



The background of the advertisement is a high-angle, aerial photograph of a cargo airport at night. Several Boeing 777-300ER freighters are visible on the tarmac, illuminated by tall, modern airport lighting poles. One aircraft in the upper right is clearly marked with 'BIG TWIN' on its tail and '777-300ERSF' on its fuselage. Another aircraft in the lower foreground is also marked with '777-300ERSF' and 'BIG TWIN' on its tail. The tarmac is marked with yellow lines, and various ground support equipment, including cargo containers and a mobile staircases, are scattered around the aircraft.

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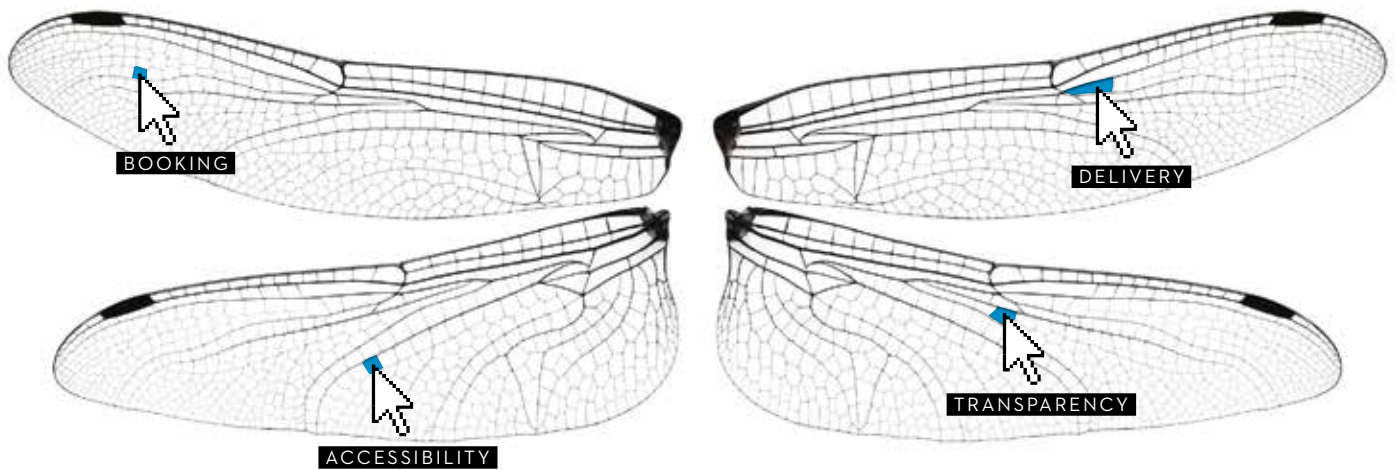
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CARGO

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Management



BEAUTY IN SIMPLICITY

The secrets of a successful
online cargo booking platform



FUTURE FREIGHT

What does it take to create a hyper-efficient air cargo hub?

THINK INSIDE THE BOX

Making, distributing and repairing unit load devices

MAJOR STEPS FORWARD

Emirates SkyCargo on a key new deal and its digital journey



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LIVEANIMALS



SKYSTABLES



FLIGHTVALET



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Editor's Letter

Amid an extraordinary few years, one of the hero industries to emerge during the Covid crisis was air cargo, whether through transporting much-needed goods or by generating a vital source of income for airlines starved of passengers.

The industry responded to massive logistical challenges, and learned many lessons – among them, the need for closer collaboration, and the need to embrace digitalisation to benefit from the enhanced efficiencies modern software and solutions can provide.

We've also heard about the continued rise of e-commerce, and cargo divisions taking a bigger seat at the table at cargo airlines. There have been so many success stories it's only right that the industry should take some time to look back on its recent achievements with satisfaction.

But it is also the case that the hard work is only just beginning and, against a macro environment that remains extremely challenging, the key is to build upon the momentum that has been gained over the past few years.

At the recent World Cargo Symposium in London, the International Air Transport Association highlighted four priorities to strengthen air cargo's post-pandemic prospects: achieving net zero carbon emissions by 2050; continuing to modernise processes; finding

better solutions to safely carry lithium batteries; and making air cargo attractive to new talent.

There is plenty for the industry to do in each of these areas, but the general feeling at the World Cargo Symposium was of excitement at rising to these challenges, rather than being daunted by them. Looking around the exhibition hall, it was also interesting to see so many companies presenting digital solutions and products. There is an expectation that the rate of digitalisation in the industry will now accelerate at a much faster pace.

As we move into 2023, another fascinating year awaits us, and *Airline Cargo Management* will continue to explore and analyse all areas of the air cargo industry. In this final issue of 2022, we bring you more on the World Cargo

Symposium and get the thoughts of TIACA director general Glyn Hughes on the main factors that will impact the ever-changing air cargo landscape next year. Our cover story on online booking platforms fits neatly with the discussion on digitalisation, while we also take an in-depth look at what it takes to create a hyper-efficient freight terminal, and developments in unit load

devices. Finally, our regular columns feature alongside an array of executive interviews, including with Emirates' divisional senior vice president, cargo Nabil Sultan.

I hope you enjoy reading the issue.

Jason Holland

EDITOR

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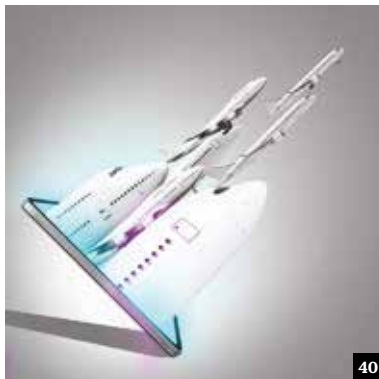
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TREND WATCH

New collaborations, openings and acquisitions are driving innovation in the air cargo industry



01

Key link

● Amazon Air has signed a firm agreement to lease ten A330-300P2F freighters from Altavair. The aircraft will be operated for Amazon by Hawaiian Airlines. The ten airframes are being converted from passenger aircraft to freighters by Elbe Flugzeugwerke. "These A330-300s will not only be the first of their kind in our fleet, they'll also be the largest aircraft for Amazon Air, allowing us to deliver more customer packages with each flight," said Amazon.



05

Maintaining momentum

● Cargo IQ is aiming to offer enhanced data analytics for members in 2023, with the development of an app for truckers another key objective. The cross-stakeholder air cargo organisation revealed its strategy for next year at a press conference celebrating its 25th anniversary, held at the IATA World Cargo Symposium in London, UK. Further plans for 2023 include the relaunch of a sub-working group to focus on door-to-door shipment specifications to enhance the CDMP (cargo data management platform) to include shipments where the forwarder at the import station differs from the forwarder at the export station.

“Cargo IQ has made great strides in our collective goal for a quality-driven global supply chain in 2022”

02

Creating a giant

● SATS has reached an agreement to acquire Worldwide Flight Services (WFS) from an affiliate of Cerberus Capital Management in a transaction valued at an enterprise value of €2.25 billion. The transaction will bring together air cargo handler WFS and SATS, a provider of aviation services in Asia, in what the companies called a “first-of-its-kind global air cargo platform with scale and a network of stations across Asia, the Americas and Europe” offering a “broader suite of services, operational best practices and integrated technology”.



03

Programme launch

● AviaAM Leasing has become the launch customer for Mammoth Freighters' 777-300ERMF freighter conversion programme, signing an agreement for six of the type. Having completed multiple 737-800 passenger-to-freighter aircraft conversions this year, AviaAM said it was making major investments in multiple freighter types as it continues with its expansion plans in air cargo. Including this order, Mammoth now has firm orders for 29 777 freighter conversions distributed across multiple customers, and another 12 777 freighter conversions in advanced stages of commitment.



04

Digitalising processes

● Siemens Logistics, Qatar Airways Cargo and Qatar Aviation Services (QAS) Cargo have signed a Memorandum of Understanding (MoU) to promote close cooperation in digitalising cargo handling processes. The aim of the collaborative project is to deploy the latest in data analytics applications and predictive maintenance.



TRENDING STATS

8.3%

Global air cargo demand, measured in cargo tonne-kilometres (CTKs), fell 8.3 per cent in August compared to the same month in 2021

6.3%

Capacity was 6.3 per cent above August 2021 – a significant expansion over the 3.6 per cent year-on-year increase in July

6

Jackson Square Aviation has placed an order for six 737-800SF freighter conversions with Aeronautical Engineers (AEI)

2023

Turkish Technic is to become the first third-party conversion house for Elbe Flugzeugwerke's A330P2F programme, with the first conversion to be carried out in Q3 2023

06

Strategic expansion

● UPS has opened a new 3,000sq m building at Lyon Saint Exupéry Airport, following a €12 million investment. The expanded hub is expected to establish the airport as a strategic base for accessing international markets, UPS said, while connecting Lyon to the UK via the UPS air hub in Cologne. The building is equipped with the latest parcel sorting technology, and has the ability to sort up to 3,000 packages per hour – which is more than double the capacity of the previous installation.



08

Green innovation

● Air France KLM Martinair Cargo has introduced 'goSAF', which allows customers to set the level of their contribution to sustainable aviation fuel (SAF) for every cargo shipment they book. Customers using the company's 'myCargo' booking portal have the choice of four contribution levels, which will allow them to proportionally reduce their contribution to CO₂ emissions when booking. The underlying CO₂ emissions calculator determines the expected CO₂ emissions of the shipment and calculates the costs of compensating for this by investing in the purchase of SAF.

07

Completing the set

● Hong Kong Air Cargo Terminals Limited (Hactl) has successfully obtained accreditation under IATA's CEIV Lithium Batteries (Li-batt) standard, and now holds all four IATA CEIV accreditations – Pharma, Fresh, Live Animals and Li-batt. Hactl said it had been steadily tightening its procedures and improving resources for handling lithium battery shipments over recent years. Measures to date have included additional in-house staff training to IATA standards and regulations, and the opening of a dedicated DGR zone with experienced staff.



A NEW FUTURE OF MARKET INSIGHTS

With its latest service, CHAMP Cargosystems can now publish market insights every 24 hours, aggregating data from over 80 leading air cargo organisations. Head of business development **Christopher Shawdon** explains how



“Imagine what new insights you could have by mixing customs data, shipment transit times, booking details and more”



Christopher Shawdon is head of business development at CHAMP



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I was surprised a couple of months back when I received a letter from my water provider saying that they thought I had a leak. They knew this because they installed a smart meter on my supply, so they could see that I was using water at all times – including at night when my consumption should be zero. This is but one example of how modern sensors are providing new insights which, in turn, are changing business and consumer behaviour.

In air cargo we have enormous amounts of data but too little of it is joined up, so insights are far too late. For instance, if your business volumes grew 10 per cent last month, did you do well? Probably, but not if your market grew 20 per cent. Are you paying or charging a fair price? You can only tell if you have a benchmark to compare with. You know what happened in your business yesterday but, until now, probably not what happened in the market. But doing so is key to being competitive.

Despite being able to fly goods from one airport to another, anywhere in the world in less than 24 hours, delivery of air cargo market data can take between three and six weeks. Sure, it is complicated to compile. Source data must be collected by clients running and sending updated files, and there is always a wait for the last of any updates to be received. Then starts the process of normalising data and filtering outliers so that reports can be run and distributed.



1

Finally, each organisation needs to ingest results into their own business intelligence systems and dashboards. But that is a legacy approach.

By leveraging the operational data that CHAMP sees, with modern technology, we can now produce and publish market data every 24 hours. A simple but powerful example is at www.champ.aero/marketanalytics.

What is the value of operational data?

CHAMP processes over half of the world's air waybills for airlines, forwarders and handlers on a Software-as-a-Service (SaaS) basis. Uniquely, it combines messaging, enterprise systems,

80

CHAMP has worked with industry leaders to use their data confidentially, and the company now aggregates data from over 80 leading air cargo organisations



2

“Clients have been keenly involved in the design of intuitive dashboards, which allow data to be viewed across many dimensions”

customs interfaces and CDMP services. That access to operational data, together with the industry standardisation of the air waybill and the real time updates, is what underpins CHAMP’s latest service, ‘MarketAnalytics’.

Over the past year, CHAMP has worked with industry leaders and gained their agreement to use data, confidentially, to create market insights.

Being 100 per cent industry-owned helped us build trust and we now aggregate data from over 80 of the leading air cargo organisations. MarketAnalytics continues to grow its database as more key industry players share their data with CHAMP.

And modern technology?

Modern technology plays a major role in the new service, which is based on

Microsoft’s Power BI platform. Clients have been keenly involved in the design of intuitive dashboards, which allow data to be viewed across many dimensions, including the type of goods and handling. They are useful for pricing and network managers to track and evaluate changes. Operations, product, and client-facing staff can use them to be better informed and drive more data-based decisions. For clients with their own business intelligence systems, market data can be provided directly to their systems.

Where next?

