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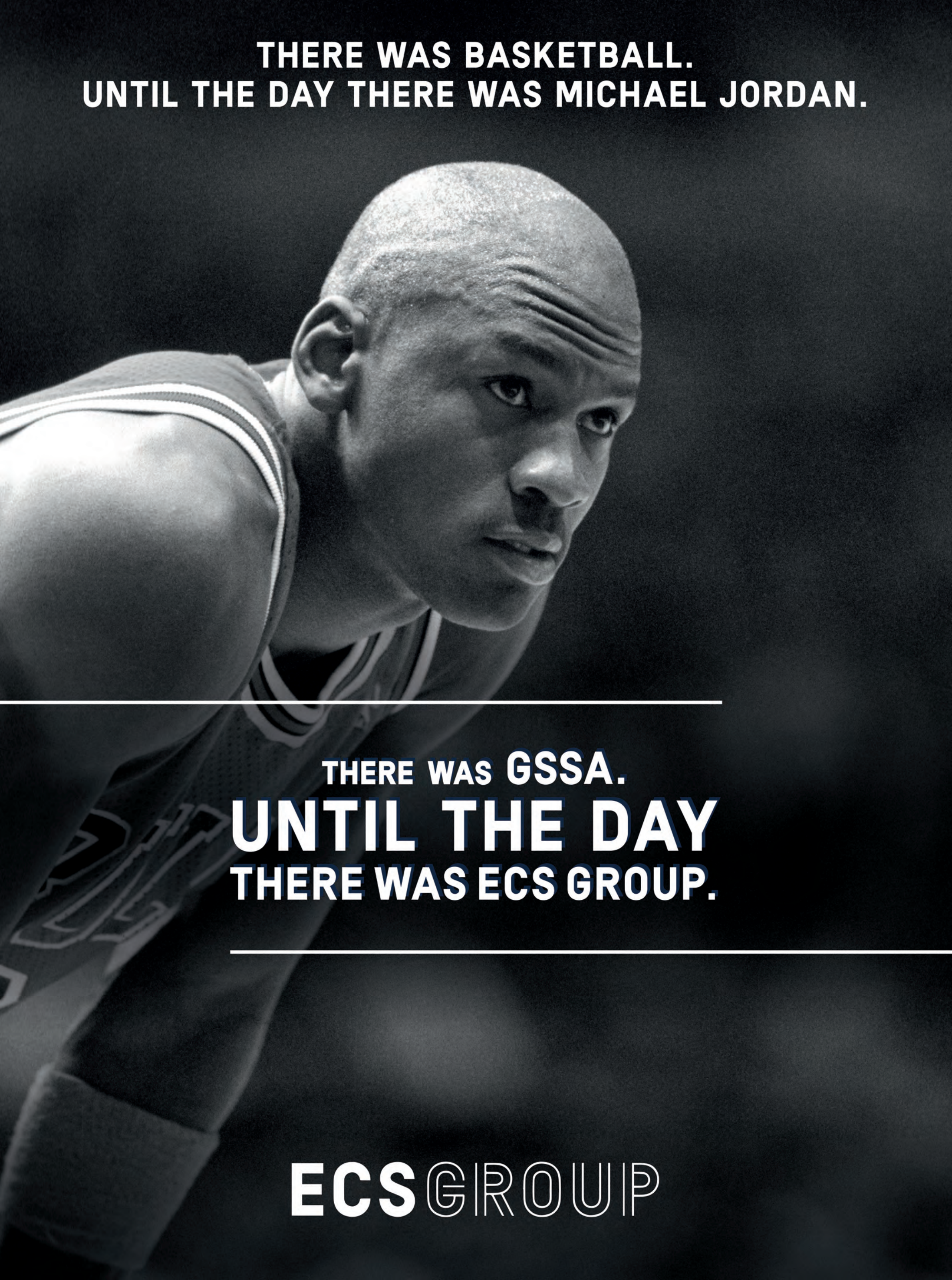
THERE WAS BASKETBALL.
UNTIL THE DAY THERE WAS MICHAEL JORDAN.
THERE WAS GSSA.
UNTIL THE DAY
THERE WAS ECS GROUP.
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ACW
AIR CARGO WEEK
The weekly newspaper for air cargo professionals

2024 CARGO TECHNOLOGY SUPPLEMENT INSIDE THIS ISSUE!
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A FAIRER WAY TO DO BUSINESS

Qatar Airways Cargo is looking to reshape the way the airfreight industry approaches Block Space Agreements (BSA) to build a system that is mutually beneficial for all parties.

BSAs, which enable the customer to reserve a predetermined volume of space on a carrier's aircraft, have been seen by some as advantageous due to the price stability, guaranteed capacity and greater collaboration it generates. However, it leaves both sides at risk of financial losses if market dynamics change, as can quickly happen in the industry, or create operational complexities when unforeseen challenges arise.

Qatar Airways Cargo has decided that it makes more sense to have a more collaborative agreement when it comes to BSAs. Specifically, the carrier is looking to put bounds on the upside and the downside, adjusted for fuel, that would allow the customer or carrier to adjust the agreement, so that neither party feels like they're being unfairly treated by the relationship.

"My goal is to make sure all of our relationships, all of our partnerships, are mutually beneficial," Mark Drusch, Qatar Airways' Chief Officer Cargo, told Air Cargo Week.

"I have no desire for a partner to lose because something's gone backwards in the economic environment.

"At the same time, I'm responsible for making sure our company doesn't lose out, so I want to build something that's mutually beneficial in the event something occurs beyond what we expected."

Win-win

Having spent his professional years working on the passenger side of the industry, building long term partnerships, Drusch is keen to deliver that "respect" and desire to have a "mutually beneficial business" on the cargo operation at Qatar Airways.

"I think it gives me a much better perspective on what we can do, on what the passenger side has done that would help us, but also on what is different that we need to embrace and do better at," he outlined.

"It gives me a sort of bifocal vision, and then I'm able to bring it into one vision for us."

With that mindset front and centre, he cited a conversation he had with a customer shortly after starting his role at Qatar Airways Cargo that sparked his desire to rethink BSAs: "One of our partners told me the agreement meant they lost money. I wish we had known that because I don't want a partner to lose money.

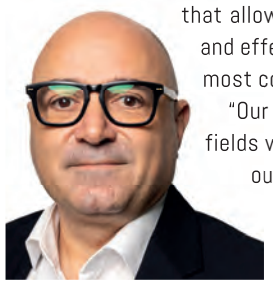
"We could have talked about how we can adjust things, so that they don't lose. I want to build that into our contract, so everybody has that security, that sense of a true partnership."

CHALLENGE GROUP'S CEO OUTLINES STRATEGIC APPROACH

BY **Edward HARDY**

MAINTAINING a core focus on cargo and freight operations, Challenge Group has worked to build a freight-focused model through a fleet of aircraft, handling agent and ramp service, road feeder services, maintenance and an array of ancillary logistics services.

With the post-pandemic shift altering supply chain models, Challenge Group has redoubled its focus on end-to-end solutions that allow it to meet market demands efficiently and effectively, even when handling some of the most complex vertical cargo.



"Our vision was not to go and play in the fields with the big companies, so we developed our expertise in special cargo, including dangerous goods, pharmaceuticals, etc," Yossi Shoukroun, Challenge Group's CEO, explained.

"Our approach, as well, is to be innovative in our business model, which means that the customers can access part of or the full supply chain. They can be more efficient, and time to market is better."

"In order to be reliable, Challenge Technic give us support in maintaining our airplanes, and Challenge Handling gives us a unique selling point at our operational hub in Liege, ensuring fast and efficient handling.

"Our three aircraft certificates (AOCs) – Belgian, Israeli and Maltese – provide the company with geographic diversification and market penetration, each offering their own routes, traffic rights and flexibility, covering three main continents: Asia, Europe and North America.

"All together, our operations give us a unique selling point. The world and the market are recognising the benefits of this business model."

Innovate to expand

As a player focused on a niche segment, Challenge Group has understood that to maintain its unique focus, it must invest in technology. For years, the company has focused on developing its cargo management system to ensure that, as they grow, they meet all customer needs.

"Technology is essential to us, and we are investing significant time to meet requests, demands, expectations, and, most importantly, to enhance the experience for customers," Shoukroun stated.

"We developed a full end-to-end solution that delivers the ability to meet the customer expectation, investing in operations and giving the ability to the customer to better track goods."

Operational approach

Initially, Challenge Group focused on the 747 freighter for complex and oversized cargo, as this was its area of expertise. Over time, the company realised the importance of sustainability and efficiency, leading them to adopt aircraft with lower fuel consumption.

The first step was to introduce the 767 converted freighter aircraft, which had the multiple-pronged benefit of improving operations, addressing market shortages and better serving sectors, such as e-commerce.

"Our diversification allows us to offer a wider range of products and enhance our overall offering," Shoukroun explained.

"We understand that the business model for e-commerce customers is totally different. They have totally different demands.

"We listen to customers to understand their needs - delivery time and reliability."

WHAT IS SO SPECIAL ABOUT A CHICKEN?

BY **Michael SALES**

Apart from its literary qualifications, the humble fowl is one of the world's top food sources, with some 202 million eaten every day. The USA alone consumes around 15,000 tonnes every year. Of course, chickens are farmed locally in most countries, but since the 1930s, large numbers of day- old chicks are flown around the world for breeding purposes and require very special handling.

Regulations are strict to prevent the potential spread of disease. Birds must be certified healthy before shipping and must travel in special ventilated containers. These containers must ensure airflow to prevent overheating or suffocation. They should have just enough space for the chicks to move, optimal temperature range (around 20-25°C or 68-77°F). Documentation and Regulations must conform to the IATA live animals code.

The argument for sending hatching eggs rather than live chicks is a much higher survival rate and easier and speedier handling. The procedure is universal. Check eggs carefully for cracks - store eggs at around 16-18°C (60-64°F) with moderate humidity before shipment - use specially designed cartons or trays that cushion the eggs and prevent movement during transport - : Ensure compliance with relevant regulations for the transport of hatching eggs, - Maintain a stable temperature during transit to ensure the viability of the eggs.

