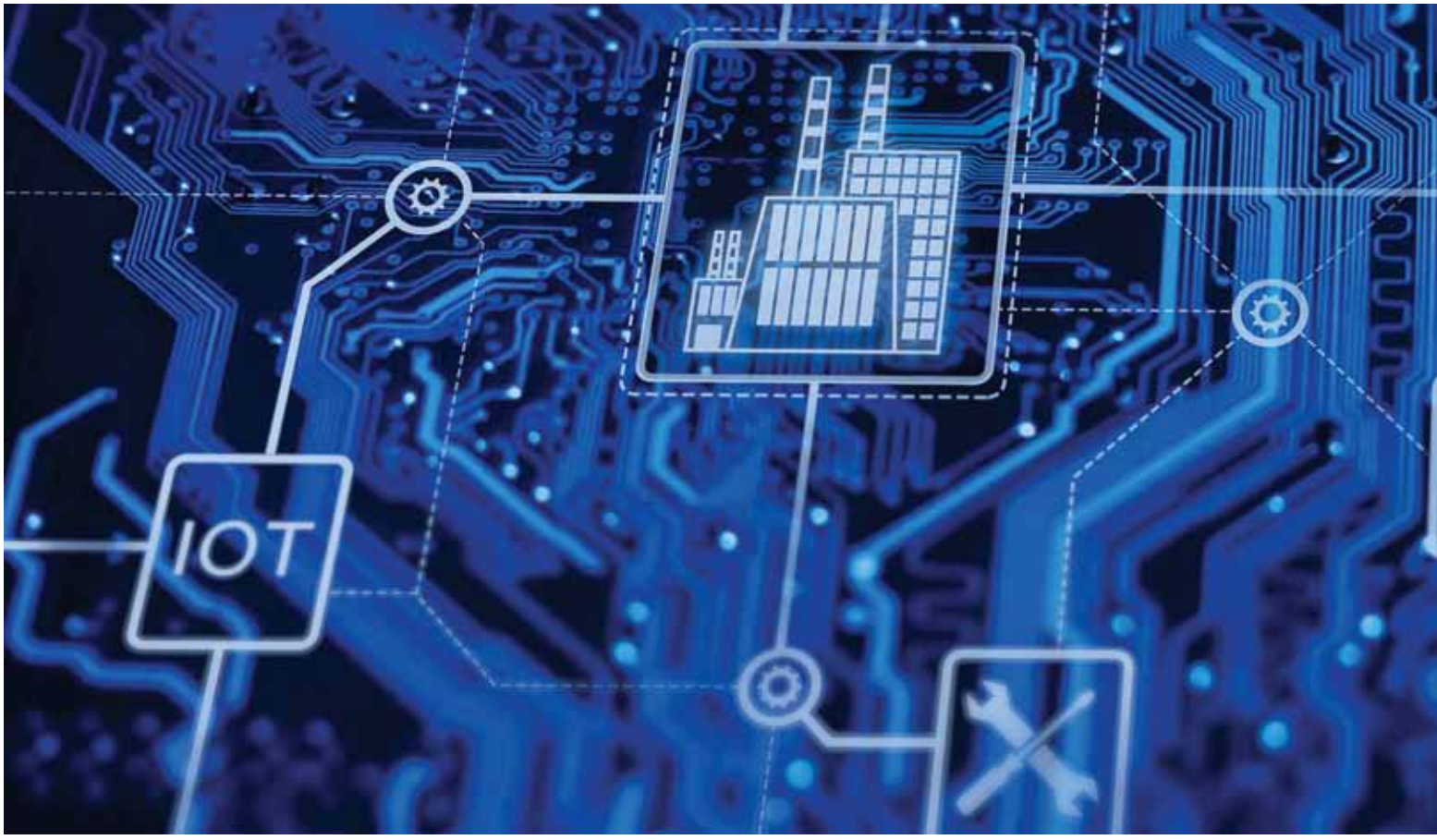

Digital innovation to improve efficiency of global air cargo

Air freight is projected to grow at 4.3% per annum, while airmail will grow at an average rate of 2%. In such a situation, digital innovations play important role in improving efficiency. They offer an ability to meet client expectations of instant communication, transparency, and speed among others.