MarketAnalytics could be seen as comparable to other industry services, but CHAMP is working on several new developments. Imagine what new insights you could have by mixing customs data, shipment transit times, booking details and more. Like my water company, you could inform your own business, plug any leaks and provide new value to your customers. And imagine our industry being a leader in open, collaborative and innovative use of data. ☺

1,2 and 3. CHAMP processes over half of the world’s air waybills through its messaging, enterprise systems and customs interfaces. This data is used in the MarketAnalytics service to provide dashboards for clients on their business with aggregate market data for comparison



3

THE 4X4 OF THE SKY

Air Partner's vice president of global freight **Pierre Van Der Stichele** explains why the Antonov AN-124-100 is the perfect aircraft for many cargo missions



“In an industry where flexibility, versatility and reliability are absolutely critical, the AN124 delivers perfectly and is undoubtedly my favourite aircraft”



Pierre Van Der Stichele
is Air Partner's VP of global freight



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The Antonov 124 is a remarkable aircraft that I often refer to as a 4x4 of the sky.

The Antonov Design Bureau launched the aircraft in the early 1980s, primarily as a military aircraft which was then de-militarised to become a civilian aircraft. The AN124 entered the civilian market in the mid-1980s as a specialist aircraft that was marketed to transport heavy vehicles and machinery.

Its size is remarkable, and the only aircraft one can compare it to is the C5 Galaxy or the C17, neither of which have the qualities of the AN124. Fuel efficiency and take-off performance are probably its only downsides, as well as operating costs.

In terms of performance, the aircraft can take 120 tonnes of cargo, and a few have had structural modifications to transport up to 140 tonnes in one single load – unmatched by any other aircraft today. With a cargo bay 42 metres in length, 6.4 metres in width and 3.9 metres in height, it truly is enormous.

Hugely versatile, the front nose lifts open for on and offloading the longest of loads – anything from pipes, generators and turbines all the way up to aircraft fuselage, helicopters, tanks and armoured vehicles – the list is endless.

The rear of the cargo bay is also remarkable as the internal cranes installed in the ceiling can extend beneath the tail of the aircraft so that when the



1

120

In terms of performance, the AN124 can take 120 tonnes of cargo, and a few have had structural modifications to transport up to 140 tonnes in one single load

rear doors are opened they can lift heavy 20ft or 40ft containers with ease. It's also the only aircraft today that, when both nose and rear ramps are open, you can see right through it.

The aircraft comes with a variety of loading systems that can be deployed by its highly specialised crew, including a fly-away kit that looks like train tracks that extend from the nose of the aircraft to the tarmac for approximately 13 metres. In order to reduce the loading angle of freight through the front of the



2

“The Antonov 124 can utilise narrow taxiways that would pose a problem for most widebody aircraft such as the 777, 747 and the A380”

aircraft, the front wheel's suspension can be lowered to 'kneel down' to get the aircraft's fuselage profile as close as possible to the ground.

It's not just the inside of this aircraft that's impressive; it has a high wing wingspan of 73 metres (240ft), and is powered by four L-18 Turboprop engines capable of producing 238-250kN. The Antonov 124 can utilise narrow taxiways that would pose a problem for most widebody aircraft such as the 777, 747 and the A380 because of the low hanging engines which could easily knock out taxiway signs or small signage obstacles. The aircraft is capable of raising a wing over an obstacle during taxi by adjusting the main landing gear hydraulics to allow slow manoeuvring

of the aircraft and wings over obstacles. This is pure genius!

Since the mid-1980s, the aircraft has gained popularity in commercial aviation for excelling in transporting outsized cargo and delivering the freight to smaller airports that may not necessarily be equipped themselves to offload cargo from other types of main deck freighter aircraft. The Antonov, with its own built-in cranes, can upload or download many different types of freight with minimum equipment.

Of course, all of this comes at a slightly higher cost as most flights are well prepared by engineering teams and load planners to ensure safe operations throughout. The average AN124 has between 18-20 crew members, of which

seven are flight deck crew, and others are the technicians and loadmasters.

But the benefits of having a largely self-sufficient, reliable and safe aircraft are well worth the price. The Antonov comes with its own maintenance crew, tools, spare fuselage skin and spare wheels in order to be able to repair any minor damage while operating in a remote location where repair facilities are not always available. It's a robust aircraft that can operate in any extreme conditions from -40°C to +50°C without question, and is definitely one of a kind.

In an industry where flexibility, versatility, and reliability are absolutely critical, the Antonov 124 delivers perfectly and is undoubtedly my favourite aircraft. ©

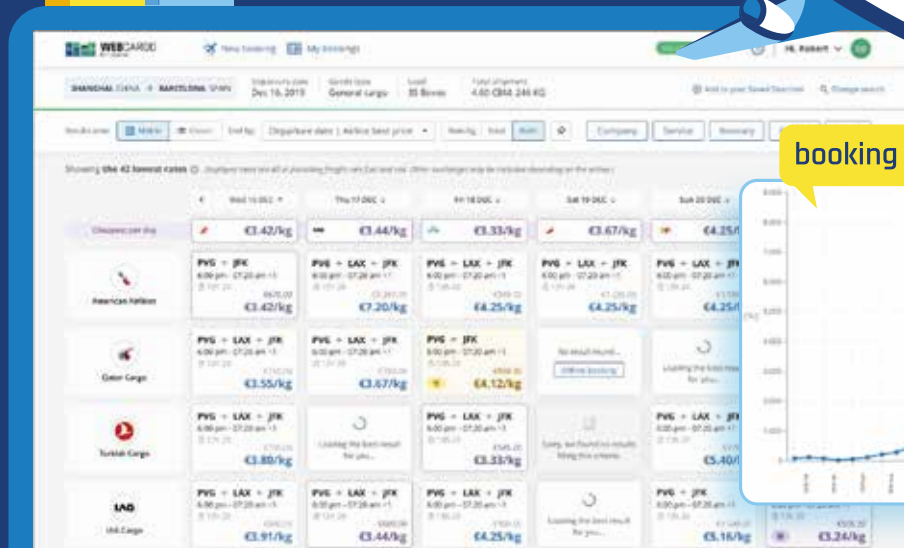
1 and 2. The AN124 was launched in the early 1980s and entered the civilian market in the mid-1980s as a specialist aircraft marketed to transport heavy vehicles and machinery



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AIR CARGO 2023: WHAT CAN WE EXPECT?

The International Air Cargo Association's (TIACA) director general **Glyn Hughes** looks ahead to 2023 and examines the main factors that will impact the ever-changing air cargo landscape



Glyn Hughes is the International Air Cargo Association's (TIACA) director general

If we have learned anything these past few years, it's that you can expect the unexpected. So, with that it's very difficult to predict what 2023 has in store for the global economy and consequently global logistics of which our industry plays an integral and very critical part. Nevertheless, here are a collection of things to watch which will individually and collectively influence the air cargo industry in 2023 and beyond.

Let's start with the economy. The second half of 2022 is seeing a slowdown in air cargo and overall logistics demand as economies contract in response to higher energy costs, higher central bank rates and higher raw material costs. The World Trade Organization (WTO) projects that despite the slowdown currently being experienced, 2022 will still see a growth in international trade of 3.5 per cent when compared to 2021.

However, the organisation is expecting the slowdown to continue into 2023 and is forecasting international trade to grow by one per cent next year.

This view is supported by the Organisation for Economic Co-operation and Development (OECD) and the International Monetary Fund (IMF), who project GDP growth to reduce in 2023. The OECD anticipate a GDP growth of 3.0 per cent in 2022 and a slowed growth of 2.2 per cent for 2023. The IMF has similar numbers, projecting 3.2 per cent growth in 2022, reducing to 2.7 per cent in 2023.

As to inflation, which was an early catalyst to the slowdown in air cargo demand this year, we can expect some good news as we move into 2023, and the austerity measures implemented start to take effect. However, it's far too early to suggest that quantitative easing will commence any time soon. The IMF expect inflation to be around 8.8 per cent



12



Tighter operating conditions may see a slowdown in the number of new cargo airlines established next year, which reached 12 in 2021, the highest amount in many years

“AN AREA WHICH GIVES RISE TO HUGE OPTIMISM IS DIGITAL TRANSFORMATION”

for 2022, easing to 6.5 per cent in 2023 and then further easing to 4.1 per cent in 2024.

People issues will continue to impact the industry, from the expected slowing jobs market in the US to the challenges of recruitment around the world. As fear of job losses in the global economy increases, consumer behaviour tends to slow as defensive domestic finance strategies take hold. We also anticipate labour agreements to create some additional areas of possible conflict across the supply chain, driven also by high inflation and the subsequent demand for wage increases.

On a positive note, we can hopefully expect a China bounce back with its economy expected to grow by nearly five per cent. Whilst there are reports that some manufacturers have shifted production to alternative sites in south east Asia, China remains the most critically important global production centre.

From an operational aspect, the number of new and converted freighters entering service together with the continued return



Many factors will influence the air cargo industry in 2023, and perhaps the only certainty is that there will be change



A recent article by the International Air Transport Association indicated that lithium battery demand continues to grow significantly – 30 per cent year-over-year

of passenger operations will lead to an overall increase in available capacity, expected to eclipse pre-Covid levels. We can also expect to see a steady number of retired older generation aircraft.

The tighter operating conditions may also see a slowdown in the number of new cargo airlines established, which reached 12 in 2021, the highest in a number of years. Mergers within the air cargo logistics sector, which has seen quite a lot of activity in the last few years, could be expected to continue as margins become tighter and organic growth becomes more challenging.

E-commerce is expected to continue its growth trajectory, although perhaps at a slower rate with a reduced forecast as social shopping rises. A recent study indicated that ‘work from home but go out to shop’ has replaced the ‘out to work, shop from home’ scenario we had pre-Covid.

On a positive note, increased consumer price sensitivity accentuated by high inflation is creating additional demand for online bargain hunters.

An area which gives rise to huge optimism is digital transformation. We saw great leaps forward during Covid as organisations sought new working methods with reduced human interaction, and that desire

for technology-led solutions has continued. We can expect to see the pace of tech adoption continue to accelerate with new partnerships, leveraging individual innovations to create best in class solutions.

With regards to safety and security, which will always remain the industry’s top priority, a recent article by the International Air Transport Association (IATA) indicated that lithium battery demand continues to grow significantly – 30 per cent year-over-year – as our desire for portable consumer electronics rises. So, we must remain vigilant to ensure compliance is never compromised. We must also renew our efforts to call upon governments to take stronger action against parties which deliberately ignore the rules.

Finally, we can expect to see the topic of sustainability become even more prevalent than it is currently. How we individually and collectively impact the planet, as well as how we create an inclusive, diverse and ethical work culture and how we help support global prosperity, will be the cornerstone of many industry solutions.

One thing is for certain – the air cargo industry will remain ever changing as the global market it serves equally remains ever changing.



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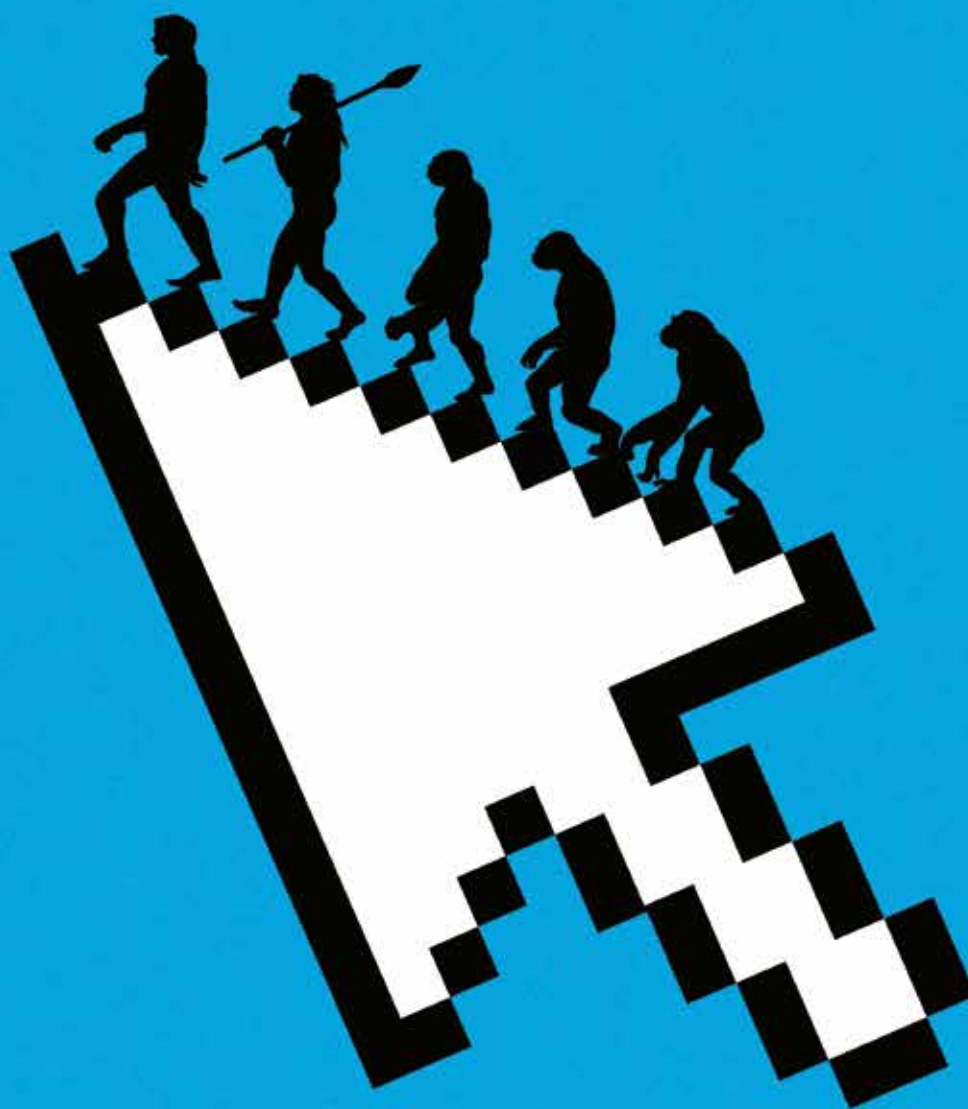
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ADVANCING ONLINE BOOKING

Getting a shipment moved quickly means getting it booked for transportation swiftly. *Bernie Baldwin* learns how some application providers are making that booking process as efficient as possible

The right place, the right time. Yes, it may be a cliché, but given that it's also a phrase that many a business has co-opted for its marketing, its derivation clearly contains more than just a grain of truth.

