Rethinking 'fresh'

Transportation and logistics in the food supply chain – especially perishables – requires a commitment from logistics providers to continually invest in their own operations to meet cold chain shipper's needs. Besides control of ambient conditions, visibility is the second major strand of development, with the emphasis on real–time updates to maintain the integrity. Moreover, increasingly stringent regulations keep raising the bar for shippers as well as their logistics providers.

Surya Kannoth

The market for fresh produce has undoubtedly been a thriving one for air cargo companies, all thanks to the globalisation of eating habits. The volumes of perishables being flown—fruit, vegetables, flowers, meat among others—have climbed 33 per cent since 2007, more than for any other category of product.

Going by latest figures, in the past year alone, the weight of fresh food travelling by air has increased by a tenth. In comparison, the weight of computing equipment flown by air dropped by the same amount. Flowers, salmon and milk powder have seen some of the strongest growth. Asia has contributed in a significant way in the jump.

According to a report published by Technavio on The Global Perishable Goods Transportation Market, temperature-sensitive cargo like milk and meat contribute the most demand over the report's forecast period (2017-2021). Perishables as a whole are being driven by hospitality (e.g. hotels), hospitals, restaurants, and universities. The report further states that air cargo needs to properly prepare for the rise in perishables given their susceptibility to spoiling.

Transporting perishables requires a number of services to overcome three main difficulties that arise when cargo is exposed to the elements

for an extended period of time. Although these challenges can be mitigated, they cannot be fully eliminated, as air cargo regulations mandate that cargo be placed on the tarmac long before takeoff.

The first obstacle occurs when perishables are removed from the cold storage and placed onboard the aircraft; the second emerges when the cargo is unloaded and transferred to a connecting flight; and the third when perishables arrive at their final destination and must be transported to a cooler.

Recognising these risks, LATAM Cargo has taken on the challenge of creating points of ex-

cellence to protect its customers' shipment during these critical stages. "Given our vast experience in perishables management, in 2016 we rolled out PERISHABLE, a product that ensures control temperature during the entire transportation process, reduces pick-up and delivery times, and incorporates continuous improvement through the use of thermographs," explained Claudio Torres, South America Commercial vice president, LATAM Cargo.

At present, LATAM Cargo offers more than 4,000 metric tonnes of capacity each week in their bellies network, complemented by an average of 2,000 metric tonnes on cargo planes. "Although during the year our bellies capacity remains constant, we utilise our cargo planes to add another 2,000 tonnes per week during peak seasons. This allows us to meet our customers' demands during such crucial times as Valentine's Day or Mother's Day, and to ensure the supply of fresh fruit during the winter months in the northern hemisphere," Torres said.

AISATS is looking to measure the increase in perishable cargo trade and plan its capacity expansion in line with the growth in volume around the region (India)

Mike Chew
AISATS

"For next year, we are planning to increase capacity on our current routes and start new routes in our passenger network, thus adding approximately 100 tonnes each week," he added.

Recent investments and solutions

Recently, Honeywell announced a new Connected Freight solution that gives shippers and logistics companies unprecedented ability to monitor shipments of high-value and perishable goods, helping prevent costly damage and loss.

The new solution, developed in collaboration with Intel and third-party logistics companies, provides real-time information about the location and condition of critical freight while in transit. The solution was introduced during Honeywell Safety and Productivity Solutions' launch event today.

"Honeywell is developing a range of Connected Supply Chain solutions that leverage technology and data to make

from -25º celcius to 25º celcius for seamless handling of perishable cargo. It caters to different kinds of perishables such as flowers, pharmaceutical products, seafood, poultry, etc. For an unbroken cold chain, Cool Dollies are used to maintain temperature during the transport of the cargo from the warehouse to the aircraft and vice versa.

AISATS COOLPORT also has an in-house Drug Controller lab as well as a Plant Quarantine Inspection & Certification office, which cuts down the processing time for import and export consignments. In addition, the facility has dedicated charging points for envirotainers and other value added services such as thermal blankets, dry ice and batteries.

To increase the visibility and transparency in the supply chain, AISATS has launched 'AISATS Cargo App' – the first of its kind - to assist stakeholders with end-to-end tracking of their cargo at the AISATS Air Freight Terminal and AISATS COOLPORT located at Kempegowda International Airport. The on-the-go app picks up cargo movement data from COSYS and provides real-time information on flight schedules, Air Way Bill (AWB) shipment tracking and e-Delivery Order (e-DO) status to all the stakeholders involved.