There are definite advantages in live chicks. Immediate production: chicks are ready to grow immediately upon arrival. - Less sensitive to handling: chicks can be more resilient to minor handling issues compared to eggs, but eggs can be stored for several days before incubation begins and take up less space and are lighter, potentially reducing shipping cost and finally eggs are less sensitive to temperature variations compared to live chicks. Many poultry businesses are shifting towards transporting hatching eggs due to cost efficiency, ease of handling, and reduced risk of mortality during transit. This option is more effective for long-distance and international shipping by air.

Next time you have roast chicken for Sunday lunch, just think, it may have travelled thousands of miles for you, Bon Appetit.

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The ACW Team

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Supplement Editor:	James Graham
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AZURA INTERNATIONAL

BRINGING INNOVATION TO GLASGOW PRESTWICK

BY **Edward Hardy**

Scottish hub Glasgow Prestwick Airport is looking to prepare for the future through a series of investments in its cargo operations, spending £2.2 million on equipment, temperature-sensitive solutions and an X-ray machine.

One of the significant investments recently made is new high loaders, driven by the needs of their main scheduled carriers transitioning to aircraft, like the Airbus A350, with larger frames compared to other widebody aircraft.

These developments necessitate equipment capable of handling oversized cargo, such as large aircraft engines, enhancing capabilities to manage current needs but also prepares it for future demand.

"We are set on having some of the best freighter handling equipment in the UK," Nico Le Roux, the airport's Business Development Director, stated. "We're looking at replacing our model with modern solutions over the next year or two, updating and innovative practices to be more efficienct and environmentally friendly."

Cold capabilities

In response to growing demands from customers, Prestwick Airport has embraced a particular focus on bolstering its cold storage facilities.

This move is particularly strategic given the airport's proximity to Scotland's largest food export sector, notably the salmon industry, giving the hub the ability to cater efficiently to perishable goods and pharmaceuticals, sectors that require stringent control.

"We're close to the biggest food export of the UK, so it makes sense for us to do this," Le Roux explained. "We're working very closely with the Scottish Government, Scottish Development International and trade organisations around food and pharmaceuticals to make customers aware we've got this capability and start using us."

Digitalisation in action

Recognising the importance of digitalisation and automation in modern air cargo operations, Prestwick Airport is transitioning from its old cargo management system to an end-to-end solution. This upgrade will streamline operations and improve efficiency.

"There's more of an acknowledgement that digitalisation, automation and innovation will play into our industry's approach moving forward," Le Roux highlighted. "We're on a legacy system, so we're updating that to make a difference for our customers.

"We're also electrifying all airport equipment, not just cargo. Thinking about all the equipment that you need to run an airport, looking at it and making sure it is fit for purpose."

Operational freedom

Glasgow Prestwick sees the key to its success through its connectivity and unrestricted operations, leveraging road, rail and ferry connections to enhance cargo handling capabilities.

"In addition to air and sea connections, we have a freight rail terminal about a five-minute drive from the airport," Le Roux outlined. "We are actively promoting the benefits of rail transport and working to raise awareness of this opportunity.

"The Scottish Government has shown strong support for this initiative, recently conducting a study to assess the sustainability impacts of rail transport. As part of this effort, we are encouraging more businesses to consider rail as a viable and eco-friendly transport option."

Additionally, without nighttime restrictions and congestion issues, Glasgow Prestwick can offer 24/7 access at no extra cost - a significant selling point for carriers dealing with the surge in e-commerce.

"It's very important for carriers to have reliable options," Le Roux continued. "When carriers face challenges at their usual airports, they often contact us mid-flight to ask if we can accommodate them. Since we manage everything in-house—ground handling, warehouse handling, fire services, and air traffic control—arranging for their arrival is seamless.

"They only need to make one call to our operations line, and we take care of everything. This streamlined process is a significant advantage, and we see this scenario quite frequently, which is fantastic for our operations."

CENTRAL ASIAN CARGO CARRIERS GROW

BY **Maksim PYADUSHKIN**

AN all-white Boeing 727-200 freighter was welcomed by water cannons in Turkistan airport in south Kazakhstan on the sunny morning of 23rd July, becoming the first aircraft of the type for the local airline start-up Alpha Sky and an important addition for cargo capacity for this Central Asian country.

Alpha Sky launched operations in 2023 with two Boeing 737-400 freighters which flew mostly outside the country. According to the carrier's CEO Gulzhan Janibekova, the 32-year-old Boeing 757 will be used to deliver up to 60 tonnes of e-commerce deliveries from Hong Kong weekly under an agreement with the local post operator QazPost. The airline hopes to load the return flights from Kazakhstan with export goods. It also plans to add a Boeing 767 widebody freighter this year.

Any additional cargo capacity is likely to be welcomed by local forwarders as traffic in the country started to grow this year after some decline since the peak result of 33.7 thousand tonnes in 2021. In the first six months of this year, local carriers increased traffic by almost 9 percent, to 12.4 thousand tonnes, government statistics show.

However, most of the cargo is carried in the trunks of passenger aircraft, which limits the available capacities and destinations, the local forwarders complain. For foreign shipments, they have to look for available space on the transit foreign aircraft ,which make stops in the country on their flights between China and Europe.

Kazakhstan's government sees the country's potential as a transit point between the East and the West, especially when overfly of Russia for Western airlines was interrupted after the invasion of Ukraine.

The authorities have defined four airports which will become regional hubs for both passenger and cargo traffic. The list includes Almaty, Shymkent and the capital Astana which are already the country's largest cargo gateways, as well as Aktobe which is on the north of the country. They will develop necessary infrastructure, as well as special customs zones. Turkey's logistics company S Sistem announced at the TIACA Silk Road in the Sky event in Astana in June that it will build a 30,000 sq m multimodal cargo terminal at Aktobe Airport.

Meanwhile, in June, private investors of Karaganda Airport announced their plans to turn it into another multimodal hub. The 60 percent of the gateway's stake was bought by Timur Turlov, the head and founder of Freedom Holding financial group, in May. According to local media, the new owner plans to inject about US$270 million into the renovation of the runway and terminal and expansion of the cargo facilities in the airport.

The Karaganda airport is preparing to launch an affiliated cargo carrier, Altair Airlines, which will operate on routes from Kazakhstan to China. Similar efforts to launch new cargo airlines are being considered by the country's National Welfare Fund Samruk Kazyna and Kazakhstan Railways.

Neighboring Uzbekistan is trying to become a transit hub en route from China to Europe. The country's government liberalized the local air transport market a few years ago. This gave birth to new private carriers, which now compete with former government-owned monopolist Uzbekistan Airways.

The latter operates two Boeing 767-300BSF freighters and plans to gradually convert other aircraft of the type from its fleet into cargo variants.

However, a privately-owned My Freighter unexpectedly became the country's largest cargo carrier by fleet size. The company initially acted as general air cargo agent for Uzbekistan Airways. It launched independent operations with Boeing 747-200F in 2022 but later migrated to Boeing 767 freighters. The airline increased its fleet to five 767-300BCFs by leasing two aircraft of the type from Air Transport Services Group in early July.

After obtaining CCAR129 certification in May which permits operations to and from mainland China, My Freighter has recently launched new flights to three Chinese cities – Ezhou, Shenzhen, and Shijiazhuang.

In June, it announced an interline agreement with Spain's Air Europa Cargo, which gave Uzbeki carrier access to destinations in the Americas, including Panama City, Cancun, Dominican Republic, Punta Cana, Columbia, Miami, New York, and Sao Paolo.

Another Uzbekistan cargo start-up, Fly Khiva, received EASA Third Country Operator approval on July 19. According to its commercial director Farhad Mukhutdinov, the carrier plans to start flying to Europe in August, including Riga, Liege, Warsaw and Paris. Its single Boeing 767-300F started commercial operations in June.

REBIRTH OF CONSOLIDATION

BY **Rebecca FOSTER, Network Manager of AirCargoGroup**

AIRCARGOGROUP is excited to announce a significant shift in our strategy to enhance our service offerings by advertising our airfreight consolidations on WebCargo by Freightos. This move aims to rejuvenate the concept of consolidation, a practice that had seen a decline in favour of back-to-back shipments due to its simplicity and perceived cost-effectiveness. However, as the market dynamics evolve, the advantages of consolidations are becoming increasingly relevant again.

The changing landscape of airfreight

As Kim Ekstroem, COO of Shipco Transport & Deputy Chairman of AirCargoGroup, highlighted, the airfreight industry has undergone substantial changes in recent years. The rise of global resource centres, particularly in regions like India, has led to an influx of rate requests, often arriving during off-peak hours. This increase in rate requests is creating a more competitive environment where multiple bids for the same shipment are commonplace. It is essential that our most competitive rates are available when our customers need them, hence the importance of publishing consolidating rates on our rate portal – available 24/7.

In this highly competitive landscape, airfreight rates are being driven down, making it essential for companies to find ways to offer more cost-effective solutions. Stefano Robbiati, CEO of New Charter and Director of AirCargoGroup, emphasises that consolidation is emerging as a viable answer to this challenge. By combining multiple shipments into a single consignment, consolidations can offer lower rates that are increasingly attractive to customers.

Overcoming trust issues

Christian Koeppel, European Director SACO Germany & Director of AirCargoGroup, adds: "One of the historical challenges with consolidations has been the trust factor, especially in routes to destinations like Delhi and Mumbai. Customers have often preferred back-to-back shipping due to concerns about reliability and the potential for delays. However, AirCargoGroup is actively working to change this narrative."

By leveraging our extensive network and expertise, we are building a more trustworthy and efficient consolidation process, notes Leslie Chung, Manager at Shipco Transport & Director of AirCargoGroup. Our aim is to demonstrate that consolidations can be as reliable as back-to-back shipments while offering significant cost savings. This renewed focus on consolidations will not only help our customers save money but also enable them to compete more effectively in the market.