The phrase has certainly been used in the cargo industry, but to get a shipment to meet those goals, getting the consignment into the delivery flow needs its booking to be carried out efficiently. And for that, an effective booking system is needed.

A cargo booking system has to satisfy the airlines/carriers, integrators and the sending individual/company. The booking engine – now usually online – has to deliver for each of those customers. Thus the providers of such systems must ensure that the key elements of their application do just that.

Gautam Mandal, director of products at Cargo Flash InfoTech, explains the theory. “In our daily lives, online booking is a standard practice. Now it's time for the B2B world to catch up with the refined consumer experience,” he begins. “Other than a need to be reactive to customers,

the additional benefits to leveraging the digitalisation that e-booking platforms have to offer are endless.

“Online booking decreases the frequent phone calls and endless emails to just a few clicks. Not only that, but e-booking enables multiple bookings simultaneously, with dashboards providing visibility of everything in one place. E-booking is accessible from anywhere in the world, at any time, and not limited to pesky working hours. The future is mobile and good e-booking systems are designed to work seamlessly on mobile devices, meaning one can book and track shipments on the go.”

Also important is the visibility factor. “When it comes to international air cargo and shipping, visibility of the shipment's journey is key,” Mandal continues. “Our e-booking ‘nGen’ Cargo Reservation Management System (RES) boasts sophisticated features to simplify logistics with user-friendly technological intervention, making cargo management, at any scale, easier for everyone.

“We not only deliver data-driven results but also scopes to optimise our clients' expenditures for every shipment. Alongside, Cargo Flash assimilated the multi-fold tasks of air cargo management into one integrated system. We customise our Integrated Cargo Management

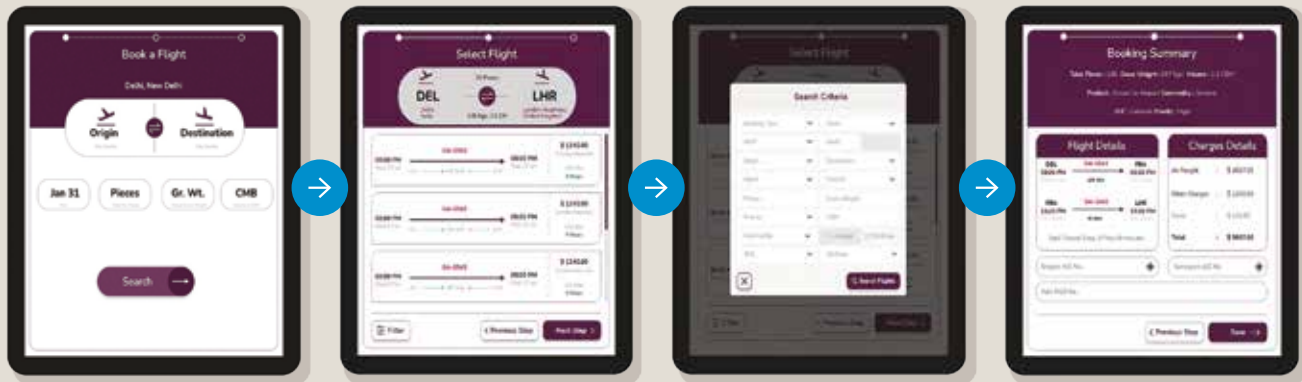
System (ICMS) based on each client's needs, which will benefit the industry at multi-levels of returns.”

Agility and accuracy

Ed Gillett, director and co-founder at CharterSync, echoes Mandal somewhat, observing that for airlines and carriers, his company's system helps to increase visibility and speed by connecting them with more frequent and relevant charter requests.

“What makes our system so useful for this side of the charter equation is that it provides a simple quotation process for carriers to use in order to respond quickly to incoming charter requests, making them more agile and competitive in this turbulent market,” says Gillett. “It also provides a centralised space in which operations teams can upload and access all required documents for a charter, and view its status in real time.

“We have also recently partnered with global software company RocketRoute, which will provide aircraft profiling and flight planning data to ensure CharterSync offers accurate transit times instantly to our clients. With RocketRoute offering real-time tracking, auto-routing and full monitoring of current and forecasted weather conditions, this integration enables us to provide information that



“IT’S TIME FOR THE B2B WORLD TO CATCH UP WITH THE REFINED CONSUMER EXPERIENCE”

is six times more accurate than the way most airlines calculate flight times.”

Gillett adds: “These more accurate flight times enable operators to become more effective in planning for fuel burn, while also providing more accurate costs for ad-hoc cargo charters. RocketRoute will be integrated into the CharterSync quoting process, with fields automatically completed to provide accurate timings and remove the need for manual calculations. This benefits cargo operators – who will save time on quoting – as well as clients, who receive more transparent and accurate times and costings more quickly.”

For freight forwarders, CharterSync’s system is all about simplifying the charter process, according to Gillett. “We do this by automating how they receive quotes from a wide network of carriers for available aircraft, reducing their required input to merely sending a customisable charter request and confirming their selected quote.

“From there, if required, an experienced charter manager, dedicated to their account, assists at every stage of active charter management to provide everything needed to track cargo in real time. The transparency mentioned above is also of benefit for freight forwarders because they’re able to have wider access to available aircraft worldwide, allowing them to find the most suitable option for them in terms of price or routing.

“For all of our clients on either side of the charter equation, we aim to tailor our services to their experience and needs. We recognise that there are individuals and companies that have a preferred method of working, and it’s important that we are as flexible as possible to suit their requirements and workflow.

“For example, for those that may need help in the form of a dedicated broker to aid decisions – such as on aircraft size, choice of airport or assistance managing a flight – we provide more of a concierge approach. This way our team can use our technology in the background to suit the more traditional workflow and communication for our client.”

Unlocking the potential

For Awery Aviation Solutions’ chief commercial officer Tristan Koch, the key priority for all parties in the supply chain is the ability to communicate effectively and in the moment. “The shipper wants an immediate answer from the forwarder, who in turn requires the partner airlines to provide instant solutions to their needs along with pricing and capacity availability,” he explains.

“Through a combination of API interactions with others’ systems and the deployment of AI tools to eradicate manual inputs, we can satisfy the full supply chain process. Forwarders and shippers can search airline capacity

and make real-time bookings into live capacity at an agreed price. They can subsequently amend or cancel these transactions in a live environment.”

As is clear, much is being done with online booking, but can there be further migration of cargo booking systems into the online world? And what are the reasons why some companies have not fully moved to online platforms?

“Huge potential exists, but many are not funding technology in the way they do other parts of their business,” Koch emphasises. “During Covid, the value of having cloud-based solutions that allowed users to connect remotely became clear, but there is still a lack of commitment and collaboration. Some are worried about data sharing while others stick with hard-to-shift legacy systems.

“At Awery, we believe sharing data across the supply chain with no additional fee will make the transition easier, but it needs investment and commitment. Whether that will be driven by industry bodies, individual companies, or by the IT community, we wait to find out.”

Regarding further online potential, Cargo Flash’s Mandal has noticed that recently, digitalisation of the logistics supply chain operation has been a highly significant factor, already resulting in noticeable improvements in the efficiency and agility of operations. “Observing the upsurge, Cargo Flash is thinking ahead of the curve and designing future-ready

↑
Cargo Flash provides an “intelligent, intuitive and end-to-end platform” for air cargo logistics hosted in the Cloud



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systems to collaborate with the key air cargo industry stakeholders,” he says.

“Digital transformation showed platform-operated companies such as Uber, Airbnb and Facebook to be digital disruptors. In many industries, we state that, in the blink of an eye, digital platforms disintermediate entire industries. We can see the same platform hype in our clients from the transportation industry, where many players aspire to disrupt a market of a multi-billion industry.”

The technology to digitalise is widely available but adoption by the air cargo industry remains low. Mandal picks out some reasons. “The first aspect is that we need to alter our mindset; the second is how our companies function,” he notes. “Many think, is it even worth spending energy on, as the current business is ‘going fine’. Every time we wonder about the cost behind digitalising, we must look into it as an opportunity to be explored.

“Another crucial reason is the disparity in the buying power of different companies. The cost of digitalisation is still quite high with huge financial, people and time investments needed. However, Cargo Flash has started this journey with its ‘Plug-and-Progress’ solutions allowing airlines to adopt digitalisation quickly with minimal financial investments and implementation as fast as 30 days.”

CharterSync’s Gillett believes digitalisation has only really begun in air freight, while in cargo charter there has been little development in terms of operations management in the past 40 years. “This hesitancy is largely due to the sheer number of variables involved in cargo charter and, because of this, taking the digital leap to have a higher level of efficiency requires a top-down approach and commitment,” he comments.



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“COVID-19 PUSHED THE AIR CARGO INDUSTRY TOWARDS ADOPTING NEW TECHNOLOGY”

“Covid-19 pushed the air cargo industry towards adopting new technology and changing approaches in order to handle the surge in demand, so there is certainly potential for further online migration of cargo booking systems. Because CharterSync was the first to do this in air cargo charter, we’ve already learned many lessons from the pandemic-level demand, and we’re adapting with the market as its technological needs develop and attitudes continue to become more open to digitalisation.”

As a young company, CharterSync’s current stage of development has not yet included machine learning (ML) or artificial intelligence (AI), but Gillett advises they are under consideration.

According to Mandal, Cargo Flash is using AI and ML extensively to create accurate demand forecasts, for calculation of booking/flight profitability and hurdle rates, along with the creation of intuitive dynamic routes.

“We are in the process of introducing AI/ML into our operations module for creating innovative solutions like ‘Loading Optimizer’ or ‘Augmented Warehouse 3D Mapping,’” he notes. “Also, we are a Microsoft Gold-Certified Partner for Application Development and Cloud Platform. The company has been delivering cutting-edge solutions, established on Microsoft Products, for over a decade and our strong partnership

with Microsoft enables us to implement solutions quickly, efficiently and profitably.

“Cargo Flash products are developed and deployed based on the Microsoft cloud architecture. And while designing, we exploit the technology in such a way that our next-generation ‘nGen’ system not only enhances operational transparency and streamlining, it creates commercial value for the airlines.”

Awery too has invested in AI and ML, according to Koch. “We provide not only the connectivity that enables our clients to engage with suppliers and other stakeholders seamlessly and digitally, but also, we build and employ AI tools that reduce manual workloads,” he says. “An example is ‘EMagic’, our email parser tool that reads emails and converts them into a digital format, meaning fewer manual data entries, increased speed to market and reduced errors.”