Abigail Mathias

There have been several innovations on the digital front for air cargo. Here are a few examples:

Blockchain technology: Blockchain technology is used to create a secure and transparent way of tracking cargo movement. It provides a decentralized platform for recording all transactions and sharing information between all stakeholders.

This makes it easier to track and manage cargo, reduces the risk of fraud, and improves the supply chain's efficiency.

Real-time tracking: Real-time tracking provides stakeholders with real-time visibility into the location and status of cargo. This helps stakeholders identify potential issues or delays and take corrective action to prevent or minimize disruptions. Knowing the ETA of air cargo can improve planning of trucking ops from an airport to the next hub, thereby saving costs.

Internet of Things: IoT involves embedding sensors in cargo and containers. It is used to track location, temperature, humidity, and other environmental factors that could impact the cargo. This technology helps companies monitor the cargo's condition and take appropriate action, if necessary.

Artificial Intelligence: The advanced technology can be used to optimize cargo routes and improve the supply chain's efficiency. AI algorithms can analyze data from various sources to identify the best routes, modes of transportation, and delivery times, thereby reducing costs and improving delivery times.

Autonomous vehicles: Autonomous vehicles, such as drones and self-driving trucks, are being developed to ferry cargo. They can improve efficiency and reduce costs.

How daily transactions impact the end consumer is important. Time-consuming deliveries drive 52 per cent of

customers away, 76 per cent of them expect firms to adapt to their individual delivery demands and expectations, 83 per cent seek order status updates, while 80 per cent seek free deliveries.

With an increase in innovation, companies have been able to reduce transit time and delivery failures. Innovations such as Internet of Things (IoT) sensors have helped real-time delivery tracking, help build a better customer experience.

A few years ago, it would have been true, but now we do not feel there is a lot of resistance. Digitization tools such as cost reduction, improved customer experience and logistics productivity, outweigh resistance to technology adoption.

But yes, one needs to understand what the custo mer wants and showcase tangible business outcomes to get buy-ins from business stakeholders. While the time to go to market with new technology solutions

Soham Chokshi
CEO & Co-Founder
Shipsy

varies from each SaaS provider, in Shipsy's case, owing to 'plug and play' characteristics, businesses can go live in less than two weeks.

Our platform's capability to ensure seamless integration with existing logistics infrastructure, its configuration capabilities and the team's understanding of the region makes the implementation process faster.

We are focusing on creating AI-powered solutions to empower supply chain stakeholders for building proactive logistics and responsive logis-

Knowing ETA of cargo improves planning of trucking ops from an airport to the next hub, thereby saving costs

tics ops to mitigate transportation risks and address failures even before they occur. Our Artificial Intelligence co-pilot, Logistics Intelligence Assistance, forecasts a particular consignment will be delayed.

Steve Townes
President and CEO
ACL Airshop

The digitalization of the ULD fleet with IoT solutions is being adopted by air cargo airlines. Our latest innovation, the ACL Airshop Bluetooth Pallet Tag helps this palletized sector to quickly implement ULD Control. Plus, our free App called FindMyULD puts our full digital suite in any smartphone or laptop, we call this our 'Uberization' of ULD fleet management—in the palm of your hand. When customers and their forwarders/ground handlers adopt these seamless, easy, end-to-end conveniences, it improves efficiency, speed, and costs.

With this new IoT tracker, as part of our digital suite, our customers have better real-

With this new IoT tracker, as part of our digital suite, our customers have better real-time visibility of their ULD stock

time visibility of their ULD stock and are more efficient, so all touching that customer's ULDs "get on the same page." This saves time and costs.

Harold Elfring
Technology Director
ACL Airshop

The app is free, anybody can see it at www.FindMyULD.com. Bluetooth tags carry a modest cost involved, and we see that our customers are happy and need less staff to perform their ULD Management and other processes. We recently assisted one of our customers with ULD issues he or she was having at a major hub by giving free training to their ground handling partner's personnel and the results improved steadily. When all the ULDs' locations and sta-

We recently assisted one of our customers with ULD issues he or she was having at one of the major hubs

tus are known across the hub's "ecosystem", everybody involved gains a new level of productivity and speed. And the accountability factor helps the airline financially, of course. The digitalization of the ULD fleet will take more time, depending on the number of ULDs. We have implemented several ULDs so far.