The airfreight paradox

Every week we send hundreds of ocean LCL shipments into India says Shipco's Kim Ekstroem. Our partner TeamGlobal will do the break bulk and release the shipment to the receiving agent. Nobody doubts our neutrality or integrity. But when it comes to airfreight it is different. Despite the fact that it is the same Shipco and TeamGlobal that arranges transport and the break bulk, it is only recently we have seen freight forwarders embracing consolidating in lieu of back-to-back.

WebCargo by Freightos

Advertising our consolidations on WebCargo by Freightos is a crucial part of this strategy, explains Jacob Pretorius, General Manager SACO CFR South Africa & Director of AirCargoGroup. By making our consolidation services more visible and accessible, we provide our customers with easy access to competitive rates and reliable shipping options. WebCargo by Freightos's platform allows us to showcase the space we have available, making it simpler for customers to book and benefit from our consolidations.

Future prospects

Damian McCluskey, Director of Simply Cargo UK & Chairman of AirCargoGroup says that as the air freight market becomes increasingly transparent and dynamic, the need for robust and competitive shipping solutions is more critical than ever. Consolidations offer a pathway to lower rates and more efficient shipping, especially for mid-sized and smaller companies that might struggle to compete on price alone.

AirCargoGroup is committed to leading this resurgence in consolidation, ensuring that our customers can take full advantage of this cost-effective shipping method. By doing so, we not only enhance our service offerings but also secure our position in the market as a provider of innovative and reliable airfreight solutions.

We invite our partners and customers to explore the benefits of our consolidations on WebCargo by Freightos and join us in embracing this strategic shift. Together, we can navigate the evolving landscape of airfreight and achieve greater success through smarter, more efficient shipping practices.

REVOLUTIONISING AFRICAN AIR CARGO

BY **Anastasiya SIMSEK**

AS the African air cargo market continues to evolve, embracing digital solutions has become imperative to stay competitive and efficient. With a growing need for streamlined processes and real-time data, the industry is at a pivotal point of transformation. The integration of technology is not just a luxury but a necessity to meet the demands of modern logistics and supply chain management.

"The South African market has always been significant for air cargo due to its role as a hub for various industries, including automotive and perishables," Tristan Koch, Chief Commercial Officer at Awery Aviation Software, said.

Since launching its cargo booking platform in South Africa last autumn, Awery has seen demand pick up substantially, with 15 airlines in the country now using their cargo booking product.

Awery accepts that external factors have played a role in accelerating the adoption of air cargo solutions in Africa, as an unexpected increase in airfreight demand has boosted the uptake of technology.

"The issues in the Red Sea, particularly with the Houthi rebels affecting the Suez Canal, have shifted a significant amount of freight from ocean to air," Koch noted.

However, despite the evident benefits, the transition to digital solutions in the air cargo industry has faced some some resistance.

"Globally, less than 10 percent of air cargo bookings are made online," Koch pointed out. "Many still prefer emails or phone calls."

Real-time connectivity

Awery believes its cargo booking platform stands out due to its innovative features, particularly the eMagic tool.

"This tool extracts data from emails and converts it into digital quotes, significantly reducing the time and effort required for data entry," Head of CargoBooking, a platform powered by Awery, explained.

The tool can process up to 129 lines of shipment details in seconds, a task that would otherwise take hours if done manually.

The platform also offers a user-friendly interface that simplifies booking processes.

"When you receive an email request, the tool picks up all the relevant information and provides a detailed quote with available flight options and rates," Balan illustrated.

Awery designed the eMagic tool to digitise email communications to bridge this gap, enabling businesses to work more efficiently without altering their communication habits.

The old-fashioned method of making cargo bookings involved multiple emails back and forth, consuming considerable time and resources.

By embracing this platform, companies have streamlined the process of managing airway bills, which were traditionally handled via emails and phone calls.

"Using our digital tool, a single email can become a digital enquiry, automating the entire process thereafter," Koch explained.

Adaptable and open

In today's fast-paced air cargo environment, flexibility and transparency are key drivers of success. Awery's cargo booking platform offers unparalleled adaptability, designed to cater to the unique requirements of diverse clients. This flexibility allows businesses to customise the platform to their specific needs, enhancing their operational capabilities.

"Our platform is highly customisable to meet specific needs, which is something larger platforms can't always offer," Balan added.

Moreover, the platform's free access model, with no hidden charges or booking fees, sets it apart from competitors.

"We don't charge for API calls, and there are no hidden costs. This transparency and affordability make our platform more attractive," Koch highlighted.

To underscore the impact of digitalisation, Balan shared analytics from May, showcasing impressive results.

"We processed 1,360 quotes with a conversion rate of 88 percent, resulting in 1,200 bookings," she revealed. Remarkably, 23 percent of these bookings were completed directly by forwarders using the platform without any intermediary interaction.

"This demonstrates that people are seeing the benefits of using the platform over traditional methods," Balan concluded.

BY **Michael MACKAY**

EXPANDING OUT OF ROMANIA

TAROM, Romania's national carrier, is planning to start a courier service to London as soon as August, as the airline eyes longer-term development plans for its cargo division.

"One month maybe," Loredana Ristache, Cargo Marketing and Sales Manager of Tarom, told Air Cargo Week.

What is being considered is a proposal limited to parcels under 32 kilogrammes, although they could cover any type of goods, including "biological" goods and valuables.

"We are trying to develop the business utilising our short transfer time - That's quite the selling point for us," Ristache said.

The product offering is part of an overhaul of what the Romanian national carrier offers on its cargo side, currently made up of a limited fleet of 18 planes that travel to a small number of destinations.

"We are trying to expand our network of cargo sales agents, as we collaborate with airline partners in order to expand our market" Ristache added.

One region Tarom is eyeing in particular is Asia. Firstly, Taiwan - Not only is a GSSA being appraised in the area but talks are underway with one of the island's most significant carriers - China Airlines.

In India, things are not so forward with TAROM defining the current position as research, rather than deal-making. "We are trying to get some agreement for the Indian market, targeting a mix of general goods and leathers and textiles."

There is another toehold in the South Asian market under active consideration, as due diligence is being done with Flydubai, allowing TAROM to access cargo volumes from India and Pakistan.

Currently, what Tarom moves as a cargo carrier tends to be defined by the destination. Perishables are one of the main three, with shellfish farmed in Bulgaria – especially mussels – being strong sellers in Spain. Spare parts to Tel Aviv is another niche. The rest is made up of pharmaceuticals and biological products for France and Belgium, as well as textiles to Paris and Bucharest.

Two factors potentially limit TAROM's dreams of plentiful connections to the United States and Asia. As mentioned, the carrier only possesses a small fleet of just eighteen aircraft: six ATR72s, eight B737s, four -800NGs and four -700s. These planes have a capacity of around one tonne, whilst the -800s offer three tonnes.

"There is a problem of space on the plane," she emphasised. However, things look set to improve next year in December 2025, when two significantly larger Boeing 737 Max aircraft join the TAROM fleet, offering around five tonnes of capacity each.

On top of this, the destinations roster is limited and rather historical, driven by passengers, limiting the national carrier to European destinations such as Madrid, Frankfurt, Heathrow and Paris, as well as Middle Eastern offers such as Cairo, Tel Aviv and Amman.

Ultimately, what Tarom really offers is not so much connections to major European hubs or some Middle Eastern cities but good services within Romania. These includes up-and-coming cities Timisoara (and Arad) and Cluj-Napoca, sometimes twice a day. Its real benefit for the short term at least is not so much filling in well established routes but serving cities within Romania.

ASIA'S DYNAMICS

BY **Edward HARDY**

"I believe we will reach a point where airfreight rates vs capacity will be fair."

As the industry enters the latter half of 2024, innovation, efficiency, and the boom in e-commerce have proven to be the key drivers within the industry.

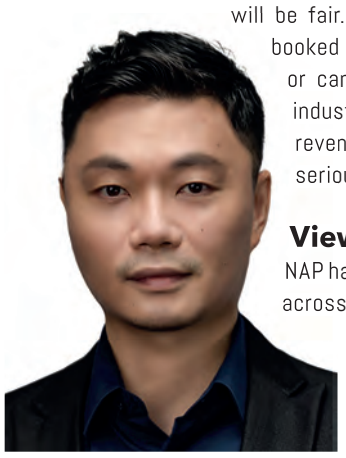
e-commerce is complex, and the larger picture of its operations, such as first and last-mile services and cross-border logistics, is difficult due to differing customs restrictions.

"Networks like our NeX and their members help us understand and adapt to the e-commerce market. In China, the e-commerce boom presents both opportunities and challenges, requiring tailored logistics solutions," Jerry Qian, Business Development Manager at Neutral Air Partner (NAP), explained.

"We're also focusing on digitalisation to provide our members with the necessary tools to grow. In China, we aim to strengthen our network and leverage the region's logistical advancements."

Cash flow and the new International Air Transport at Association Cargo Account Settlement Systems (CASS) financial security requirement, are significant challenges for small and medium forwarders and consolidators, especially with rates going up. Capacity is another problem everyone faces. Additionally, navigating different regulations and customs requirements in the Asia-Pacific region adds complexity.

"I believe we will reach a point where airfreight rates vs capacity will be fair. Carriers will ensure shipments fly as booked and may implement penalties for late or cancelled deliveries, similar to the travel industry. Cargo is now a crucial part of airline revenues, so they are taking it much more seriously," Qian stated.



View from above

NAP has 350+ like-minded air cargo specialists across 150+ countries, giving the organisation a global view into the industry and allowing it to explore innovative air cargo solutions for the supply chain.

"NAP is unique because it focuses solely on air cargo activities. While there are hundreds of logistics networks worldwide, they are usually very generic. A few specialise in special verticals, like automotive or aerospace, but NAP is the only air cargo focused logistics network at the moment," Qian highlighted.

"However, we try to keep it small with a "quality over quantity" approach, all of this made NAP a boutique network of local specialists.

"NAP's members have shown great performance this year, currently ranking in Top 5 Air Cargo Sales in North Asia and Indian Sub-Continent."