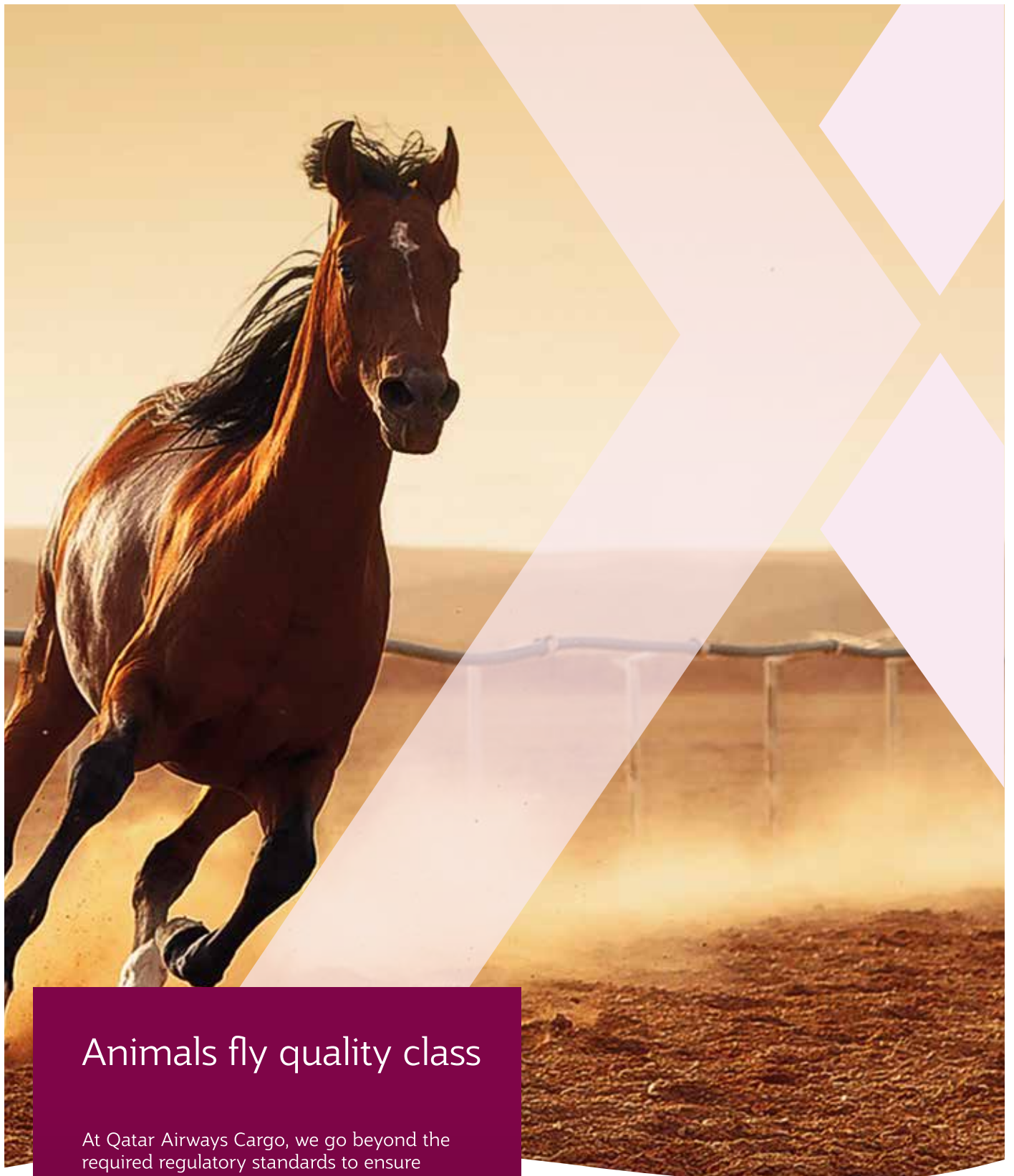
Koch summarises as follows: “Our mantra reflects these values: greater efficiency, more process control and best customer experience.”

That’s a statement to please all stakeholders in this business segment – and in the right place, at the right time. 🌐



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1 and 2. Awery is a software development company and IT service provider established in 2009. CCO Tristan Koch has 20 years of experience in aviation and air cargo with British Airways, American Airlines and IAG



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Cristian Sutter

is CEO of Avensis Aviation

Avensis Aviation

Avensis Aviation was created two years ago to bring innovative and agile PTF conversion programmes to the market, says its CEO **Cristian Sutter**, who discusses here the current landscape and outlook and the company's long-term strategy



Visit [avisaviation.com](https://www.avisaviation.com) for more information on the company's PTF solutions

Airline Cargo Management: How do you see Avensis Aviation's current position in the market, and what is the business focus currently?

Cristian Sutter: Since its launch, Avensis' ethos has focused on creating and delivering a portfolio of passenger-to-freighter (PTF) conversion products that provide solutions to cater for the end-to-end requirements of the freighter market. These consist of lightweight, intermediate and full cargo conversions that include a main deck door. Avensis is the only PTF solutions provider in the market that offers a wide range of conversion products.

Our focus centres on the innovation and scalability of our products, and agility to develop the solutions the freighter market requires.

Innovation-wise, Avensis has invented the first ever Class E freighter without a cargo door – 'Medius' – which has recently been awarded an European Union Aviation Safety Agency (EASA) supplemental type certificate (STC). Another first in the market is 'Medius Elev', the Class E freighter featuring dual main deck lifts allowing for the loading of pallets and containers into the main deck without the need for a cargo door.

How has the company responded to the changing air cargo fleet management landscape?

We are carefully listening to the changing needs and requirements of the air cargo and aviation market, allowing us to provide the right portfolio of PTF conversion solutions at the right time.

As the pandemic hit, there was a vast commercial aircraft fleet grounded. At the same time, capacity requirements for air cargo increased dramatically due to the lack of belly freight, while e-commerce grew rapidly with changes in consumer behaviour due to lockdowns. This made the express cargo market grow at a pace where demand was outpacing air freight supply, while our solutions satisfy the industry's changing requirements.

What is the outlook for the various PTF conversion programmes that Avensis has an interest in?

Demand for freighter aircraft and PTF conversions is strong and continues to grow despite the current downturn in the cargo market, which is heavily influenced



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by the conflict in Ukraine and the Covid restrictions in Asia. As restrictions are relaxed, we are seeing a recovery in cargo capacity demand in that crucial market.

The express cargo market keeps growing, fuelled by e-commerce and despite the recovery of passenger travel, it is mainly on leisure routes, which might not necessarily support a full return of the high-demand belly cargo routes.

What differentiates Avensis from its competitors?

Avensis revolutionised traditional PTF activity by pioneering a portfolio of conversion programmes tailored to meet the changing needs of the aviation industry, ensuring lessors and airlines could optimise the utilisation of their aircraft fleets.



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The PTF market is currently moving away from the traditional ‘one-size-fits-all’ or ‘multiple mission’ freighter design

A unique characteristic of Avensis’ PTF conversions is their scalability. For example, they can be upgraded from a Medium to a ‘Navis’ [full cargo conversion with main deck cargo door], enabling our airline customers to upgrade their fleet size should they need to meet an increase in freight demand. Our solutions simultaneously protect their existing investment as they don’t have to start from scratch.

From the embodiment standpoint, we are working with several MRO partners worldwide, such as Avensis approved conversion centres, which allow us to deploy our conversions and match our customers’ location desires whilst not being restricted by slot availabilities at specific locations. Therefore, Avensis’ PTF conversion product proposition is unique, innovative and unmatched by any competitor in the market.

Sustainability, digitalisation and attracting new talent are some of the key themes in the air cargo industry. What impact do these have on Avensis and how are these being addressed?

Sustainability is at the heart of what we do at Avensis, specifically by repurposing an unwanted asset into a freighter aircraft without the need to manufacture a new one. We reutilise as

many existing components as possible and use recycled materials as much as possible when manufacturing new parts, working closely with the principles of the circular economy.

We are also working very closely with engine manufacturers to support our customers while optimising their freighter engine operations to reduce carbon emissions. We do this using state-of-the-art software and engine management tools.

Attracting new talent is a challenge that affects the aviation industry as a whole and, the more specific your core market, the more specific skills are required. At Avensis, we firmly believe in developing our team and we are working towards bringing graduates on board, mentoring, and supporting them along their career journey.

We have created a flexible, remote and non-hierarchical working environment where our colleagues can have a balance between their personal and working lives.

What other trends or challenges are you seeing currently, specifically in the PTF conversion solutions market?

The PTF market is moving away from the traditional ‘one-size-fits-all’ or ‘multiple mission’ freighter design, especially when catering for the express market.

As a result, heavier cargo airplanes are a less desirable operational proposition, especially with the increase in fuel prices.

Global supply chain shortages challenge the entire aviation industry, causing delays and price increases which are in part due to the economic impact of the war in Ukraine, volatile energy prices and inflation. Having said that, the long-term prospect shows positive PTF conversion market outlook and growth due to ever-increasing e-commerce and express market capacity, growth and demand.

How do you see the future for Avensis?

We have come a long way since Avensis’ inception. We have grown our team, operations, and portfolio of PTF conversion products, while also bringing first-to-market EASA-certified products.

Far from standing still, our focus for the future involves evolving our range of PTF conversion products to meet freighter market changes and demand, as well as investing heavily in our people and R&D to keep placing Avensis at the forefront of PTF market innovation, whilst also increasing our customer base and market share. 

1. NAVIS is Avensis’ flagship PTF conversion
2. It is aimed at lessors and airlines that require a “permanent, innovative and cost-effective PTF solution” including a main deck cargo door
3. A unique characteristic of Avensis’ PTF conversions is their scalability
4. The company is working with several MRO partners worldwide



Unit load devices (ULDs) play a strategic role in the dynamic global supply chain. **Mario Pierobon** reached out to industry experts to provide an update on the latest developments in the making, distribution and repair of ULDs

For almost two years, the Covid crisis has had a severe impact on global industry, trade and supply chains, says Andreas Seitz, managing director of DoKaSch Temperature Solutions. “The Ukraine war is further stressing global logistics. Uncertainties or disruptions in ground-based supply chains and the rise in the e-commerce sector continue to drive demand for air freight to this day,” he observes. “Accordingly, the demand for ULDs in the cargo sector is still rising. In contrast, demand in the passenger business is currently more restrained.”

In this context, there are ways for service providers to differentiate in the making, distribution, and repair of ULDs.

“The biggest focus is to ensure technical excellence of the ULDs, optimal return logistics and top-class repair and maintenance based on data analytics,” says Niklas Adamsson, chief operating officer at Envirotainer. “From a technical innovation perspective, we recently launched the ‘Releye’ platform. This is a cold chain ULD family designed to meet the strictest requirements in pharmaceutical air freight.

“With its increased efficiency and capacity, it reaches outstanding CO₂ reductions per shipment, and is the

future solution for secure cold chain shipments. Releye also offers integrated live monitoring, which enables a unique insight into product condition, location and progress of the shipment.”

Solutions

DoKaSch developed ‘Opticooler’ as a set of temperature-controlled packaging solutions.

“Electrically powered and air conditioned, the active containers cool as well as heat without using dry ice or other coolants, which is very important in the global air cargo sector where maintaining accurate temperatures and cold chains is a major challenge,” explains Seitz.

SHORT- AND LONG-TERM THINKING

Switzerland-headquartered Unilode Aviation Solutions says it manages the world's largest outsourced fleet of ULDs and owns the largest global network for the maintenance and repair of containers, pallets and inflight food service equipment.

The company has had a busy 2022, appointing Ross Marino as chief executive officer earlier in the year, digitising 100,000 ULDs, and announcing key contract extensions with Saudia Cargo and Air Transat.

In September, Unilode also expanded its ULD short-term leasing network in Europe and Asia to cater to the growing worldwide demand for pallets and containers. The company added Paris Charles de Gaulle, Bangkok and Beijing to its global ULD short-term leasing network, which now consists of more than 15 strategic locations globally. The quantity and types of ULDs offered have also been significantly increased.

"Over the past two years we have doubled our container and pallet inventory for our short-term leasing business, establishing Unilode as a leading player in this market," says Marino. "Our customer base has grown, and we are proud to support more than 100 airlines, cargo charter operators, cargo agents and freight forwarders globally with our short-term leasing product and service offering. In light of the continuous demand and the strong feedback we receive from the market, we plan to further expand our footprint over the coming 12 months."

1. Unilode reached the milestone of having 100,000 digital ULDs live in its container and pallet fleet in April

2. DoKaSch's 'Opticooler' is a set of temperature-controlled packaging solutions

15



Unilode's global ULD short-term leasing network consists of 15 locations globally



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"Since the Opticooler only requires a power socket to be charged, it can be used almost unlimited. Large batteries allow a continuous and autonomous operation of the container when grid power is not available, for example during ground or air movements.

"They keep the desired temperature level, between 2°C and 8°C, at any given time."

Adamsson observes that the industry has never been under more pressure as demand from shippers is up, yet air freight capacity is down. "To develop a distribution service that meets these

tough customer needs and having an optimal return logistics is critical," he says. "Envirotainer is offering one-way leases everywhere across the globe.

"We have more than 7,000 Federal Aviation Administration (FAA) and European Union Aviation Safety Agency (EASA) certified units available, covering more than 2,000 pharma trade lanes in over 100 countries and 300 airports. With more units available, comes greater flexibility and better logistical offerings."

Global reach

Envirotainer also has an extensive network of over 60 service stations over the world. "Every time a container comes into a service station, its logs are automatically uploaded and analysed, which will then guide the repair management of the specific ULD," affirms Adamsson. "This is one of the reasons why we can ensure no temperature deviations on the shipments and zero product loss."

DoKaSch offers both standard ULDs and special equipment such as car racks or temperature-controlled containers. "With our range of products, we are able to serve the strong demand for cargo ULDs and to respond to customer requests. This enables us to compensate



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EVOLVE AND EXPAND

Wholly owned Lufthansa Cargo subsidiary Jettainer is another big player in the ULD sector, with approximately 100,000 ULDs in 500 locations worldwide.