Currently, the AISATS COOLPORT is equipped to handle 40,000 tonnes of perishable cargo per annum, inclusive of an extensive range of perishable commodities such as pharmaceutical products, fruits, vegetables, poultry, seafood, flowers, etc. The current capacity is sufficient to handle the volume of perishable cargo for all of Bengaluru and its surrounding regions.

supply chains more efficient and better able to adapt to rapid change," said Taylor Smith, president of Honeywell's Workflow Solutions business in a statement. "For shippers, logistics providers, retailers and others faced with a host of costly freight challenges, such as theft, damage, spoilage and delays, this convenient cloud-based solution provides customers with detailed analytics in order to plan, anticipate and react immediately to incidents that occur during shipment.

Real-time shipment information is critical, for example, when shipping perishables and goods that require uninterrupted refrigeration, such as pharmaceuticals, or high-value equipment that is sensitive to vibration or shock.

In India, Air India SATS (AISATS) has always adopted technological advances that can bring value-addition to the industry. To meet the increasing demand of perishable cargo in South India, AISATS has developed the AISATS COOLPORT, India's first integrated on-airport perishable cargo handling center at Kempegowda International Airport, Bengaluru. The AISATS COOLPORT, spread over 11,000 square meters, is a one-stop-shop to handle temperature sensitive cargo.

AISATS COOLPORT is equipped with 17 cold storage rooms, with customised temperature controls ranging

GLOBAL PERISHABLE GOODS TRANSPORTATION MARKET: KEY DRIVERS AND FIGURES

KEY MARKET FIGURES

MEAT, POULTRY, AND SEAFOOD

The global market by the meat, poultry, and seafood segment is expected to post a **CAGR of 6.94%.**

ROAD SEGMENT

The global perishable goods transportation market by the road segment dominated the market with **51.75%** share.

DEMAND FOR FROZEN FOOD

The global frozen food market is expected to reach approximately **$290 billion** by 2021.

GLOBAL MARKET GROWTH

| 2016 VALUE | $10.84 billion |
| 2021 VALUE | $15.41 billion |

$4.57 BILLION
INCREMENTAL GROWTH

Source: Technavio

"The Indian perishable industry is touted to be valued at $13 billion by the end of 2017. AISATS is looking to measure the increase in perishable cargo trade and plan its capacity expansion in line with the growth in volume around the region," envisions Mike Chew, CEO, AISATS.

In a recent development, freight forwarder and logistics specialist Panalpina entered into an agreement with the Cool Chain Group, Germany (CCG), taking over business and a team that is specialised in international air freight and the import of perishables. Panalpina will additionally have access to cold storage space within CCG's temperature-controlled transit warehouse in Kelsterbach, close to Frankfurt Airport and one of Europe's most important import hubs for perishables. Furthermore, Panalpina will continue to benefit from CCG's well-established overland distribution network and cool chain capabilities in Germany and many neighboring countries.

"Our recent acquisitions in the perishables market have concentrated on the export side, but we also want to increase our footprint in key import markets and build our end-to-end perishables

❝ *For next year, we are planning to increase capacity on our current routes and start new routes in our passenger network, thus adding approximately 100 tonnes each week* ❞

Claudio Torres
LATAM Cargo

capabilities at major gateways such as Frankfurt and Amsterdam. These latest developments are further important

steps towards offering complete end-to-end solutions on a global scale as we continue to expand our Perishables Network," explained Stefan Karlen, CEO of Panalpina in a statement.

Room for further growth

But are the stakeholders really investing enough in innovating solutions? Industry veterans believe that there is still room for growth.

"With the current technology available, there is not enough investment. For sure, these solutions are not cost prohibitive for shippers, neither for consignees or anyone in the chain. In a healthy eco system, there is no winner who takes it all," believes Reinout Puissant, business development and interline manager – Cargo, Brussels Airlines.

"The main challenge for carriers of perishable goods is to keep temperature constant at all times. Investments are therefore focused on finding solutions to mitigate this problem," cites Torres.

To mention some examples, in Chile salmon carriers have invested in improved packaging while in Peru emphasis has been put on developing modern coolers for asparagus.

"In a competitive industry like ours the challenge is to promote collaboration between agents, shippers and carriers to jointly develop innovative solutions at a reasonable cost," he adds.