Collaborative approach

Small and medium forwarders and consolidators represent over 45 percent of the global airfreight business volumes. While airlines have global key account programmes for large forwarders, NAP's global partnership programme with a group of local and independent forwarders and consolidators seeks to offer value for airlines and create a win-win collaboration.

"Our programme provides local strength with global reach, flexibility to make short- or long-term commitments with carriers and delivers members' compliance and knowhow to meet the changing air cargo market needs," Qian outlined.

"NAP helps airlines diversify their customer base, collaborate with leading local specialists, identify high-yield cargoes, sign short and long-term agreements, sell last-minute capacity, and enter new business markets."

NAP's NeX e-commerce network will be holding OPENEX ASIA in Hong Kong on 16th-18th September, delivering a high-quality programme with international and regional speakers who have vast experience and solid track records in their fields, everything on cross-border e-commerce.

Shortly on October 7th -9th, during the premium ACE Event in Budapest, NAP will hold its regional Centre Europe meeting in conjunction with BUD:Cargo Day. ACE is converging the air cargo logistics and freight forwarding communities.

Next February, NAP will host its flagship OPENAP in Thailand (23-27 February 2025).

BEHIND THE SCENES OF FORMULA E'S DRIVING FORCE

BY **Edward HARDY**

After 16 rounds in ten countries, Formula E's tenth season concluded in London with a nail-biting conclusion to the championship that saw Pascal Wehrlein win his first Drivers' Championship by just six points.

The on-track action kept fans on the edge of their seats to the last moment but none of this would have been possible without the large-scale logistics operation that goes on in the background.

From the narrow streets of Monaco to the Portland International Raceway, DHL handles the huge pressure of delivering for a sport that commands a fanbase of over 344 million people.

"We are carrying, from one race to another, around 400 tonnes of freight across air and sea," Federico Cavani, Formula E Operations – DHL Motorsports, said.

"We have to deal with airlines, customs, trucks. We are working on night shifts before and after the race, day shifts at the airport under all sorts of conditions and environments.

"Before an event, we arrive on-site and begin offloading the trucks carrying essential equipment that is crucial for setting up the race.

"The following day, we start unloading and delivering team equipment, including cars, garage tools, and other necessary items. We meticulously lay out all freight according to a detailed map that specifies the location of each crate and pod.

"We then focus on setting up the team boxes in front of the garages for teams and distributing freight to various suppliers. Throughout the setup process, we have at least eight forklift operators from DHL constantly moving freight.

"After the race, we collect the empty boxes and place them in front of the team garages. This allows the teams to pack and load their equipment within two to three hours after the race.

"From midnight or 1am after the chequered flag, we begin loading everything onto trucks for shipment to the airport. And, in the following days, we collect the remaining freight, as some suppliers take more time to take down and pack up their equipment."

A greener vision

DHL, the official founding and logistics partner of Formula E, has been working tirelessly over the last decade to ensure that 132 races across 33 cities and 24 countries proceeded without a hitch. Bringing 40 years of experience in global motorsport, DHL works to deliver critical logistics solutions for all its customers but with Formula E, the process goes beyond simply moving goods, there's a bigger part of their relationship.

With Formula E, the first sport with a certified net zero carbon footprint from inception, and DHL, the first logistics company to set a measurable carbon efficiency target, the two organisations are determined to put sustainability front and centre.

DHL offers cutting-edge sustainable logistics, utilising multimodal transport solutions across air, road and sea. This has allowed Formula to have a substantial reduction of greenhouse gas emissions through the use of biofuels over the past three seasons.

The logistics provider has also sought to use sustainable aviation fuel (SAF) where possible to have a lesser impact on the climate. This was evident most recently when DHL moved three 747s 5,000 miles from Portland to London using SAF, reducing greenhouse gases 80 percent compared to conventional jet fuel.

"DHL and Formula E share strong values around sustainability, although we accept the logistics side can still carry a significant environmental footprint," Cavani highlighted.

"While we can't change the necessity of transportation, we are committed to neutralising our carbon emissions. We constantly work on solutions such as using sea freight containers, biofuels, and hydrogenated vegetable oil fuel to minimise emissions."

Passion project

For the DHL team working on this sport, those committed to working on delivering a smooth logistical process have to commit to more than just a day job, it's a year-round mission that requires a real love of the sport and their work.

"When I spoke with my friends, they couldn't grasp the scale of what we do. They saw DHL banners on the circuit and wondered what our role was. Some people watching TV might not realise the immense logistics behind the scenes. It's not just about moving items; it involves coordinating a massive amount of activity to make everything happen smoothly," Cavani explained.

"To deliver the freight, you have to stay away from your family because you are travelling a lot. For each race, we are away from home between 14 and 20 days. So, across the calendar, during the championship, we are at home for just a few weeks.

"But when you arrive at the circuit on race day after all the operations are completed and the fans are watching, we are always very proud to have worked on this and made the championship happen."

"We are carrying, from one race to another, around 400 tonnes of freight across air and sea."

MOVING YOUR GOODS TO MARKET

BY **Edward HARDY**

IN e-commerce, demand from consumers around key dates or large events creates a need to fulfil orders quickly to capitalise on the initial interest. As such, there has been a significant push for expedited shipping.

Strategic locations allow 3PLs to maximise pickup and pushback times. This enables third-party logistics providers (3PLs) to handle increased volumes efficiently. For instance, during a music artist's launch, they could secure additional capacity to meet the surge in demand, benefiting clients, the 3PL, and the carrier. Alternatively, when challenges emerge, such as the Red Sea crisis, 3PLs can work to find alternative routes and capacity to ensure delivery as planned.

"When planning shipments, it's important to consider the type of transport and the availability of cargo space. For instance, routes from Vietnam, Hong Kong, or Narita might require a mix of ocean and airfreight," Tony Ruiz, Vice President of Capacity, explained.

"You might prioritise ocean freight from one location while utilising airfreight from another where cargo space is more available. This strategic approach allows for flexibility and efficiency in meeting shipping needs.

"Following Chinese New Year, airfreight demand increased as businesses rushed to move goods after China's four-week slowdown. Retail and wholesale calendars dictate whether it makes sense to use ocean freight or airfreight.

"During COVID-19, we saw more frequent use of airfreight due to supply chain disruptions. Although such extreme circumstances are less common now, space on aircraft remains a premium.

"This is partly because fewer wide-body aircraft, which offer more cargo space, are in operation. Passenger aircraft, such as the Boeing 757, have less cargo space compared to the larger 747 or Airbus models. As a result, cargo-only flights are often necessary to secure sufficient space."

Taking flight

Given shipping schedules from Asia can be typically four to six weeks, companies might make financial decisions on how to split up shipments to meet the commitments they have made to their customers. This might be an 80/20 or 70/30 split, with the majority going by sea and the urgent goods travelling via airfreight.

Ocean freight can be very effective, but air shipments can complement it to ensure your launch goes smoothly without excessive transportation costs. This balanced approach helps companies to manage their financial exposure while meeting commitments to vendors and customers.

The automated commercial invoicing process has streamlined information exchange between the 3PL, forwarders, and carriers, eliminating issues that would have caused delays 10-15 years ago.

If there is a customs issue or a problem with declarations, this automation and digital exchange ensures that 3PLs can address it much faster now. The real-time capabilities of a strong network allow the 3PL to handle these issues promptly, even with time differences in Europe or Asia.

"What we offer our clients is comprehensive logistical support to ensure smooth operations. First, we make sure all harmonised codes and paperwork are correct by working directly with the forwarder to ensure that all declared values meet their specifications," Ruiz outlined.

"Additionally, we handle logistical details, such as securing the correct amount of space on flights. It's crucial to accurately determine the space needed, whether it's four positions on a plane or twelve. Ensuring these details from the beginning prevents issues later on.

"We also follow up to track shipments and ensure they are correctly processed through customs. By handling the initial paperwork electronically and ensuring accuracy, we can often facilitate seamless customs clearance in the US. This meticulous approach helps streamline the entire process, minimising delays and ensuring timely delivery."

Smoother shipments

As the market realigns to match the volume and needs of the industry, Ruiz is clear that 3PLs would greatly benefit by seeing more flexible support from airports and shipping gateways.