At the recent IATA World Cargo Symposium 2022 in London, Jettainer announced plans to expand its presence in the Asia Pacific market by 2023 with Singapore and Hong Kong its main gateways in the region. Jettainer said its goal was to establish its own regional teams in Asia, strengthening its relationship with customers through intercultural competencies, and “to respond even better to individual needs”.

The market changes of the last two and a half years have pushed



previously functioning processes in the global aviation industry to their limits, Jettainer explains. Airlines have had to experience all the problems that a lack of ULDs can cause, with the importance of security of supply and reliability becoming even more apparent, while cost awareness and sustainability continue to be major factors.

In Asia Pacific markets, existing airlines are on a growth track, expanding their business to include widebody fleets or starting cargo operations, while new airlines are being founded. Furthermore, ULD operations have traditionally been managed in-house, Jettainer notes, so the region holds great growth

potential for ULD management solutions providers.

Jettainer’s managing director Thomas Sonntag thinks the company’s 100,000 ULD fleet could double, primarily due to growth in the Asia Pacific region. “Airlines have recognised the value of ULDs and the need to manage them efficiently: the time is right for ULD outsourcing,” he says.

“We manage ULD fleets with only 80 per cent of the units previously required. This potential ULD saving of 20 per cent can either be used for growth, to offset shortages – or contributes to simply save cost.”

Jettainer currently manages pallets and containers for Korean airline T’Way, VietJet and Philippine budget carrier Cebu Pacific – with several more airlines in the pipeline.

Sonntag adds: “Being close to our customers is enormously important to us. Our customers benefit from what I would call ‘regionally relevant ULD expertise’: understanding networks, geography and culture and transferring this into perfected ULD management.

“It brings us into the position to really understand our customers’ requirements. For this reason, our goal is to establish regional teams for sales and operations, but also central functions, on all continents, as well as local representatives where necessary and useful.”

Jettainer also announced a major contract win at the IATA World Cargo Symposium, from CMA CGM AIR CARGO, the cargo airline of the CMA CGM Group. Jettainer will provide global positioning, management, maintenance and repair services for its fleet of a few thousand ULDs under a five-year contract. This adds to several other contract wins this year, including from Etihad Cargo, Norse Atlantic Airways and Avianca Cargo.



Pictured above: Jettainer’s chief sales officer Thorsten Riekert (left) and managing director Thomas Sonntag



“AIRLINES HAVE SEEN THE VALUE OF ULDs: THE TIME IS RIGHT FOR ULD OUTSOURCING”

for the declining demand for ULDs in the passenger sector,” says Seitz.

“Our commitment is to have 100 per cent container availability, and that is what pharmaceutical shippers rely on. Accordingly, we always keep a reserve of the Opticooler, so we could meet unforeseen demand. In order to serve the demand, a broad network also plays an important role in the distribution of ULDs.”

DoKaSch has expanded its global presence over the past two years and opened depots for Opticoolers at important export locations for vaccines and pharmaceuticals. “We now operate service stations with depots for the Opticooler in Hyderabad, India, as well as in Tokyo and Beijing, with an office in Japan,” says Seitz. “We are also continuously expanding our network through agreements with major airlines. Just in July, for example, DoKaSch and Japan Airlines signed a master rental agreement.”

Future perspectives

The future of the ULD market will continue to see a shift from traditional passive containers to temperature-controlled ones, according to Adamsson.



Jettainer currently manages pallets and containers for airlines in Asia including T’Way (pictured), VietJet and Cebu Pacific – with more to come

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“THE BIGGEST FOCUS IS TO ENSURE TECHNICAL EXCELLENCE OF THE ULDS AND TOP CLASS MAINTENANCE BASED ON DATA ANALYTICS”

“We will therefore continue to invest and innovate in that direction with our Releye range, boosting production significantly,” he comments. “We will also heavily invest in increasing capacity to ensure we’re a continued market leader in terms of fleet size.

“We will also work hard to support clients that need cryogenic -70°C dry ice shipping solutions. We have a product

line known as ‘CryoSure’, which uses dry ice rather than battery power and can keep a constant temperature as low as -70° for up to three weeks. These are perfect for products such as clinical trials, vaccines, diagnostics biospecimen and many more.”

Looking to the future, DoKaSch is evaluating improvements and new technologies to improve its product line. “At the moment, we are continuing to focus on the Opticooler. Nevertheless, we are constantly optimising our product as part of regular maintenance processes, so the Opticooler is constantly evolving,” says Seitz. “However, battery-powered active containers are currently the most modern and efficient solutions on the market, which is why we will keep our focus and expertise in this area.

“Therefore, a completely new development is not on the agenda. One upgrade, for example, is the cooling-only programme, which enables the Opticooler to combine passive and active solutions.



2

“During transport in the active Opticooler, passive solutions retain their full runtime. After unloading, they can access fuller cool pack capacities at the destination airport. We have also recently revised the operating display, making the Opticooler even more user-friendly and clear to operate.”

1. Etihad Cargo renewed a ULD contract with Jettainer for five years in June. Jettainer has managed its ULD fleet since 2011

2. Envirotainer’s Releye ULD container

3. Opticooler containers can cool as well as heat without using dry ice or coolants



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IN REVIEW: IATA WORLD CARGO SYMPOSIUM

This year's IATA World Cargo Symposium brought together all elements of the air cargo industry, plotting a pathway to the future that will require more collaboration, sustainable actions and efficiencies brought about by new technologies

Sustainability, modernisation, safety and attracting talent were the key topics identified by the International Air Transport Association

(IATA) at the 15th World Cargo Symposium, which took place in London in September.

The organisation highlighted four priorities to build resilience and strengthen air cargo's post-pandemic prospects. These are: achieving net zero carbon emissions by 2050; continuing to modernise processes; finding better solutions to safely carry lithium batteries; and making air cargo attractive to new talent.

"Air cargo had a stellar year in 2021, achieving US\$204 billion in revenues," said IATA's global head of cargo Brendan Sullivan. "However, at present, social and economic challenges are mounting. The war in Ukraine has disrupted supply chains, jet fuel prices are high and economic volatility has slowed GDP growth.

"Despite this, there are positive developments. E-commerce continues to grow, Covid restrictions are easing, and high-value specialised cargo products are proving resistant to economic ups-and-downs. Going forward, achieving our net zero commitment, modernising processes, finding better solutions



30bn



IATA believes that with the right incentives, airlines could be using 30 billion litres of SAF per year by 2030 – key to achieving the net zero ambition of ample SAF quantities at affordable prices

to safely carry lithium batteries and making air cargo attractive to new talent are critical."

In 2021 the aviation industry agreed a balanced plan to achieve net zero CO₂ emissions by 2050. According to IATA, a potential scenario for this to happen is 65 per cent through sustainable aviation fuel (SAF); 13 per cent from hydrogen and electric propulsion; three per cent from more efficient operations; and 19 per cent through offsets and eventually through carbon capture, as an out-of-sector solution while technology develops.

"SAF is the key to achieving net zero emissions," noted Sullivan. "Airlines used every drop that was available in 2021. And it will be the same this year. The challenge is SAF production capacity. The solution is government incentives.



With the right incentives, we could see 30 billion litres of SAF by 2030. That would be a tipping point by 2030 towards our net zero ambition of ample SAF quantities at affordable prices."

Turning to modernisation and efficiency, Sullivan said: "The challenges of the Covid crisis gave us confidence that we can change and adapt fast. We need to use that confidence to get even closer to the expectations for modernisation that our customers have. And we need to be true to air cargo's unique selling point and move even faster."

IATA highlighted two areas where progress was being made. One is the association's 'ONE Record', which is making it possible for everyone across the industry's value chain to see the same information on shipments. Already 156 companies and four customs authorities are using it.

Another area of progress is IATA's 'Interactive Cargo Guidance', which provides a common framework so that tracking devices can monitor the quality and accuracy of conditions of time and temperature sensitive goods.



“AIR CARGO HAD A STELLAR YEAR IN 2021 BUT THE CHALLENGES ARE MOUNTING”

Government support for the modernisation agenda through facilitating trade is also critical, Sullivan said.

“The Revised Kyoto Convention which brings standardisation, technology, predictability and speed to trade facilitation and the World Customs Organization (WCO) SAFE Framework of standards to facilitate and secure trade are major steps forward in supporting global trade,” he said.

“However, we are still seeing far too many diverging requirements by governments in areas that should be harmonised by these two tools. This needs to change quickly so we can continue to support global trade – and its vital contributions to economies and the UN Sustainable Development Goals – with modern and efficient air cargo.

1400

The 2022 World Cargo Symposium brought 1,400 delegates to London, England. An annual event, the 2023 edition of the WCS will be held in Istanbul, Türkiye between 25 and 27 April



3

“Universal adoption and implementation will deliver the greatest benefits.”

Safety, specifically finding better solutions to safely carry lithium batteries, was also highlighted as a priority for the industry. “We can be proud of the progress that we are making to further improve the safe handling of lithium batteries,” said Sullivan. “For air cargo, this is a top priority. But even the best regulatory structure means nothing if the rules are not followed. Compliance is an issue with the transport of lithium batteries, particularly with the proliferation of new – and inexperienced – entrants in e-commerce activities.”

IATA called for regulatory authorities such as EASA and FAA to accelerate development of a test standard that can be used to demonstrate that fire containment pallet covers and fire-resistant containers are capable of withstanding a fire involving lithium batteries.

Government authorities also need to step up and take responsibility for stopping rogue producers and exporters of lithium batteries, said Sullivan. Additionally, the industry should use technology such as DG Autocheck to more easily and accurately verify that the shipment complies with DG requirements.

To embed best practices on the safe carriage of lithium batteries

1. The traditional gala dinner offered an opportunity for air cargo to celebrate
2. IATA's cargo chief Brendan Sullivan
3. Digitalisation was a key discussion topic at this year's symposium

across the value chain, IATA has expanded its ‘CEIV Lithium Battery’ programme to include airlines and shippers.

The final priority is attracting and retaining talent. “People are the core of any improvement in what air cargo can deliver. Sadly, we saw thousands of jobs leave the industry during Covid-19, especially cargo handlers,” said Sullivan. “We are now competing for talent in a very tight job market. And when we do find the right and willing talent, training and longer-than-usual security clearance processes delay their entry into the workforce.”

IATA called for governments to accelerate clearance processes, including those for security, as a short-term solution and longer term to do a better job of attracting, onboarding, and retaining talent.

IATA also encouraged more cargo carriers to sign on to the industry-wide 25by2025 initiative to promote gender diversity. “The need to create equal opportunities for the female half of the world's population is highlighted by the situation today where the industry struggles to attract sufficient talent. Achieving an equal gender balance must be core to any long-term talent strategy,” said Sullivan. 



140



Emirates SkyCargo transports cargo to more than 140 destinations across a global network spanning six continents, through its modern hub in Dubai

1

Major steps forward

Emirates SkyCargo signed key agreements with both United Cargo and WebCargo by Freightos at the recent IATA World Cargo Symposium in London. *Airline Cargo Management* spoke to Emirates' divisional senior vice president, cargo **Nabil Sultan** at the event

Airline Cargo Management: Emirates SkyCargo signed a Memorandum of Understanding (MoU) with United Cargo covering closer collaboration in areas such as expanding cargo interline options and blocked space agreements, which followed a broader commercial agreement between the two airlines. What's the significance of this expanded cooperation?

Nabil Sultan: We believe our networks are complementary to each other both in terms of where we operate and where they operate. We've always had a relationship with United, but this is taking it to the next step. We will be working closely to put together a roadmap for cooperation, subject to government and authority approvals.

Eventually this cooperation will add value to both carriers. More importantly, it will add huge value to our customer base. It is important for us to have access to the Americas. Even though we operate a lot of non-stop direct flights to the US, because of the long-haul flights we have we are usually quite constrained with capacity due to payload restrictions.



Nabil Sultan is Emirates' divisional SVP, cargo

Having a partner like United could really help us improve our capacity presence out of the US, and we can do the same thing for them into Africa and the Middle East.

Emirates SkyCargo has also partnered with WebCargo by Freightos to offer a new channel for customers to directly access and book its flights for cargo shipments. What can you tell us about this partnership?

WebCargo is a digital platform that will allow us to extend all our capacity and rates to our customers digitally, as opposed to what happens today where a customer has to send an email to book a space, or call us through our call centre. This is a major stepping stone for us into the digital world, where customers should be able to reach out to us. We will be an easier airline to do business with. We felt that this was the time for us to move forward with digitalisation.

Freight forwarders and other customers will be able to go online and have complete visibility and transparency of all our capacity across the globe. That's a huge benefit. They can look at the prices, make the booking, close the transaction online – it's all real time confirmation and has huge value from an industry perspective.

What are the next milestones on Emirates SkyCargo's digital journey?