There have been new innovations in the drone industry in recent years, including advancements in drone technology and development of new applications for drones.

Autonomous flight: Drones can now fly without human intervention, using sophisticated sensors and software. This allows for increased precision in tasks such as logistics, mapping, inspection, and surveillance.

Real-time data analysis: Advances in Machine Learning (ML) and AI have enabled drones to process data in real-time, allowing for quick decision-making and accurate data analysis.

5G Connectivity: 5G technology can provide faster data transfer rates, enabling drones to transmit data real-time and increase the potential for drone applications.

Autonomous drones: Advances in drone technology have enabled the development of autonomous drones that can complete tasks without human intervention. This has the potential to revolutionize logistics by enabling faster and efficient delivery of goods.

Rimanshu Pandey
Co-Founder and CTO
TSAW Drones

Cloud-based logistics management systems: Cloud-based logistics management systems can streamline delivery process, from order management to tracking and reporting. By providing real-time data, these systems can help optimize the delivery routes and improve customer service.

> **By providing real-time data, these systems can help optimize delivery routes and improve customer service**

Since we have developed all the innovation in-house, we have software solutions such as the DCIS, UTM and FHM. They complete their tasks, from planning a mission to landing at the destined location, all by drone.

Leonard Rodrigues
Head, Revenue Management & Network Planning, Etihad Cargo

Etihad Cargo embarked on its digitalization journey in 2018, and since then has launched innovations and digital tools to enhance the customer experience, and made operations more efficient. Etihad Cargo's online booking portal was enhanced to improve the booking process. In addition to facilitating a quicker booking process and providing streamlined flows, our booking portal enables our customers to book the shipment of cats, dogs, and hazardous goods, removing the requirement for documentation to be sent via email. We also introduced a custom dashboard and newsfeed wherein our customers can access relevant information and offers in just a few clicks. The in-built features are also available on our app and have brought the convenience of booking via the website to people's mobile devices, providing opt-in push notifications, instant alerts and anytime & anywhere updates on shipment milestones.

> **We introduced a custom dashboard and newsfeed wherein our customers can access info in just a few clicks**

We are developing a modern digital solution—Sales Cockpit—to optimize the customer experience. This first of its kind sales optimization tool will analyse the data, using sophisticated custom-built algorithms and automatically generate recommendations on how we can add value to our customers and help them achieve their cargo business objectives. In partnership with Speedcargo, Etihad Cargo is trialing automated dimension and volume scanning to roll out digital solutions that not only optimize efficiency, but also offload recovery.

Presently, 1.25 million DGR Shipments are handled every year by airline, GHA and forwarders. This volume is expected to increase by 5 per cent in the next five years. IATA introduced DG AutoCheck with API Connect feature as a digital solution for the fast, secured, and efficient processing of hazardous goods in air cargo. dnata implemented the Connect API, the New Module of IATA's DG AutoCheck for handling dangerous goods in Dubai. Air cargo transportation of hazardous goods is a complex and time-consuming process. This should not have any errors in processing as it may lead to rejections, fines, and penalties for non-compliance. IATA's DG AutoCheck helps to manage the increasing volume of dangerous cargo shipments with existing staff and resources:

A. Help to improve safety.
B. Ensure the DGR Shipments are following the dangerous goods regulations.

Salini M
Marketing Director
Fresa Technologies

C. Intercept and alert with compliance flag on errors.
D. Verify DG Professional's Certification automatically for validity.
E. To maximize efficiency, documents have been digitized to streamline faster communications. This helps in reducing cost, improving TAT on shipments. Provide business insights to improve processes and reduce costs. Improve your filing, reporting, and compliance processes. Minimize penalties for errors in filing and non-compliance. IATA promotes these digital tools by partnering with cargo operations and technology board in a bid to improve industrial standards and foster modernization with new technology in the air cargo supply chain.