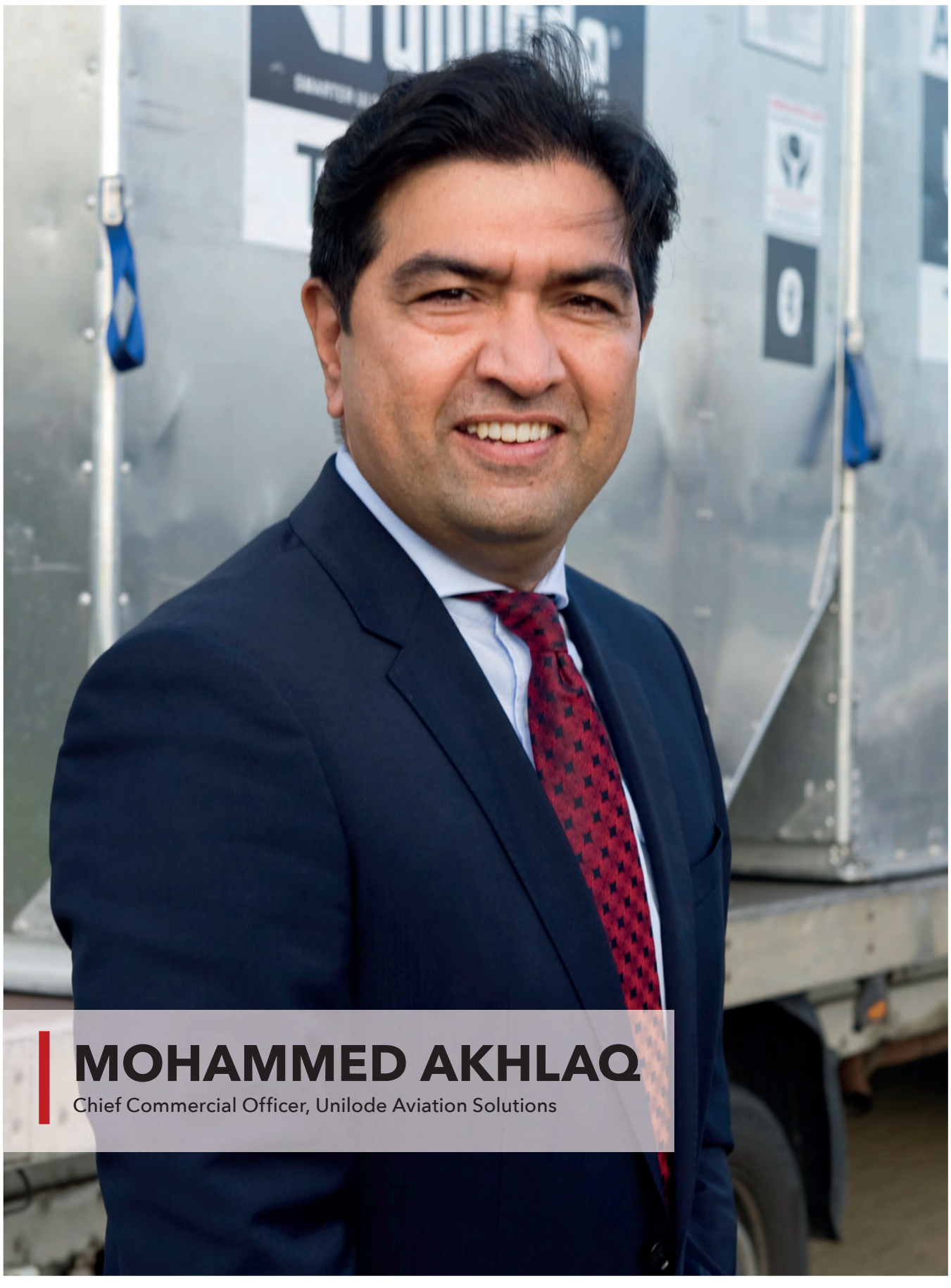
Currently, some airports do not operate 24/7 for freight clearance. For example, if freight arrives on a Friday night, capacity might only have 24 hours to clear it and transport it to its facilities without incurring additional fees.

"It would be advantageous for the industry if gateways worked more closely with customers to offer better support," Ruiz stated.

"Both air and ocean freight services need to consider the varying demands throughout the year. From July to October, there is a surge in shipments due to the wholesale holiday season, whereas February to May sees lower volumes.

"Scaling operational hours to match customer needs based on volume would significantly improve the efficiency and effectiveness of the entire process."

60 Seconds With ...



MOHAMMED AKHLAQ

Chief Commercial Officer, Unilode Aviation Solutions

BY **Anastasiya SIMSEK**

Mohammed Akhlaq has over 30 years of experience in senior commercial and operational roles in the aviation industry. He has worked closely with airlines, ground handlers and logistics companies and is a trusted liaison in the industry. Mohammed's most recent role was Chief Commercial Officer for Europe at dnata where his commercial prowess has enabled the company to grow significantly and achieve an incredibly strong brand recognition. Mohammed was appointed CCO of Unilode in November 2022.

How did you get into airfreight/logistics?
I took up a summer job as a Cargo Agent.

What quote has most resonated with you?
Let gratitude and contentment be the methodology of life.

What's the best piece of advice you've ever received?
Treat others how you want to be treated.

What is the most adventurous thing you have ever done?
Facing a cricket ball at 90 mph plus!

If you could have dinner with any three people, living or dead, who would it be and why?
Imran Khan, Muhammed Ali and Nelson Mandela - my icons.

What's something we wouldn't know about you from your CV?
I am the eldest of six siblings originating from Kashmir.

What hobby have you always wanted to try but never got around to?
Skiing.

If you have not pursued a career in airfreight, what other field would you have liked to go into?
Graphic Design/Marketing.

If you could have any superpower, what would it be?
Healing power.

What's your proudest moment and your biggest regret?
Proudest - birth of my son and regret - not pursuing a professional cricketing career.

If there was a movie made about your life, who would you like to see play the lead role?
Dilip Kumar (Bollywood).

Looking back over your career, what would your message be to someone considering a career in logistics?
Be passionate, remain curious, prepare for continuous learning and enjoy the ride!

How do you motivate your team?
By providing an environment and team ethic that allows individuals to continuously learn, excel and grow in their roles.

What is the one item you can't travel without?
Electric toothbrush!

Who is your role model?
Imran Khan.

What would your autobiography be called?
Ackers!

Cats or dogs?
Neither.

Early riser or night owl?
Early riser.

What's the best and worst purchase you've ever made?
Best - first house, worst - first car!

If you could only eat one meal for the rest of your life, what would it be?
Keema curry, rice and Naan.

What's your most used emoji?
😊

THE RISE OF CONVERTED NARROWBODIES

BY **Benjamin COOPER**

Global e-commerce is set to surge by 38 percent over the next five years, reaching a staggering US$8 trillion by 2028. This seismic shift is not just about widebody segments connecting the main manufacturing plants in Asia to Europe and North America, as evidenced by the orders from National Airlines for 777Fs at the Farnborough Airshow. It's also about a new key segment of the emerging industry driven by the unstoppable force of e-commerce.

The rise of converter narrow-bodied aircraft is a significant development in the air freight industry. This trend is reshaping the industry and influencing future strategies and decisions.

Traditionally, airfreight was dominated by widebodies connecting hotspots across continents. However, recent events such as the Dubai Airshow in 2023 and this year's Farnborough Airshow have brought a new trend: the increasing popularity of second-hand converted freighters, marking a significant shift in the industry, particularly in the short haul segment.

E190F's debut

Embraer showcased its impressive aircraft lineup at the recently concluded Farnborough Airshow 2024. Among the highlights were the well-known C390 strategic lift military aircraft and the E190-E2, their latest fuel-efficient flagship aircraft. However, stealing the spotlight was the debut of Embraer's first-ever converted freighter, the E190F, prominently featured at the airshow.

The concept of the E190F originated from discussions among industry representatives, who noticed a trend of airlines phasing out their E190 E1 airplanes in favour of more modern and fuel-efficient models. Additionally, the growing influence of e-commerce executives within the Brazilian OEM led to the realisation that these retired E1 aircraft could be repurposed as efficient feeder aircraft in response to the increasing demands of e-commerce.

The E190F is designed to seamlessly integrate into freighter fleets by offering additional capacity and complementing other aircraft, such as the smaller ATR72-500/600F and the A320P2F. Its capabilities enable access to smaller airports, including London City Airport, pending regulatory approval. This will facilitate a more efficient response to the growing demand for e-commerce logistics.

Airbus offering

The Airbus A321P2F and A320P2F were prominently showcased at the 2023 Dubai Airshow in the Airbus static area, aimed at introducing newcomers to the European giant's cargo aircraft offerings.

Airbus initiated the converted narrowbodies programme due to the insufficient market demand for widebodies such as the A330-200F or A330P2F.

Narrowbody freight aircraft are currently available, but they often come with limitations. For instance, models such as the ATR are on the smaller side, while options like the 737-800BCF offer only a single variant.

However, the European manufacturer is addressing these limitations by introducing a new lineup that includes different sizes, notably through models like the A320 or the A321P2F.

The A321P2F offers an additional advantage with its large cargo door, which is designed to accommodate standardised containers. This design enables cargo airlines to seamlessly transfer goods from their larger long-haul fleet to the narrowbody aircraft.

An increasing role

The development of narrowbody converted freighter aircraft programmes represents a significant development in the airfreight industry, driven by the growing influence of e-commerce and changing market demands.

The debut of aircraft such as the Embraer E190F at the Farnborough Airshow this year and the introduction of the Airbus A320P2F and A321P2F at the Dubai Airshow the year before demonstrate how manufacturers are innovating to meet the evolving needs of airlines and logistics companies. These converted freighters offer additional capacity, fuel efficiency, and the ability to access smaller airports, making them ideal for serving the surging demands of e-commerce logistics.

The emergence of these narrowbody freighters is reshaping the industry, providing airlines with more versatile and cost-effective solutions to meet the demands of air freight transportation in the evolving global market.

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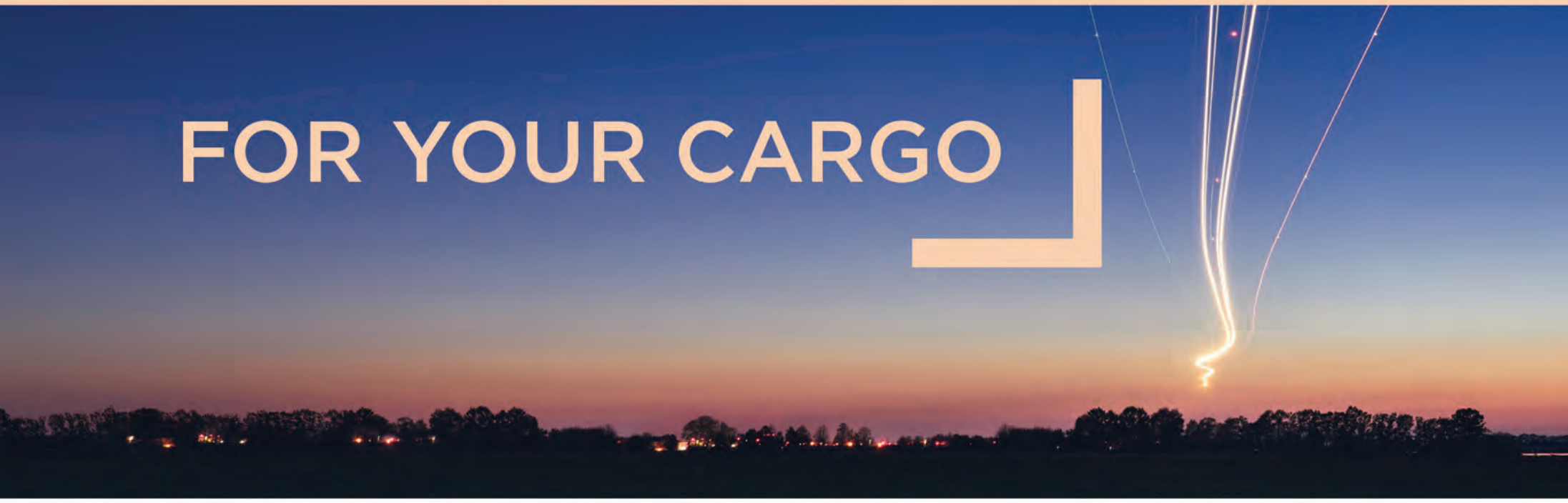

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CARGO TECHNOLOGY IN THE DIGITAL AGE

Air cargo technology encompasses a wide range of advanced systems and solutions designed to optimise the transportation, handling and management of goods transported by air. These technologies aim to improve efficiency, security and sustainability in the wider air cargo industry.