The whole supply chain and logistics industry has been too late in embracing some of the digitalisation that we've seen in other industries, but I think the pandemic has been a big wake-up call for everyone. The industry has realised that during the pandemic, when demand initially came out so strong we were unable to cope with it simply because of the



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sheer volume; that dealing with it manually with humans and Excel spreadsheets is no longer a sustainable position. So we're going to see a much faster pace of acceleration when it comes to a lot of digitalisation, and an e-freight approach to the whole industry will probably become far faster than in the past.

How do you assess the global air cargo market currently, and what are the main issues keeping you up at night?

We're seeing how the industry is taking shape, and clearly there are massive geopolitical factors impacting it on a global level. Things like the Chinese lockdown do not help, for example. China is the world's factory no matter how you look at it, so we monitor that very closely to see how business and manufacturing is starting to shift out of China and into neighbouring Asian companies like Vietnam, Cambodia, India, Bangladesh and Sri Lanka, as well as South America.

We're seeing a huge shift in manufacturing and production and therefore we constantly evaluate and shift our capacity to some of these key production markets to be able to cater for some of that production.

There's also still a looming recession that everyone is looking at, and if that happens it is normal to think about what the impact will be and how we can position ourselves as we progress. There's massive uncertainty out there and everyone is watching the situation very closely. We will see how the situation evolves.

“THIS IS A MAJOR STEPPING STONE FOR US INTO THE DIGITAL WORLD AND WE WILL BE AN EASIER AIRLINE TO DO BUSINESS WITH”

What are the next steps for Emirates SkyCargo as we move into 2023?

There are a lot of opportunities out there, and I think there are things that have been learned from the pandemic.

One industry that came out very clearly is e-commerce and we've seen how e-commerce has evolved and grown exponentially almost year after year, and during the pandemic it just exploded. So that's a vertical that is worth looking at.

As an airline today we move almost 80 million passengers across the globe, connected through a robust hub in Dubai, so why not move 80 million packages? Those are the things that come to mind and the major investment is there: we've got the network, the hub, the frequency, the capacity – so if it's a question of building around our product to be able to deliver packages to people's homes, then so be it. These are the opportunities that we are going to be assessing and evaluating as we move forward in the future, and I'm sure we are soon going to be hearing about some of the products we will be launching – both B2B and B2C – that really address this. ©



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1. Nabil Sultan and United Cargo president Jan Krems signed an MoU promising closer collaboration at the 2022 WCS

2. Emirates SkyCargo's dedicated 777 freighter fleet rose to 11 aircraft in May

3. The company partnered with WebCargo by Freightos to offer a new channel for customers to directly access and book its flights for cargo shipments

Safeguarding the future of US air cargo

In a new white paper, the Airforwards Association (AfA) and the National Customs Brokers and Forwarders Association of America have made key recommendations to solve a critical need for investment in the US. Here, AfA's executive director **Brandon Fried** presents a summary of the white paper



Over the past decade, one of the primary financial mainstays of the aviation industry has been air cargo and this has never been clearer than in the face of the Covid pandemic. But this was at substantial cost to airports and airlines, which suffered enormous losses through this period.

The economic importance of air cargo is in large measure directly tied to the intrinsic value of the shipments.

According to the International Air Transport Association (IATA), airlines transport over 52 million metric tons of

goods a year, representing more than 35 per cent of global trade by value but less than one per cent of world trade by volume. That is equivalent to US\$6.8tn worth of goods annually, or \$18.6bn worth of goods every day. This translates to thousands of jobs throughout the logistics chain. However, as we look to the future, the viability of this essential element of the logistics chain is struggling to cope with the changes it faces.

Airports Council International – North America (ACI-NA) estimates that US airports, in spite of recovering passenger levels, face at least \$40bn in losses as a result of the pandemic.

At the same time, ACI-NA's total estimate of US airports' infrastructure needs through 2026, adjusted for inflation, is approximately \$115bn, or more than \$20bn annualised.

Despite the funding for various airport functions in the recent *Infrastructure Investment and Jobs Act*, the reality is that, given the revenue shortfalls of the past two years, the priorities of the \$25bn resource allocation will be on passenger accommodation, safety and security.

Opportunity

Surprisingly, air cargo spends a very large percentage of its shipment time on the ground, processing through airport facilities. This is the element of the logistics chain that forms the nexus of stakeholder participation and represents the broadest range of opportunities to increase efficiencies and lower costs for.

As such, this was the area upon which the Airforwards Association (AfA) and ACI-NA focused.

Primary recommendations

The primary recommendations are indicated below, and are supplemented by those included in the full white paper, which is available at airforwards.org.

1. Provide direct public sector financial support to development initiatives

There are several instances where negotiations for a cargo development project can be substantially accelerated, and at the same time help both airports and developers achieve financial targets while containing costs to tenants and users of the facilities. It should also be noted that upgraded facilities would also create a working environment that would increase staff retention.

2. Develop and introduce a universal digital electronic application

This application would, in theory, become a technology overlay for an airport in which all stakeholders, to include federal and state agencies, would participate. This would provide a single window platform for all stakeholders to have cargo status visibility. It will be critical that the system ensures levels of security and data protection that will make stakeholders comfortable with participation. There are several systems that are either in design, operating on a trial basis, or in place in Europe.

“A FAILURE OF ACTION BY THE US LEGISLATURE RISKS ESCALATING COSTS FOR MODERNISATION”



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3. Review and upgrade compensation

The air cargo industry must pay a sustainable wage and offer attractive benefits to recruit and retain knowledgeable and professional representatives who are needed to work outside the traditional Monday through Friday, nine to five, job.

4. Institute an industry-wide training programme

It is essential that existing staff and new entrants be appropriately educated in the multiple elements of air cargo operations and the importance of the role that each employee plays in maintaining the overall efficiency of the system.

5. Implement consistent policy interpretation and reinforcement

Although there may always be 'exceptions to the rule', it is essential that there be consistent interpretation and enforcement by Transportation Security Administration (TSA) and United States Customs and Border Protection (CBP) at every location over which they have jurisdictional oversight.

Implementation

The number of airports and the diversity of cargo operations, stakeholders and regional economic importance among the states make the creation of a single, rigid implementation policy unrealistic. However, there are certain critical elements that are both recommended and common to all.

1. Create state-based funding centres unique to air cargo to assist in funding projects, technology and automation initiatives, equipment acquisition, operational and safety improvements, and sustainability enhancements.
2. Utilising clear evaluation criteria, each state should create a prioritised list of cargo projects for which the fund should be utilised, and estimate the capital and timing requirements.
3. Determine the potential amount the state can contribute, and the amount requested from a federal funding source.
4. A combined panel of public and private sector stakeholders should determine specific state funding allocations based on clear and common evaluation criteria.

5. Underruns, to include any offsets achieved through private sector contribution, will be returned to the fund.
6. Each state and the federal agency shall audit allocations and project management to ensure budgets are on track.
7. States failing to meet allocation and project goals may lose funding.

Impact of no action

The need for a broad programme to address existing and growing deficiencies is essential. A failure of action by the US legislature to act on these recommendations risks escalating costs for modernisation of airport facilities and infrastructure, continued adverse environmental impacts, industry consolidations and overall job loss, higher costs to all elements of the logistics chain from shipper to buyer, and a continued inability to meet anomalous challenges such as the global pandemic. 

1. Airforwards Association executive director Brandon Fried
2. The organisation's latest white paper looks at air cargo's economic importance and the critical need for investment



Future freight

Photo: Swissport



Paul E Eden spoke with Cargo First, DHL, YEG Edmonton International Airport and Swissport executives to discover the air freight hub state of the art and gain insight into how the industry is evolving

Setting aside the complexities of international regulation, dangerous goods, perishable items and temperature-controlled consignments, at the most basic level air freight terminals accept goods for onward air transport and by air for onward distribution. Behind that simple statement there exists an increasingly digital, environmentally conscious ecosystem, one that Mark Evans, VP UK hubs and gateways at DHL, says has already undergone fundamental change and continues to evolve.

"I've been with DHL for 30 years and we continue to innovate. We're doing a lot with robotics, looking at automation in various areas, from simpler tasks right up to working with our customs people," he says. "All our hubs are automated, with X-ray machines examining every piece in all our facilities – we did that before anyone else in the industry and mandated it before it became a regulatory requirement – and systems preventing unscanned, non-security cleared items from being loaded. Our major hubs, including Brussels and Cologne, sort up to 60,000 pieces every hour."

Although its core business is somewhat different, the drive for efficiency and technological advance is similar at Swissport, which operates 121 cargo warehouses and 16 pharma centres at airports globally. Its hubs are designed for maximum flexibility, and efficiency and sustainability are addressed from the moment freight arrives at a Swissport terminal. Dirk Goovaerts, head of Continental Europe, Middle East and Africa, and global cargo chair, explains: "Developed in line with IATA's paperless 'eFreight' initiative, our self-service kiosks allow truck drivers to register and identify at the kiosk with an ID, scan all air freight documents and get gate information. It significantly reduces waiting time, creating savings for our customers."

Continuing the digital theme, Mammen Tharakan, director, e-commerce, cargo & aviation real estate air service & business development at YEG Edmonton International Airport, says the facility is midway through a major change programme. "In 2020, we unveiled a five-year 'Innovation Expansion' strategy, focusing on a holistic, large-scale redesign and modernisation of our business model. We are introducing technology to operate a more digital company by applying data insights into decision-making. Digital innovation will support our cargo business and partners."

Meanwhile, YEG's Airport City Sustainability Campus and the Alberta Aerospace and Technology Centre provide opportunities to support growth in cargo and passenger operations by incubating businesses pushing the boundaries in fields including AI, drones, reforestation and energy, with solar and hydrogen among the latter.

"We are also pushing boundaries in vertical take-off and landing aircraft," Tharakan notes. "In December 2021, YEG became Canada's first airport to integrate drone logistics into its daily operation and in May 2022 we began regularly scheduled drone delivery operations in controlled airspace."

On a smaller scale, Cargo First is establishing the UK's Bournemouth Airport as an air freight hub. Currently taking advantage of easy road links into London, the company is already looking ahead. Bob Matharoo, head of cargo development, explains: "One of our strengths is that we are just 90 minutes from the London market which means in most cases we move air freight to London faster than if it had come through a London airport."

"We achieve this by controlling every aspect, from offloading the aircraft to customs, and loading the truck at our handling facility. That said, we are also part of conversations regionally about creating a more multi-modal approach. We sit on one of the major shipping lanes in and out of Europe, so the aspiration is to bring together air freight, sea freight and road logistics."

↑
A view inside Swissport's Frankfurt Airport facility illustrates the scope of air freight hub operations



1 Photo: Swissport

“TASKS INCLUDING INDUCTING AND LOADING WILL BE MORE HEAVILY AUTOMATED”

“For example, seafood from the Nordics could be landed by ship on the south coast then flown from Bournemouth to export markets including China and the US. Our sister airport at Exeter has also been involved in trials with hybrid electric aircraft on regional routes, and we believe regional airports could play a much greater role in the UK’s freight industry.”

Technology expansion

Looking ahead, e-commerce, which has already driven change, continues as a motivator for cargo hub expansion, modernisation and technological advancement, while sustainability has joined the desire to ensure safe, efficient operations as the bedrock upon which air freight handling is based.

As it works towards maturing its own operation at Bournemouth, Matharoo says Cargo First is targeting a single freight operation with airside handling

seamlessly connected to a landside client facility. “We’re saying that we can offer the whole package without customers having to build their own warehouse,” he explains. “They want more consolidation on site and trackability, and we have the real estate to offer that. It’s also about designing facilities as simply as possible, providing rapid through-flow, and having the systems in place to make the cargo ownership chain as short as possible.

“With the growth in e-commerce, trackability is becoming increasingly important, especially for fast delivery items. The same goes for express mail, another growth market where technology can play a critical role in making it faster and more efficient. There is also some interesting work going on with AI and scanning technology, bringing together the physical and digital worlds to assist with cargo build-up and maximising freighter space.”

At YEG, e-commerce is the primary driver for growth in the region, and

Tharakan flags opportunities to introduce greater visibility and transparency to cargo transport, working with “firms that have interesting technologies to track movement in real time while generating data insights to support the business”.

He is also excited by the promise already revealed in the airport’s nascent drone operation. “It carries up to 4kg per flight and can operate up to eight round trips per day. Since May 2022, we’ve serviced more than 300 commercial flights from the airport to the Pat Wilson Memorial Park in Leduc County.”

The drone operates with zero emissions, very much in keeping with YEG’s ambitious sustainability goals. “We are the first and only airport member of Amazon’s climate pledge committing to carbon neutrality by 2040, and one of the launch airports of The International Air Cargo Association (TIACA) ‘BlueSky Assessment Program’ that tracks the sustainability progress of the cargo industry,” Tharakan states.