> **IATA promotes these digital tools by partnering with cargo ops and tech board to improve industrial standards**

Glyn Hughes
Director General, The International Air Cargo Association (TIACA)

I am pleased to say there have been many from truck slot booking systems that have made cargo drop off/collection process more efficient and environmentally-friendly to digital distribution systems, while carriers have made their rates and schedules more accessible and digital innovators have used the access to this data to create customized solutions for the forwarding community. This has been extended to digitalized settlement options, leveraging the latest developments in the Fintech world. We are seeing the use of AI to forecast trade and consignment flows, which would lead to efficient and optimized operations.

> **Since efficiency equates to cost-effectiveness, these digital developments help smooth the air cargo process**

Anything that shares data and allows supply chain partners to have greater information and, therefore, can take informed decisions leading to efficient operations. Since the efficiency equates to cost-effectiveness, these digital developments help smooth the air cargo process.

If some innovations impede, drop them. Digital solutions by design take us from the old world of paper handed over to partners into the new world of data sharing on demand. Ensuring partners get the information they need when they need it. Thanks to development, tools and creative thinking, the time to create impactful digital solutions from platforms to apps to APIs to connectivity enhancers have speeded up the implementation cycles.

Resistance to implementation of these new tools receded over the years as technology has taken over many aspects of our lives as we now live in a much more digitalized world.

Steven Polmans
Chairman, The International Air Cargo Association (TIACA)

A lot of automation using advanced technology is being done by integrators, e-commerce, and distribution players. To achieve an efficient, reliable supply chain, we should not only use technology to optimize an organization, but also facilitate cooperation and coordination and generate visibility in cross-company processes.

The different actors in the supply chain should be able to work on 'a single version of the truth,' which requires sharing, re-using, and enriching data throughout a shipment's journey. We see a growing interest from ground handlers to digitalize processes with solutions that are fast and easy to implement. Once digitization becomes the norm and paper-based processes are eliminated, the more attractive the industry will become for younger talent. Airports are still hesitating on where to start, and moving a community tends to take a lot longer as it involves coordination, trust-building, and change management.

> **We see a growing interest from ground handlers to digitalize processes that are fast and easy to implement**

Donna Mullins
VP
Kale Info Solutions

Our enterprise and community solutions are smart and offer complete automation and digitization of cargo operations by connecting multiple stakeholders. They enable seamless cargo movement and facilitation of e-communication between stakeholders and consolidating ops. Our platforms are used by importers, exporters, forwarders, customs, ground handlers, airlines, and transporters among others. But our solutions have a neutral platform and so, there is no conflict of interest. During COVID, when business continuity seemed a distant dream, our solutions—Cargo Community System and our point solutions—were seen as a saviour. We offer free trial of our Ping solution for generation of e-AWB for air cargo to boost global market confidence. Our Ping product will be a game changer for new EU ICS 2.0 and enable stakeholders to share transportation data in an upstream manner, while challenges vary from region to region.

> **During COVID, when business continuity seemed a distant dream, our solutions—CCS—were seen as a saviour**

Our industry is susceptible to market challenges—innovation is key. Cargo is price-sensitive, so innovation needs to be practical and have the potential for wide adoption.

We have spearheaded several innovations that have resulted in a streamlined supply chain process. One of these is the reduction of dwell time in cargo facilities, which we have achieved by shortening the cutoff times for both cargo acceptance and delivery by the customer.

In addition to this, our advanced cargo booking system allows for tracking messages to be sent directly to mobile devices based on predefined key performance indicators (KPIs) that have been agreed upon with the customer. Furthermore, we are continuously seeking to improve the time of booking by gathering additional data. This includes capturing key information such as the dimensions of the cargo, advance notification for hazardous goods, and other factors that have been identified by the customer. We can anticipate potential issues before they arise and ensure the supply chain continues to operate smoothly.

Peter Hewitt
Director, Global Cargo, Security and Network Operations Centre, Dronamics

> **Our advanced cargo booking system allows tracking messages to be sent to mobile devices based on KPIs**