To judge how far air cargo technology has come and will yet develop, it is informative to consider what the technology was like when scheduled air cargo flights began, back in 1944 wartime USA.

Scheduled air cargo flights officially started with a 19-hour flight from New York City to Southern California in October 1944. American Airlines loaded up a DC-3 with more than 6,000 pounds (2.7 tonnes) of cargo and flew the first scheduled air cargo flight, from LaGuardia Field to Burbank, California.

Black & white photographs of the loading would show plenty of labour and little handling technology as men physically loaded wooden boxes of merchandise, stacking them in the aircraft like they were stacking at the time into railway cars and ship cargo holds. Records were kept on paper and there was no ability to track and trace any consignment in real-time.

Eighty years later it is clear there is a very different picture when one stands in a cargo terminal or on the cargo apron. Millions of tonnes of cargo are handled at the world's airports by fewer people than loaded that DC-3 eighty years ago.

The relatively low number of people presently working in air cargo loading and handling can be attributed to several factors. Firstly, the air cargo industry has increasingly adopted automation and advanced technology to improve efficiency and reduce the need for manual labour. Automated systems for sorting, loading and unloading cargo have significantly decreased the number of workers required.

Air cargo loading requires specialised skills and training. Workers need to understand weight distribution, safety protocols and the handling of various types of cargo. The need for specific training can limit the number of qualified personnel.

The nature of the job often involves working in harsh conditions, such as extreme temperatures, noisy environments and irregular hours, including nights, weekends and holidays. These conditions can make the job less attractive to potential workers.

The industry is heavily regulated, and workers must comply with stringent security and safety standards. This includes background checks, security clearances and adherence to safety protocols, which can be barriers to entry.

Now, if time travel permitted those 1940s aircraft loaders to arrive eight decades into the future, they would be astounded by the modern air cargo handling eco-system. They would see vast warehousing storing hundreds of empty and filled ULDs in stacks that tower over mere people, automated systems that can locate an ULD anywhere in the world in real-time and technology that can protect the most perishable and vital of cargoes.

However, one thing that still connects the men in wartime New York and the men and women working in the most modern digital warehouse is straightforward and has not changed: air cargo handling allows for the rapid and efficient transport of goods over long distances and plays a critical role in supply chain management by ensuring that goods move swiftly from manufacturers to consumers or businesses as it supports international trade by facilitating the movement of goods across borders. That at least, has not changed.

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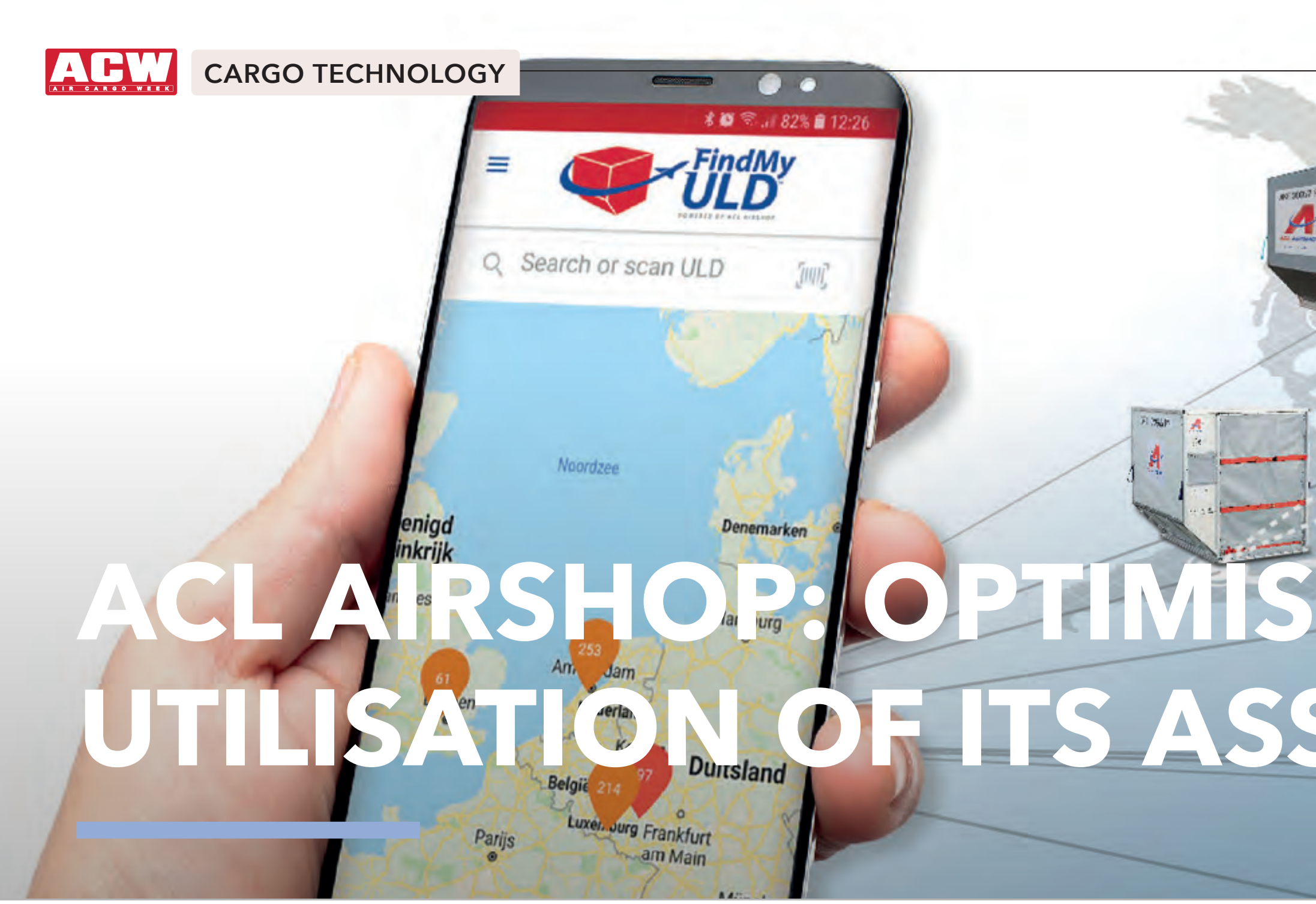

ACL AIRSHOP: OPTIMIS UTILISATION OF ITS ASS

"In recent years, ACL Airshop has made significant progress in recycling both the aluminium parts of our ULDs and the plastic waste used in our nets and straps"

It is often asserted that insurance is very expensive, until you need it. Likewise, should airline managers or bean-counters ever question the cost of utilising ULDs (Unit Load Devices), think of the cost of not having them.

The annual spending by airlines and other ULD owners on equipment to move clients' airfreight around the globe can be about $300 million. These costs can vary per airline depending on how they manage and handle their ULDs. As this is not the core business of an airline, a separate department or outsourcing can be a solution to reduce these significant costs. Not being able to carry cargo due to a shortage of ULDs also has an obvious big impact on an airline and its bottom line causing loss of revenue. These are the opinions of Jos Jacobson, COO of E Hemisphere and managing director of global at US-based ULD lessor ACL Airshop.

At a time when ULDs must comply with growing international and national regulations, which can vary and be complex to navigate, are regulatory issues impacting design and manufacture?

International sales director Jasper van Gelder says: "This is more a question for ULD manufacturers who must comply with various international and local regulations and certifications. ACL Airshop purchases its ULDs from leading OEMs, as we are not involved in the design and manufacture of ULDs. Of course, all ULDs owned by ACL Airshop meet international and local standards."

Safe disposal matters

Disposing of old or damaged ULDs can have environmental implications, especially if they are made of non-recyclable materials. What is ACL Airshop doing to build in 'greener' materials?

van Gelden says: "In recent years, ACL Airshop has made significant progress in recycling both the aluminium parts of our ULDs and the plastic waste used in our nets and straps. Some composite materials remain a challenge to find the right way to recycle and/or dispose of, especially due to the difficulty in separating the different parts. Secondly, we only invest in ULDs that are well recyclable and still lightweight.

"Since we do not produce ULDs, we focus on more efficient logistics and optimize the global transportation of our ULDs in a cost-efficient way. This process is continuous, and our operational teams are constantly working on reducing transportation costs. Additionally, our well-designed and user-friendly ULD control system also supports the optimisation of our assets worldwide and ensures that we have the right product at the right place at the right time."

The company launched an app designed to play a vital role in the daily operations of stakeholders in the airfreight supply chain. How successful would ACL Airshop's technology and IT systems director Harold Eifing judge the FindMyULD app to have been?

Eifing says: "The FindMyULD app plays an important role in the daily operations of our customers, ACL Airshop staff, and 3P stations. We have different use cases for the app, such as ULD management, MRO support, and inventory and leasing insights. This helps our customers be more efficient and make informed decisions based on the information displayed in the app. As part of our IT roadmap, we will continue to invest in the FindMyULD app and add more functions

that will further support and benefit our customers, 3P stations, and ourselves."