Swissport has its own extensive decarbonisation and waste management goals, including cutting CO₂ emissions by at least 42 per cent by 2032 and

42%



Swissport's ambitious de-carbonisation and waste management goals include cutting CO₂ emissions by at least 42 per cent by 2032 and increasing the proportion of electrically powered vehicles in its fleet to at least 55 per cent in the same period

increasing the proportion of electrically powered vehicles in its fleet to at least 55 per cent in the same period. Innovation is a key enabler, including Amsterdam's 'Milk Run', a Swissport supply chain optimisation initiative that combines freight to and from several cargo forwarders into a single truck, creating savings and minimising emissions. In Vienna, transportation between Swissport's cargo warehouses and terminals is provided by a dedicated Mercedes-Benz eActros truck.

Swissport is designing and building new cargo warehouses, among them a Vienna facility inaugurated in May 2019, to include the latest technologies, while older facilities are gaining solar panels and charging ports for electrical vehicles and equipment, among other upgrades.

The company regards automation and digitalisation as essential stepping stones to the future. Goovaerts reports: "We are always seeking better solutions to optimise processes and the working environment. Within that, we are testing several ground-breaking technologies and



2 Photo: YEG Edmonton Airport

observing very positive outcomes already."

He regards automation as a fundamental requirement from the safety and security points of view, and looks to Frankfurt as an example where Swissport is testing a driverless guided vehicle with a load capacity of 6,800kg, designed to independently transport ULDs (unit load devices) inside the air cargo centre. The vehicle reduces manual handling and increases warehouse safety thanks to its anti-collision capability.

Mark Evans began his DHL career as a courier. He therefore looks back over three decades of industry evolution, and towards future development, from an unusual vantage point. "We scan, scan and scan again so that we always know where every piece is," he says.

"When I started in the business, many facilities had tilt-tray sorters using a single, one-sided overhead scanner and the barcode had to face it for the system to work. There may have been several hundred round or oval wooden sorting trays in each system, tipping items down chutes depending on their destination.

"Now we use cross-belt sorters, effectively conveyors capable of moving in two directions. Typically, there are only four sorting trays, with X-rays inducting onto them and conveyors bypassing some

areas to speed the process where items don't need X-raying. It's a very intelligent system using six-sided scanners, including one on the underside of the conveyor, so the label can be placed anywhere on the package and still be read. The control centre always knows where every piece is in the network. If a piece is subsequently lost, we have cameras that can identify where it was in the hub, who sorted it into which container, and when it left. It's all about safety and security.

"The technology has come on in huge bounds and the business is massively safer than when I started. For the future, tasks including inducting and loading are likely to be more heavily automated, improving efficiency and safety, and removing manual tasks for which it is difficult to recruit young people. We're testing automation right now, but so far it is much slower than a human operator. It will evolve over the next few years though – the future is in more robotics."

1. Loading gates at Swissport Frankfurt

2. Edmonton is Canada's closest major airport to many parts of Asia. The Edmonton to Beijing flight path is the shortest of any city in North America

3. Cargo First's plans for Bournemouth Airport include a terminal



Photo: Cargo First 3



Nathanaël De Tarade
is CEO of Wiremind Cargo

Wiremind Cargo

Launched this year, Wiremind Cargo aims to develop tools for the air freight industry – including its SaaS cargo management suite CargoStack – and is a founding member of the CargoTech digital alliance. Here, CEO **Nathanaël De Tarade** discusses Wiremind Cargo's successes so far and future plans



Visit wiremind.io for more information on Wiremind Cargo, the cargo arm of the Wiremind Group

Airline Cargo Management: What is Wiremind Cargo's story so far?

Nathanaël De Tarade: Wiremind Cargo started as a branch of the Wiremind Group, dedicated solely to air cargo digitalisation. We have assembled a team of software engineers, data scientists and product managers to design, build and implement innovative solutions for airlines, primarily. So far, we have been working on establishing our core 'CargoStack' system, as well as several add-on modules for decision support, and we are happy to have launched the first version of each of these solutions.

How would you describe the current state of cargo management systems (CMS) and how does the launch of CargoStack fit into this?

As an airline, if you look at your options, you have legacy systems that are not always able to fit into a modern IT landscape, where you want seamless integration through APIs to be easy. Some systems have built APIs on top of a legacy architecture, but that does not always allow the flexibility that an API-native, modern CMS like CargoStack brings. Moreover, I believe that most CMS providers build software but lack the data science expertise.

At the same time, providers who offer AI-based solutions are not always top-level software designers. By trying to bring both, and we have proven expertise in both these fields, we offer a seamless journey to our customers by providing value through our core product but also through the ease of growing other solutions that are connected to it.

Could you describe how CargoStack works, and what its main benefits are?

CargoStack offers all the functions an airline needs to manage its cargo activity, from the booking engine and flight scheduling to the messaging and allocation management, among many others.

In terms of benefits, there are three main ones. First is its 'look and feel'. This is possible thanks to a modern product design approach.

Second is our artificial intelligence (AI) and machine learning (ML) expertise. We like to say that the CMS is where you input your decisions, and our add-ons are where you decide what the best decision to take is. Bringing AI and ML models, next to data insights to offer transparency to the users, is a unique strong point of CargoStack.

Lastly, CargoStack is API-native. In other words, that means that all data

"We offer a seamless journey to customers by providing value through our core CargoStack product"

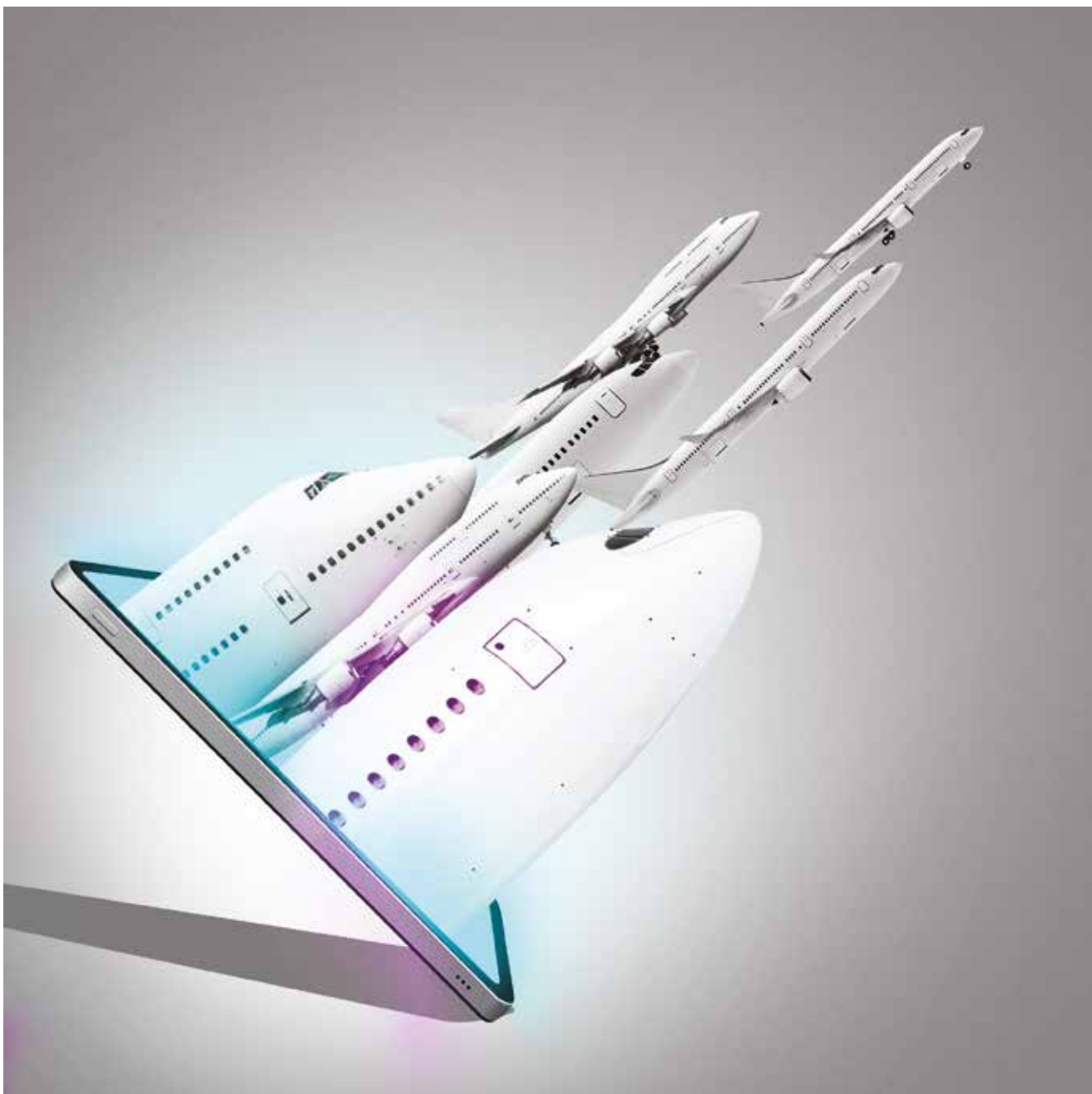
in CargoStack is part of a pipeline that works in both directions to ensure seamless integration to other systems.

How does CargoStack improve the way cargo airlines would previously manage all cargo processes?

The improvement comes from two things. The first is better productivity because the tool is easier to use, and will help you retain talent as well. The second is better decision-making because the tool brings you insights and recommendations at multiple levels.

What has the reaction been from the air cargo industry so far?

All airlines I have spoken to have shown interest. What is interesting is that we are able to cater to small and mid-size airlines who look for efficiency, and larger airlines who look for advanced decision support add-ons. Since we offer both, we have had a truly great reception.



“Digitalisation is no longer at the discussion stage: airlines are really taking action”

Are there any other areas of air cargo you see potential for expansion into?

The whole point of creating CargoTech, together with our partner companies, is to coordinate our product roadmaps and strategies.

This means that we ultimately want to address all cargo processes. Currently, we already have a lot of products in the CargoTech companies’ portfolios, so we are focusing on making them the best solutions in the market.

Can you share some recent success stories or projects?

We have recently partnered with an airline that we will be announcing soon, and we have been discussing the best way of doing capacity optimisation. We’ll provide more information on that in the coming months.

How is digitalisation developing in air cargo and what does the future look like?

In a nutshell, I would say it is developing to an extent that is the best we have seen so far in the industry. If you look at how many airlines are having even just discussions about data, decision support, and AI, you will see that almost all of them have put these topics very high on their agenda. And for an increasing number of airlines, it is no longer at the discussion stage: they are really taking action, so I could not be more confident that the next couple of years will be very exciting in terms of new projects. 

MEETING CARGO OPERATORS' NEEDS

Ascent Aviation Services' chief commercial officer **Scott Butler** reviews the variety of services the company offers that can benefit cargo operators



“Its large footprint and flightline area make Ascent one of the largest heavy maintenance, lease transition, storage and reclamation facilities in the world”



Scott Butler is Ascent Aviation Services' chief commercial officer



Visit ascentmro.com for more information on the Arizona, US-headquartered MRO company

Ascent Aviation Services is a privately owned, Class IV 14 CFR Part 145 certified repair station and one of the largest aircraft maintenance operations in the world. Ascent provides a full lifecycle of maintenance, storage and reclamation services to owners, operators and lessors of widebody, narrowbody and regional jets. With outstanding reliability and service that delivers, Ascent is ideally situated as a one-stop shop for all aircraft fleet service, storage and end-of-life needs.

Airframe MRO

Ascent currently operates more than 1,200 acres of land between three sites on Pinal Air Park, Tucson International Airport and Roswell International Air Center, and occupies over 300,000sq ft of enclosed hangar capacity and shop space. The large footprint and flightline area make Ascent one of the largest heavy maintenance, lease transition, storage and reclamation facilities in the world.

With more than 40 years of continuous operation and over 1,000 maintenance visits, Ascent specialises in the heavy maintenance of nearly every commercial aircraft type. Ascent has heavy check capabilities for most major aircraft in operation from Boeing, Airbus, Embraer and Bombardier. The hangars and experienced team can accommodate

anything from an ERJ to a 777 and everything in between. Ascent also maintains FAA, EASA, TCCA, 2-REG and several other certifications to offer customers multiple solutions.

Ascent's reputation for quality and on-time delivery makes our hangars a destination for the heavy maintenance needs of many cargo operators around the world. We maintain both narrow and widebody freighters from Boeing and Airbus and take pride in our commitment to keeping these aircraft in the air where they can serve their purpose. Ascent's new hangar build at Roswell International will accommodate aircraft up to 777X in size and complexity.

Freighter conversion

In October 2021, Sine Draco announced its selection of Ascent Aviation Services in Tucson for the modification and completion of its prototype A321 passenger-to-freighter conversion. FAA approval of the A321-200 SDF is anticipated for 2023.

1,200

Ascent currently operates more than 1,200 acres of land between three sites on Pinal Air Park, Tucson International Airport and Roswell International Air Center



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“Ascent maintains a large pool of USM and other certified components that can serve cargo customers”

Ascent Aviation Services will be performing the modification of the airplane by completing the touch labour, modification planning and inspection requirements. Ascent will also be completing a heavy check during the modification, painting the customer's new livery, and providing maintenance support during the ground and flight test programme following conversion.