"I do not think we need to invent the wheel and make crazy investments but rather focus on implementing existing technology (sensors, cloud, blockchain etc). Of course, this will have a cost but will allow us to reduce drastically avoidable waste. It is a mentality switch," says Alban François, vice president of Global Cargo, Brussels Airlines.

Brussels Airlines currently handles 30,000 tonnes of perishables per year. "We do not exclude the option to increase this number, but our main priority is the efficient use of our current capacity and above all how to reduce waste," said Puissant.

Interaction between stakeholders crucial

Visibility during cargo transportation involves two major work fields: improving technology concerning communication between carriers and shippers and consignment tracking visibility; and strengthening collaboration between shippers, air forwarders and carriers. And for this to be achieved, interaction between stakeholders is of utmost importance.

This is an attitude that has taken root across the industry lately. "We recently entered into a collaboration agreement with two major stakeholders that will give us access to their datalogger information. The data allows us to improve our service by tailoring our product to our customers' actual needs and to develop solutions that suit their cargo protection requirements appropriately," explains Torres.

"Improvements in the level of collaboration need to be initiated on local level. One should not rely on others, or wait for a new industry standard to come in place. In Brussels we apply a community approach through Air Cargo Belgium. Under the ACB umbrella we discuss various topics related to the perishable supply chain, with all

stakeholders including regulatory bodies," said Puissant.

According to Francois, the airline (industry) can play a major role in developing win-win business opportunities. Most of the perishables come from emerging countries and the export of perishables is an important contributor to the local economy. In some countries, very qualitative and desired products aren't exported because the growers aren't in contact with potential importers in overseas sales markets. "Airlines – being present at both side of the chain – can bring the parties together in order to set-up a new lane. This is something we have been doing in the past and are currently developing in one African country. In the same idea, we are also connecting local authorities with governmental bodies and NGO's in order to develop sustainable agriculture in areas where perishables could be cultivated and facilities exists to allow export," he adds.

Brussels Airlines' Puissant reiterates the involvement of the shipper at every stage

❝ *Increased visibility on the wants and needs of each of these stakeholders will be tremendously beneficial for the industry* ❞

Reinout Puissant
Brussels Airlines

of the journey. "We need to involve the shipper or grower and the final consignee in every step of the chain. The main chal-

lenge of the perishable by air industry is to match capacity and demand. Importers depend on market demand to place orders with the growers. These growers then depend on the airline capacity available. Increased visibility on the wants and needs of each of these stakeholders will be tremendously beneficial for the industry."

"Near-real-time data gathering and analysis of different parameters (such as localisation, responsible party, temperature, moisture,…) through the supply chain will enable us to improve the traceability from the tree to the plate. This will ultimately allow to increase the quality through process improvements initiated thanks to the data," adds Francois.

New-age digital solutions to the rescue

Another way of increasing teamwork between stakeholders is by increasing real-time communication and exchange of data, using digital solutions to ensure seamless and time-conscious integration

end visibility. The use of Internet of Things (IoT) devices like Automatic Identification Systems (AIS), Global Positioning Systems (GPS), weather monitors and sensors, cargo agents can help transfer large amounts of data to a centralised system and help make the entire supply chain more visible and accessible to all stakeholders. The data can also be collected from the system and made visible to secondary and tertiary partners to increase the decision-making process.

There are numerous steps taken in order to increase partnerships between the stake-holders such as the development of air cargo villages and air cargo hubs that allow various air cargo supply chain actors to co-exist and take advantage of a myriad of opportunities.

The air cargo supply chain has evolved from stakeholders collaborating exclusively with their adjacent supply chain partners to collaborating with supply chain partners anywhere within the value chain. This has increased visibility of the supply chain thereby making it more transparent. Every link in the supply chain is now accountable for sourcing, quality control, preserva-tion, transportation, to avoid any mishap through the value chain. ▪

among stakeholders in the sup-ply chain. However, data exchange should be at a centralised location in order to maintain its accuracy and further usability.

"The Government of India is work-ing on developing an integrated Air Cargo Community System (ACCS) for the benefit of the industry. The establishment of a uniform and inte-grated web-based ACCS will enable better transparency, co-ordination and availability of real time data tracking through a single window system for uniform interface among all the players along the supply chain," said Chew.

Apart from using digital solu-tions, sharing of air cargo processes also links all the participants of the supply chain and quick informa-tion sharing between the members increases the co-ordination. To do this, technology comes handy which enhances the level of end-to-