Eifing notes that The Internet of Things (IoT) is moving airfreight operations forward over the coming next decade. He also says: "IoT is still in an early adopter phase but is becoming more mature and standardized. For ACL Airshop and our customers, having reliable ULD stock information is essential, which can be achieved through IoT. We have seen significant benefits for our customers who have fully digitised their ULD fleet. IoT can be used not only for tracking ULDs but also for process automation, such as handovers, MRO, leasing and order processes. ACL Airshop will continue to invest in automation to help our customers optimise ULD management.

"The global ULD market is around 1-1.2 million ULDs and has been quite stable over the years. The passenger market is now recovering to pre-pandemic levels while the cargo market is showing a correction from the high demand during COVID-19. The challenge for not only airlines but also for companies like ACL Airshop is to optimise the utilisation of our assets and invest where we see the market demand is growing. In the event of regional shortages we first look to how we can solve this within our inventory instead of immediately purchasing new ULDs. This whole process is complex as also high sea transport costs have an impact on the decisions we make in our supply chain."

What is the typical lifespan of an ACL Airshop ULD? Van Gelder says: "In general, the average lifespan of our containers is around seven years, with pallets lasting a few years longer, but it all depends on the handling and specifications of the ULDs as well as the utilisation of our assets. It also depends on the type of container and whether a container/pallet is flying in a closed loop (less damage) or not."

ACL Airshop was the first on the market with Bluetooth IoT technology to keep track of ULDs. Bluetooth technology works well in a closed-loop network but depends on a reader network. When destinations continuously change, other IoT technologies are more appropriate. In the last two years, telecom operators have rapidly rolled out IoT networks with global coverage and standard protocols. ACL Airshop will utilise these networks with GPS trackers that use additional technologies like WiFi, Bluetooth, and LoRaWAN to provide better localisation anywhere in the world.

Route to greater efficiencies

A reduction in the ULD fleet by up to 20% is possible, but also more accurate ULD stock and status information helps to become more efficient.

Eifring says: "From a ULD management perspective, with a complete digitalised ULD fleet, we do not need to receive the mostly manually entered IATA messages like SCM, UCM, and LUCs."

What are the latest innovations in ULD materials and construction? What ACL Airshop see in the market is that there is less focus on new or exotic composite materials to further reduce weight or increase the strength of ULDs. Instead there is more focus on designing ULDs that are safer – fire resistant – or easier to handle.

He adds: "The imbalance between global supply and demand continues to be one of the major issues of the airline industry. Through ad hoc leasing, they can cover shortages, and through proper ULD control and our management system, and better analyse and predict shortages or overstock."

Due to e-commerce, there is high demand throughout the year for ULD, Jacobsen reports, with possibly less seasonality at the end of the year. However, when peaks or lows occur, this is where ULD management software can help. By looking at historical data and trend lines, an ACL Airshop ULD control system can prevent these shortages or overstock. ACL Airshop can determine with all the historical data where certain ULD types are best positioned throughout the year. This is where its lease stock is positioned.

Future trends

The future will be a smarter ULD with better localisation options (GPS) and more automation standards by airlines, combined with handlers and agents. This will help with higher utilisation of the ULD fleet. Maybe the ULD will tell the customers in the future where it needs to go and how it should be returned. Traditional messaging like UCM/SCM messages will become less relevant and will be replaced with digital messages.

Globalisation will increase and manufacturing and demand might happen in the same region, there could be more need for smaller aircraft flying regionally. The world will become more connected, and traditional trade lanes will slowly change. Asia will continue to drive the supply side, concludes Jacobsen.

"ACL Airshop was the first on the market with Bluetooth IoT technology to keep track of ULDs"

HOW IOT IS SHAPING AIRFREIGHT TECHNOLOGY

"Operational efficiency is another area where IoT makes a substantial impact"

The Internet of Things (IoT) is more than just a buzzword in the modern airfreight industry. It is becoming extremely important to real time airfreight operations for a number of reasons.

The IoT refers to a network of interconnected devices that can collect and exchange data with each other over the internet or intranet. These devices range from everyday household items like refrigerators, thermostats and light bulbs to industrial machinery, wearable health monitors and even smart city infrastructures.

In essence, IoT enables these "smart" devices to communicate with each other, making our lives more convenient, efficient and informed. For example, a smart thermostat can learn your daily routine and adjust the temperature of your home accordingly, potentially saving energy. A smart refrigerator can track the contents inside and notify you when you are running low on milk or other groceries.

At its core, the Internet of Things is about creating a seamless, integrated ecosystem where devices work together to improve the quality of life, increase efficiency and foster innovation. This interconnected world, driven by data and automation, represents a significant shift towards a more intelligent and responsive environment.

This is why the IoT is playing a pivotal role in the airfreight industry, revolutionising how goods are transported and managed. One of the most significant advantages IoT brings is the ability to track and monitor cargo and cargo equipment in real time. This capability ensures that shipments are not only secure but also accounted for at every stage of their journey. With sensors providing continuous updates on the location of goods, as well as environmental conditions such as temperature, humidity and pressure, the transportation of sensitive items like pharmaceuticals and perishable goods becomes more reliable and efficient.

Operational efficiency is another area where IoT makes a substantial impact. By integrating IoT devices, airfreight companies can optimise routing and reduce delays, thus improving turnaround times. The automation of inventory management and asset tracking also reduces the likelihood of manual errors, streamlining the loading and unloading processes and boosting overall productivity.

IoT is instrumental in predictive maintenance, a critical aspect of airfreight operations. Sensors embedded in aircraft, including cargo aircraft, and ground equipment continuously monitor their condition, enabling the prediction of maintenance needs before any failures occur. This proactive approach minimises downtime and prevents unexpected disruptions, ensuring that operations run smoothly and safely.

Supply chain visibility is greatly enhanced through IoT, offering a comprehensive overview of the entire logistics process. This improved visibility aids in better decision-making, enhances coordination among various stakeholders and increases transparency. Real-time data sharing among shippers, carriers and receivers ensures timely updates and facilitates the efficient handling of shipments.

Regulatory compliance is another area where IoT proves beneficial. The precise data logs generated by IoT devices help in meeting stringent regulatory requirements, making inspections and audits more straightforward. This ensures that airfreight companies adhere to international shipping standards without the hassle of manual documentation.

Customer satisfaction sees a significant boost due to the enhanced tracking and monitoring capabilities provided by IoT. Clients can receive accurate and timely updates about their shipments, leading to better customer service, leading to higher levels of trust and satisfaction among customers.

Cost savings are an essential benefit of IoT in airfreight. By optimising operations and maintenance, IoT helps reduce operational expenses. Better utilisation of assets and a decrease in losses from mishandling or delays translate to substantial cost savings for airfreight companies.

Security is another critical area improved by IoT. The technology enhances cargo security by monitoring and alerting for any unauthorised access or tampering. Geofencing technology ensures that shipments follow designated routes and alerts authorities in case of deviations, further securing the transported goods. Companies like IBM have developed solutions that combine blockchain with IoT to enhance the traceability and security of shipments, ensuring that all data related to a shipment is immutable and transparent.

IoT tackles global ULD shortage

Two IoT technologies can help airlines maximise the use of their ULDs and simplify return practices by encouraging timely returns: Bluetooth Low Energy (BLE)-enabled ULD tracking and demurrage automation.

BLE tracking uses Bluetooth tags affixed to containers or pallets to automate end-to-end tracking of assets. BLE readers capture the movement of ULDs with attached BLE tags, enabling real-time tracking whether the assets are in the air or on the ground. In addition to location, other sensor-based, condition-related information -such as precise temperature, movement, and humidity - can be monitored for shipments. Tags can also be added to ground service equipment, like dollies, providing full control over a carrier's equipment.

This technology offers real-time visibility into the exact location of ULDs, identifies who has custody of them at any given time and easily traces asset movements to clarify any discrepancies between stakeholders. However, while BLE tracking can tell you where your assets are, it does not manage when demurrage starts and stops, or when assets should be returned.

Companies like Worldwide Flight Services (WFS), one of the world's largest air cargo handlers, have enhanced real-time shipment visibility and cost-efficient unit load device (ULD) asset management solutions by deploying Descartes Core Bluetooth Low Energy (BLE) readers across its global cargo operations.

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AGV TAKES TO THE FLOOR FOR AIRFREIGHT

"An AGV is a self-propelled vehicle that uses marked lines, radio waves, lasers, or vision cameras for navigation"

The Automated Guided Vehicle (AGV) market is estimated to reach a value of $13.83 billion and expand at CAGR (Compound annual growth rate) of 10.2% by 2032. According to Polaris Market Research predictions, the AGV market was expected to generate revenue of $5.78 billion in 2023 and is expected to reach $13.83 billion by 2032, growing at a CAGR of 10.2% over the forecast period from 2024 to 2032.

The market for automated guided vehicles is bolstered by the booming popularity of e-commerce and rising demand for automation in material handling across various sectors, including aviation facilities such as warehousing. In several instances, AGVs can serve as a replacement for human labour, offering significant cost benefits to operating firms. In addition, AGVs can carry out processes of fixed automation systems such as conveyors. The growing applications of the technology in various sectors such as healthcare, manufacturing, automotive and logistics are further fuelling the expansion of the industry.

An AGV is a self-propelled vehicle that uses marked lines, radio waves, lasers, or vision cameras for navigation. It is used for tasks that conveyors, forklifts, and manual carts typically handle. There are several different types of AVGs in market, including pallet trucks, unit load carriers, forklift trucks, tow vehicles and assembly line vehicles. Unit load carriers are designed to carry specific parts or products, whereas forklift trucks and towing vehicles are designed to act as stock robots for warehousing. The movement of AGVs is guided by software and sensors. The pathways that AGVs take are usually predefined, but some automated guided vehicles with the most advanced technology come with dynamic navigation capabilities.

AGVs In airfreight use

Three years ago, DHL Supply Chain announced the implementation of 15 automated forklifts in its warehouse operations at Tyrefort in the UK's West Midlands. The indoor robotics transporters work up to 11.5m high – which DHL said was believed to be a first in the logistics industry – reaching high warehousing racks to handle a range of pallets, stillages and waste cages. Safety features including lidar and camera obstacle detection, bumper tip sensors and side bumper bars, were all designed to minimise interaction with manual trucks operating in the same facility.