Component repair

Ascent offers a one-stop shop for cargo operators as it adds heavy maintenance, paint and significant backshop capabilities to its vast storage and reclamation space. In October 2022, Ascent added landing gear overhaul to its capabilities list. The company started with narrowbody Boeing and Airbus gears and will expand as needed to better serve customers' needs.

Ascent's component expansions will continue in 2023 as wheels, brakes and hydraulic and composite capabilities will be added, to continue the service to the cargo operator market.

Reclamation

Ascent has a large reclamation operation that can teardown up to 20 aircraft of any size in parallel. This large end-of-life operation offers customers the ability to teardown an aircraft, tag the component and utilise USM in real-time when going through heavy maintenance. As such, Ascent maintains a large pool of USM and other certified components that can serve cargo customers going through maintenance checks.

Ascent Aviation Services is dedicated to embracing the highest standards of safety. Ascent was one of the first MROs to voluntarily enter the Safety Management System (SMS) programme in North America – the formal, top-down, organisation-wide approach to managing safety and assuring the effectiveness of safety risk controls. It includes systematic procedures, practices and policies for the management of safety risk. SMS introduces an evolutionary process in system safety and safety management and is a structured process that obligates Ascent Aviation Services to manage safety with the same level of priority that other core business processes are managed. This applies to both internal (FAA) and external aviation industry organisations.

Ascent has the ability to tailor its services to each customer's requirements, remaining flexible and able to respond to and anticipate the changes that inevitably occur. The company provides expert service for an operator's entire fleet and believes in its motto of 'Maintaining the Magic of Flight'. 

1. Ascent has completed more than 600 heavy maintenance visits for a range of aircraft

2. The company offers a one-stop shop for cargo operators as it adds heavy maintenance, paint and backshop capabilities to its storage space



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THE PERFECT FIT

Software and logistics will increasingly go hand-in-hand as companies seek to increase productivity, according to EasyCargo's **Jaume Guasch**



“EasyCargo’s software optimises the cargo space to fit more goods and also help companies organise and manage cargo spaces easier and faster”



Jaume Guasch is a sales representative at EasyCargo



Visit easycargo3d.com for more information on its loading software

Loading software companies like EasyCargo love to produce software that we know helps our clients be more productive and deliver better and faster results.

This is something not only our customers appreciate but, certainly, the final client ends up more satisfied as more goods are delivered faster and cheaper.

Customer expectations are the highest priority for any successful company to fulfil and that is no different in logistics. We want to deliver our products in the best way possible. It does not matter whether it is by land, air or sea. These days, many companies focus first and foremost on customer satisfaction.

Delivering better, faster results is not only a good thing for all stakeholders involved in the processes of manufacturing and delivery, it is also better for our environment. In the past, companies would focus almost exclusively on costs and not that much on the efficiency or on the pollution emitted in the process.

We are now in the 21st century and all industries are being forced to reduce their carbon footprint to solve the climate emergency situation we are facing. The main challenge is reducing the carbon footprint associated with various means of transport without eliminating them, because all current modes of transport are essential and cannot be substituted. Making logistics more efficient is the ultimate goal of Logistics 4.0.

To define Logistics 4.0, I have used a study released in the *International Journal of Production Research*, which states that Logistics 4.0 is the logistical system that enables the sustainable satisfaction of individualised customer demands without an increase in costs by using digital technologies. Most companies, if not all, should be familiar with this concept by now.

EasyCargo's software is an example of a product related to Logistics 4.0. The software basically fills a gap where technology was not playing a big role until a few years ago, optimising the cargo space to fit more goods and also help companies organise and manage cargo spaces easier and faster.

At EasyCargo, we have experienced great interest from air freight companies wanting to optimise their loads. We contact clients routinely and some have asked for a solution to minimise costs specifically for this type of transport.

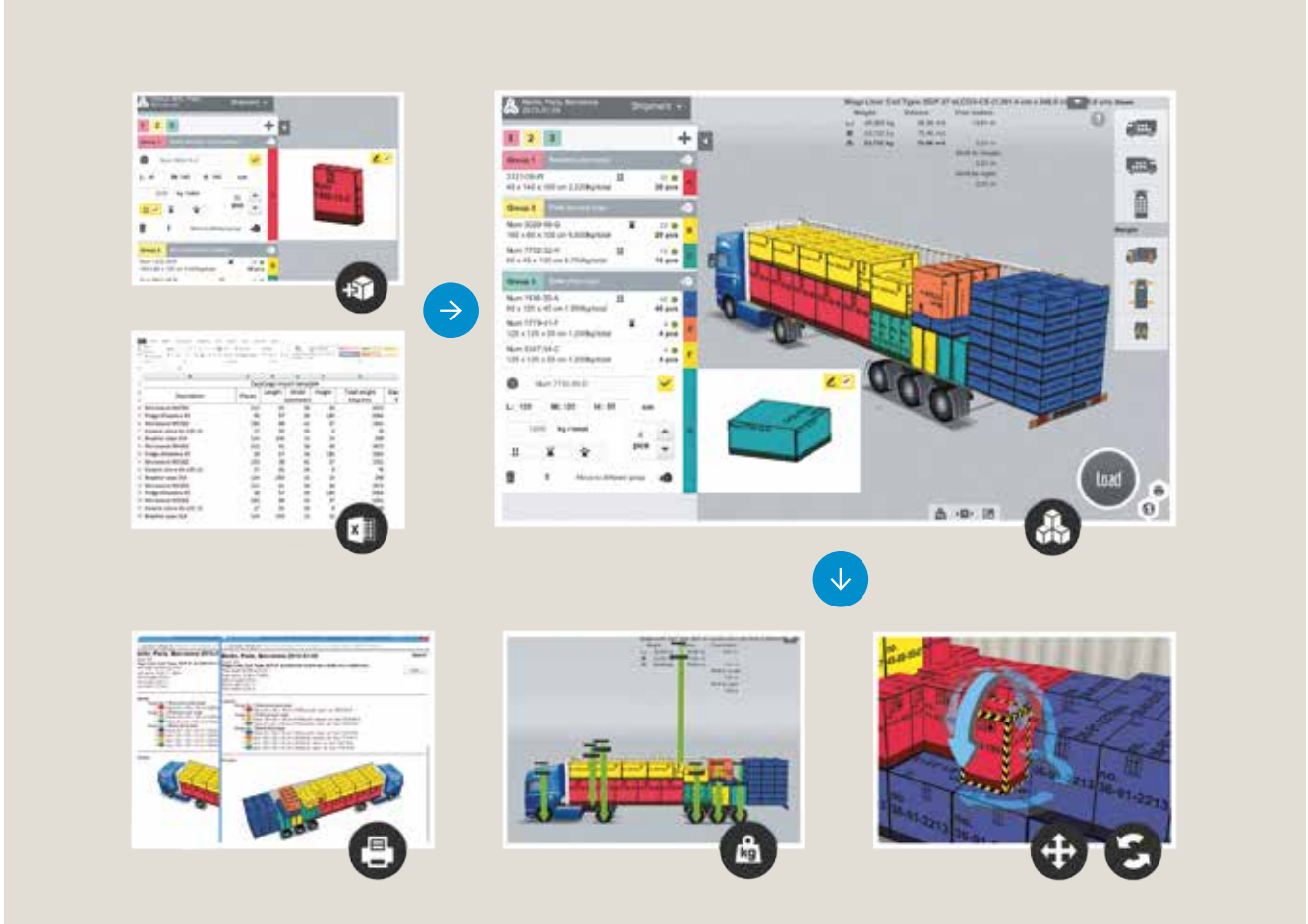
Just a few years ago there were not so many companies paying attention to these kinds of solutions. Most companies figured out or implemented their own solutions to plan loads without the need for dedicated software. In my opinion, based on some conversations with clients, nowadays these solutions have become outdated and cannot achieve full efficacy.

Instead, many companies started to look for software capable of filling this gap, such as EasyCargo. All this has been accelerated by the current landscape, where lots of smaller and medium-sized companies are suffering rising costs, so they have intensified their investments in digitalisation to stay in business.

To see how relevant it is for the logistics industry to reduce its carbon footprint, we have to keep in mind that

2%

Air freight is responsible for two per cent of the world's global emissions, as reported by the International Air Transport Association



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freight transportation is accountable for eight per cent of the world's greenhouse gas emissions. Air freight is responsible for two per cent of the world's global emissions, as reported by the International Air Transport Association. It is a smaller number compared to maritime freight, which accounts for four per cent of global emissions.

Sadly for air freight, when it comes to emissions per tonne kilometres it can be up to 50 times more polluting than maritime freight transport, and a few times more polluting than road freight. The good news is even though trade keeps growing, pollution caused by air freight has been steadily decreasing.

From the software side, what we can talk about is cargo planning – an effective plan that makes efficient use of the space. In the long run, software is able to reduce the amount of shipments needed and maximise the number of goods delivered. From that, we can figure out the rest of the positive consequences.

How do we accomplish this? Firstly, something that we have been doing for the past decade is to discover and adapt to different customer needs and their workflow. Software will not be of any help unless it understands the user's case well.

For example, we have to allow the user to set up their cargo space, the item with its shape and weight, or even allow the

user to set up a number of restrictions and priorities related to the different types of items.

Secondly, once users are done setting up the load items, it is time for the algorithms to deliver proper planning results, instead of having the user plan the load with a spreadsheet or by hand with a calculator. This is the most difficult part to develop in our application.

Another challenge is to be able to implement such software into the workflow of a company. This usually means integrating this software with the company's ERP, showing the logistics personnel the different functionalities and how they could be useful in their tasks and, in the end, try to collect as much feedback as possible to improve.

We will see what the next years bring but, given the expansion in global trade we have seen since the end of 2020 and the increase of costs in all means of transport, it seems that demand for software applications that can somehow increase productivity for companies will keep on growing. 



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1 and 2. EasyCargo is loading software for trucks and containers – also called load planner or load planning software. The calculator helps plan loading using the most optimised distribution of cargo items in the given cargo space



A CARBON CALCULATOR FOR CARGO

An accurate, consistent and transparent emissions calculation tool for air cargo could be available within months, with Etihad Cargo trials underway

The International Air Transport Association (IATA) is to trial a CO₂ emissions calculation tool specifically developed for cargo flights, in partnership with Etihad Cargo.

IATA said the tool was developed following demand from shippers, forwarders, investors, regulators and consumers for reliable and trustworthy data calculations to effectively manage and report on sustainability progress.

The trial is intended to provide a valuable proof of concept for the cargo component of the IATA CO₂ Connect carbon calculator. The organisation has been providing IATA CO₂ Connect for passenger flights since June this year. Said to be the most accurate tool available for the calculation of aviation emissions, it makes use of airline specific and actual

fuel burn information and load factors. This sets it apart from theoretical data models, according to IATA.

IATA CO₂ Connect utilises the newly developed CO₂ Calculation Methodology, adopted by IATA's Passenger Service Conference in March this year.

Calculating the carbon impact of cargo shipments has more challenging parameters, not least of which is the unpredictability of routing at time of booking an air cargo shipment that can often include non-air segments, IATA said. In addition, cargo can be carried on both dedicated freighter aircraft and in the bellies of passenger aircraft. To achieve equal levels of accuracy to the passenger calculator, it is essential to collect actual data on fuel burn, load factors and other key variables in trials.

IATA will be working with Etihad Cargo to track the necessary data for

cargo shipments during a three-month trial. Etihad Cargo said it would share data from flights and advise on various use cases to achieve

the highest levels of accuracy, consistency and transparency. By mid-2023 IATA aims to launch CO₂ Connect for Cargo, providing the industry with precise and consistent methodologies for both passenger and cargo operations.

"With a strong commitment to innovation, Etihad Cargo actively seeks out and facilitates the development, trials and launch of promising solutions for its customers and partners," says Etihad Aviation Group's senior vice president global sales & cargo Martin Drew. "The airline's development with IATA demonstrates the ability and willingness to co-create solutions to support Etihad Cargo's journey to achieving net zero carbon emissions by 2050 and demonstrates the carrier's agility in adopting technology and digital solutions. IATA's CO₂ Connect carbon calculator will be an effective tool in making the transportation of cargo more sustainable and will benefit not only Etihad Cargo's customers but also the wider air cargo sector in the future."

With aviation committed to achieving net zero carbon emissions by 2050, IATA's senior vice president for commercial products & services Frederic Leger believes customers – both travellers and shippers – "need accurate information on the emissions related to their activities to manage their own commitments and reporting obligations. For all these purposes, accurate data is critical. IATA CO₂ Connect already provides this for passenger operations. This trial with Etihad Cargo will help us in bringing an industry-leading carbon calculator for cargo in the coming months." 



Etihad Cargo's Martin Drew (left) and IATA's Frederic Leger formalised the agreement on CO₂ Connect for Cargo at the World Cargo Symposium

"The carbon calculator will benefit the wider air cargo sector in the future"

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