargo hubs?**

Covid has led carriers to consolidate cargo transport capacity and has rerouted cargo movements from smaller airports to the larger cargo hubs in the world. This has been true also for our airports. ■



**Stan Wraight**  
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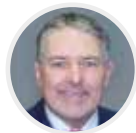
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# Onwards and upwards

Germany's Leipzig/Halle Airport has prospered despite – and to some extent because of – the Covid-19 pandemic, boosted by booming demand for all-cargo flights and LEJ's express and e-commerce customers, reports *Will Waters*



Mario Patyk

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**L**eipzig/Halle Airport in eastern Germany is a rare example of an airport that has prospered despite the Covid-19 pandemic, and to a certain extent because of it.

Like Belgium's Liege Airport, which has also continued on a path of strong growth this year and last year following several years of cargo traffic expansion, LEJ benefits from being an integrator hub that has developed its identity and operations around being a cargo-specialist airport, with 24-hour operations and few of the environmental restrictions that have limited the growth capacity of certain leading metropolitan airports in Europe such as Frankfurt and Amsterdam Schiphol.

Following more than a decade of consistent cargo growth that had seen it expand to become established as Germany's second-busiest and Europe's fifth-largest cargo airport, LEJ last year saw the volume of freight handled increase by 11.7% to more than

1.38 million tonnes in 2020, a new record high. Growth was particularly strong during the fourth quarter, reach 35% in December. And the airport is on course for another double-digit percentage growth increase this year, with its annual freight volume already exceeding the 1 million tonne mark by August, raising LEJ further in the rankings to become Europe's fourth-largest air cargo hub. Volumes reached 1,025,187 tonnes in the first eight months, an increase of 18.4% compared to the same period in 2020. Meanwhile, the number of air cargo flights rose by 25.8% to more than 40,000 during the first eight months of the year – the first airport in Germany to register more flights in August than before the Covid-19 crisis (compared with August 2019).

The airport credits its specialisation as a hub for express and e-commerce shipments, freight charter operations, the transport of large animals, and medical relief items, for driving "one of the most dynamic growth rates in the world",

highlighting that the airport is serving as a transshipment centre for medical relief supplies and protective equipment in the battle against the Covid-19 pandemic. Earlier this year, LEJ signed an agreement with Volga-Dnepr Group to build upon and strengthen the airport's role as an international Humanitarian Hub. And in August, the Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO) said it plans to establish a new civil protection logistics centre near the airport. Other specialisations include a 1,300 sqm building dedicated to transporting live animals. Commenting further on the factors involved, Mario Patyk, head of business development for Cargo/Logistics at airport operator Mitteldeutsche Flughafen, tells CAAS: "Leipzig/Halle is DHL's largest hub anywhere in the world and it is Amazon's first regional air freight centre in Europe. As a result, express and e-commerce shipments particularly affect the volumes that have been handled.

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*Freight charter traffic rose by more than 60%, year on year, in the first eight months of 2021*

“However, our freight charter traffic is also growing at a rate far above the average figure. It rose by more than 60% during the first eight months of this year when compared to 2020. Charter flights with medical relief supplies are a particular driver of growth. Companies at the airport handle as many as two dozen of these flights every month.”

Overall, more than 80 cargo airlines fly to and from the airport and operate a network of routes covering more than 270 destinations globally, with as many as 1,300 take-offs and landings for cargo flights every week.

#### **Traffic set to top 1.5 million tonnes**

Patyk believes LEJ’s freight volumes this year “will significantly exceed the record that we set last year of approximately 1.38 million tonnes. Freight volumes are increasing at more than 10% and the figure was about 15% in August. We are therefore expecting a figure higher than 1.5 million tonnes for 2021.

This development makes us very optimistic about 2022 too.”

While some airports have had difficulties handling the growth in cargo flights this year, he says LEJ has coped with the strong growth. “Volumes of freight handled at Leipzig/Halle have been continually increasing for 15 years,” Patyk notes.

“The infrastructure and personnel resources at our airport have therefore grown in line with this. Leipzig/Halle has particularly proven during the pandemic that it is a flexible and reliable partner with 24/7 operations. As a result, firms at the airport have been able to handle shipments at short notice too – in addition to the regular services, which involve about 1,300 cargo flights per week – and our customers greatly appreciate this fact.

“At the same time, we are constantly keeping our eyes on the future. We already announced a package of investment measures worth €500 million in 2019 and this will pave the way for the construction

of new apron areas as well as logistics and office buildings.”

#### **Amazon Air operations**

Last November, Amazon Air opened a dedicated facility and launched the operations of its first-ever European regional air hub at LEJ, next to the airport’s World Cargo Center handling facility. Amazon’s 20,000sqm terminal – which has direct airside access – is a full-service air cargo handling facility rather than a fulfilment centre, with Amazon responsible for its own ramp and cargo handling.

Its operations include two leased Amazon-branded Boeing 737-800 aircraft operated by ASL Airlines. CAAS understands that Amazon has also been building up its air operations via other third-party operators, including LEJ-based DHL airline European Air Transport (EAT), which has reportedly been flying its B757 freighters during the day for Amazon and returning to duty on behalf of DHL Express for overnight intra-European operations. ■

# Miami International Airport



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