Last year, Worldwide Flight Services (WFS) an AGV forklifts trial at its cargo terminal in Barcelona Airport. The trial, featuring Linde AGV forklift trucks, was planned to span seven months and be concluded

in April, 2024. If successful, this technology would be implemented across other WFS stations in the Europe, Middle East, Africa, and Asia (EMEAA) region.

The trial aimed to determine if AGVs can reduce the transport tasks currently performed by cargo agent personnel, allowing them more time for other critical duties, and to explore potential productivity improvements. Two types of AGV forklifts were used in the Barcelona facility within the inbound and outbound operational areas. They will move cargo from the breakdown areas to racking storage locations within the warehouse as well as to the cargo delivery area.

"We have allocated dedicated pick-up areas for the trials in addition to 156 pallet storage rack locations," said Barcelona station manager Marc Grau.

The trial was integrated at WFS's Cargospot Mobile warehouse management system, supplied by CHAMP Cargosystems, with AGV Robotic WMS to provide a one-system solution.

WFS is actively exploring opportunities presented by automation solutions, with trials also including AGV ground handling tractors to move cargo between warehouse and airport apron operations. As part of its evaluation process for this latest proof-of-concept, WFS's Operational Excellence team was able to see the solution already in use in a logistics warehouse facility managing import and export shipments in the automotive industry.

The AGV forklift trial explored how the vehicles are able to reduce the number of transport tasks currently undertaken by Cargo Agent personnel, giving them more time to conduct other important duties, as well as assess opportunities for productivity improvements. Safety and security remain the number one priority, and this trial will be done in accordance with Racking Safety Requirements and strictly adhere to safety distances for transportation.

"We are very much looking forward to seeing how the use of AGV technology can enhance our cargo warehouse operations. We have chosen to do this first AGV forklift trial in Barcelona because it is a prime cargo station in the WFS network and one of the leading locations supporting our Operational Excellence initiatives. Our team in Spain are helping to drive the introduction of new technologies into our operations and to provide the proof-of-concept we need before we roll out these solutions at other cargo stations in our network," said Jimi Daniel Hansen, vice president operational excellence – EMEAA at WFS.

"We are very much looking forward to seeing how the use of AGV technology can enhance our cargo warehouse operations"

SKYCELL CLOSES SIGNIFICANT FUNDING EFFORT

"This means for a typical pharma customer today we save more than 250,000 tonnes of CO2 every year without compromising quality"

SkyCell, a Swiss technology company revolutionising the pharmaceutical supply chain with its hybrid containers, has closed its $116 million Series D funding round, securing $59 million from Tybourne Capital Management and CC Industries. This latest round of funding solidifies SkyCell's position as one of Europe's leading deeptech companies amid the rapid growth of the pharmaceutical industry, driven by high-value biologics that require meticulous transportation.

SkyCell employs a multifaceted strategy to safeguard the pharmaceutical supply chain, integrating temperature-controlled containers, sophisticated software, and big data analytics. Each month, SkyCell containers protect over $2.5 billion worth of pharmaceutical products, including millions of vaccine doses, cancer treatments, diabetes care, and diagnostic solutions transported by air globally.

The company's proprietary cold chain technology, combined with its SkyMind software platform, underpins its success in maintaining the integrity of pharmaceutical goods. SkyMind enhances shipment and asset management through automation and real-time visibility, enabling pharmaceutical companies and their suppliers to optimise supply chain decisions based on risk, cost, and carbon dioxide emissions.

With access to historical data from its extensive fleet of connected containers and advanced predictive analytics, SkyMind significantly improves the predictability and prevention of medication loss. Part of this software suite includes the Decarbonise tool, which allows clients to forecast, track and report CO2 emissions, as well as optimise transportation routes to minimise their carbon footprint.

The new investment will fuel SkyCell's global expansion, with a particular focus on growth in the US and Asia. This strategic expansion aims to enhance the company's ability to protect high-value pharmaceutical goods across increasingly complex global supply chains.

Welcoming the new investment, Richard Ettl, co-founder and CEO of SkyCell, said: "It is such an exciting time to be a technology provider to the pharma industry as the sector experiences fast growth from new, blockbuster biologics coming to market. At the same time, the industry has recognised the need to decarbonise the supply chain, as more than 70% of pharma is shipped in a one-way solution, which will shortly see fees introduced for disposal. Our reusable 1500X container saves on average 50% CO2 or in absolute terms eight tonnes CO2e per use.

"This means for a typical pharma customer today we save more than 250,000 tonnes of CO2 every year without compromising quality. And finally, digitalisation is coming to pharma supply chains – moving away from manual worksheets to integrated workflows that leverage S+O data (simulated and operational data) from our proprietary pool of billions of data points. Combined with the power of AI, this enables significant reductions in both cost and risk for our customers. With this new investment, we can further optimise supply chains and create truly sustainable logistics."

SkyCell is a purpose-led technology company transforming the pharmaceutical supply chain through a combination of proprietary software, hardware, and big data. It is the leading manufacturer of temperature-controlled door-to-door container solutions that allow pharma companies to optimise their supply chain by reducing and even predicting the risks associated with delivering sensitive drugs by air. Its proprietary software solution combines simulation data with operational data (S+O data), enabling pharma companies to have real-time, end-to-end oversight of every shipment around the world getting life-changing drugs to consumers faster.

SkyCell's technologies are designed with sustainability at their core, significantly reducing the risk of in-transit failure and minimising environmental impact. With a market-leading low rate of less than 0.05% temperature excursions, SkyCell's solutions ensure the integrity of healthcare shipments. Additionally, the company's innovative containers cut the CO2 emissions of each shipment by nearly 50% compared to the average rate.

SkyCell operates as a climate-neutral company (Scope 1 and 2 compensated) and is committed to achieving end-to-end net-sero emissions by 2040. Its sustainability goals are science-driven and aligned with the Paris Agreement and the United Nations Sustainable Development Goals, underscoring its dedication to both environmental responsibility and global health.

A GUIDE TO AIRFREIGHT TECH TERMS

As the airfreight tech industry becomes increasingly complex, there is a growing number of terms being used. Not all ACW readers will be familiar with all the terms in contemporary use so here is a quick explainer of certain terms you might come across in your daily work.

Deeptech:
Deep technology (also deep tech or DeepTech) or hard tech is a classification of organisation, or more typically startup company, with the expressed objective of providing technology solutions based on substantial scientific or engineering challenges.

Automated and digital booking systems:
Electronic Air Waybills (eAWBs): These replace paper-based documentation, making the booking process digital, faster and more efficient.
Online booking platforms: Allow customers to book shipments online, providing real-time pricing and availability.

Cargo Management Systems (CMS):
These integrated platforms manage the entire lifecycle of air cargo shipments, from booking to delivery, including inventory management, scheduling and billing.

Internet of Things:
The Internet of Things (IoT) describes devices with sensors, processing ability, software and other technologies that connect and exchange data with other devices and systems over the internet or other communications networks. The Internet of Things encompasses electronics, communication and computer science engineering.

Tracking and monitoring technologies:
Radio-Frequency Identification (RFID): A wireless system comprised of two components: tags and readers. The reader is a device that has one or more antennas that emit radio waves and receive signals back from the RFID tag. It is commonly used for tracking shipments in real-time.
Blockchain: A blockchain is a distributed ledger with growing lists of records (blocks) that are securely linked together via cryptographic hashes. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data (generally represented as a Merkle tree, where data nodes are represented by leaves). Since each block contains information about the previous block, they effectively form a chain (compare linked list data structure), with each additional block linking to the ones before it. Consequently, blockchain transactions are irreversible in that, once they are recorded, the data in any given block cannot be altered retroactively without altering all subsequent blocks.

Automated handling systems:
Robotics and Automated Guided Vehicles (AGVs): Used in warehouses and cargo terminals to move and sort packages. AGVs are used for transporting cargo within warehouses and terminals. AGVs can move pallets and containers without human intervention, following predefined paths or using advanced navigation systems.
Automated Storage and Retrieval Systems (ASRS): Enhance the efficiency of storing and retrieving cargo.

Security technologies:
Ensuring the security of air cargo is critical. Technologies like advanced screening systems, biometric access controls, and surveillance systems are used to protect against theft, tampering, and other security threats. Additionally, blockchain technology is being explored for secure and transparent documentation of cargo movements

Optimisation and planning software:
Load planning software: Optimises the loading of cargo into aircraft, ensuring efficient use of space and weight distribution.
Route optimisation algorithms: Improve delivery times and reduce fuel consumption.

Artificial Intelligence (AI) and machine learning:
Used for predictive maintenance of aircraft, optimising supply chain operations, and improving customer service through chatbots and automated responses.

Big data:
Big data refers to extremely large and diverse collections of structured, unstructured, and semi-structured data that continues to grow exponentially over time. These datasets are so huge and complex in volume, velocity, and variety, that traditional data management systems cannot store, process, and analyse them.

Container loaders and unloaders:
These machines automate the process of loading and unloading cargo containers from aircraft. They can handle heavy loads and ensure precise placement within the aircraft.

High-reach cargo loaders:
Used for loading and unloading cargo from the upper decks of large aircraft, these loaders can lift containers and pallets to significant heights while maintaining stability and precision.

Cargo handling robots:
Robots equipped with advanced sensors and AI can sort, move, and stack cargo with high efficiency. These robots are especially useful in automated warehouses and logistics centres.

Automated Storage and Retrieval Systems (ASRS):
These systems use cranes and conveyors to automatically store and retrieve cargo from high-density storage racks. ASRS are controlled by warehouse management software, optimising space and improving retrieval times.

Pallet dollies:
Specialised trailers used to transport cargo pallets on the ground. These can be manually or automatically guided and are designed to fit seamlessly with cargo handling systems at airports.

"Robots equipped with advanced sensors and AI can sort, move, and stack cargo with high efficiency"

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