



INNOVATION IS DRIVING PHARMA AIR CARGO GROWTH

Digitalisation, IATA CEIV Pharma certification, aircraft with digitally powered temperature control, advanced track & trace technology, and passive containers with 120hrs+ duration, is drastically changing the air cargo pharma supply chain while making it more reliable.

— Nahida Jafferri

Due to cracks in the cold chain, the pharma industry is losing billions every year. Temperature deviations have to be avoided or else, it will further delay the import clearance. Moreover, to improve shelf life the prescribed temperature limits should be met and carefully monitored. Airlines and airports are making significant investments in ensuring that the facilities, equipment, operations and staff comply with all applicable standards, regulations and guidelines expected from pharmaceutical manufacturers.

Active vs Passive Solutions

The pharma supply chain stakeholders opt for active and passive packaging systems, on the basis of product characteristics, trade lane complexities and overall risk profile. Current trend point towards growth in demand for both types of containers, however, the passive packaging system is evolving at a faster pace.

“We’ve received signals that the usage of active containers is decreasing slightly. No doubt, this is partly due to the evolution in passive packaging, exceeding 120hrs. The latter, reducing risks might also be a reason to book pharma as general cargo for certain shipments,” said Ferry van der Ent, director of business development at Amsterdam Airport Schiphol. »





Bollore's highly technical and standardised track & trace system under real-time temperature control with proactive alerts allows taking immediate action in case of deviations. We have set up some 24/7-365 Competence Centers to follow the shipments and interfere, if needed

Brice Bellin
Bollore Logistics

"Evidently, every manufacturer has set up their own closed distribution system, where every container is monitored for track & trace, temperature, and humidity, by a kind of control tower," he noticed.

A few years ago, Nils Markmann, VP-global operations, World Courier, had predicted that there would be more reliance on passive shipping solutions because it offers longer validation times and ease of handling in remote locations as well.

However, DoKaSch Temperature Solutions, the Frankfurt-based company is expecting further growth in the global demand for pharma transports by actively controlled airfreight containers like DoKaSch Opticooler®. It is also looking to expand its Opticooler® fleet in 2019.



Andreas Seitz, general manager, DoKaSch Temperature Solutions, said, "The development of pallet accepting devices with passive temperature controls has made progress in the past years, but active solutions will always have an advantage. The biggest advantage of electric/active solutions is probably the unlimited runtime; it only needs to be electrically recharged periodically."

Seitz perceives that although airports are beefing up their standards and procedures for the pharmaceutical cold chain, moving pharmaceuticals globally across climate zones is still full of risks, and active containers are the most reliable solutions with the least risk for the cargo.

Owing to market demand, Envirotainer also plans its RAP e2 active container network expansion. Stephen Maeitta, head of market development, Envirotainer, said, "The demand for active containers continues its strong growth trend due, but not limited, to the number of high value and temperature-sensitive biological products. We see additional usage expanding to other healthcare segments and industry verticals to help meet increased regulations and quality compliance."

Some of the emerging trends that Envirotainer has noticed include extended active temperature control applied to a number of phases across the drug product life cycle, increased demand in Asia, shock and vibration control and monitoring,



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Ferry van der Ent
Amsterdam Airport Schiphol

expanded services to meet growing customer requirements and most importantly – continuous improvement and collaboration across the temperature control airfreight stakeholders in the pursuit of a predictable cold chain process.

On the other hand, SkyCell has developed passive containers that outperform active containers in duration on every lane.



Marrie Groeneveld, chief commercial officer, SkyCell AG, said, "Soon 200 hours duration and more will be provided on passive containers. Active containers cannot extend the duration of passive containers as it depends on the battery and/or the amount of dry ice in the container. The SkyCell containers already provide over 160 hours duration under real-life circumstances."

He also stated, "All SkyCell containers have been designed to serve a door to door requirement and can be treated as general cargo, contrary to the other containers that have to be carried in a so-called pharma lane, which has a very high rate per kilogram."

As per an independent auditing company (one of the top five in the market), SkyCell provides reliability of 99.9 percent. "Many clients have seen dramatic reduction in temperature excursions from 10 percent to zero. In addition, the overall cost has been reduced up to 25 percent," informed Groeneveld.

Another important aspect is the cargo compartment temperatures because air cargo demand will be mainly driven by aircraft bellies.

Tom Grubb, global head of pharmaceuticals and healthcare,

American Airlines Cargo, commented, "Unlike older aircraft, the new model aircraft have digital controls, which enable pilots to select specific temperatures. Processes for cockpit notification of temperature-sensitive shipments onboard provide optimum ambient conditions for shipments, highlighting the importance of packaging protection."

Grubb also pointed that moderate ambient temperatures enable passive packaging to correctly regulate the internal product temperatures of the shipments.

The transport of ambient products still remains the biggest challenge. Passive pack-

aging is needed in order to properly protect shipments during transport to/from the airport, prior to ramp transfer or aircraft loading, and last-mile delivery.

Brice Bellin, healthcare director, Europe, Bollere Logistics, said, "The use of passive packaging solutions may be a key solution for many companies facing problems with ambient products and making transportation cost-effective compared to active solutions."

IATA CEIV's impact

Standards such as GDP, the IATA Temperature Control Regulations (TCR), CEIV, among others, »

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PHOTO: SkyCell

☞ SkyCell Container 1500 C in cargo center

continue to play an increasingly important role with the need for enhanced quality and control in the supply chain.

Rafael Figueroa, managing director-Cargo Operations and Customer Service, Delta Cargo, said, "We have seen growth in pharma volume since Delta received its CEIV certification, combined with the investments we have made in our facilities and our employees." The certification was awarded to the company at the headquarters level, and additionally at Delta's largest cargo hub located in Atlanta

"Delta has created the first CEIV Pharma trans-Atlantic network connecting Atlanta with other existing CEIV Pharma certified partners, stations and handlers in Amsterdam, Brussels, Milan, Paris and Rome. Delta and its joint venture partner, Air France KLM Martinair Cargo, who is also CEIV Pharma certified, can transport pharmaceuticals across the extensive Delta, Air France and KLM networks, as well," added Figueroa.

Pharma transport is teamwork throughout the supply chain. van der Ent said, "The various supply chain parties should act like being one logistics entity, controlling the supply chain from shipper to consignee, according to their requirements. IATA CEIV is a helpful tool speaking the same language globally while reducing risks and managing expectations." He further added, "At Pharma Gateway Amsterdam 20+ parties are looking beyond their own interests,



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Marrie Groeneveld
SkyCell AG

and are able to present a community proposition towards the pharmaceutical industry. To keep each other focused you have to give your partners feedback.”

Moreover, the lack of a common standard for auditing the participants in the chain is a considerable challenge. Robert Kleppers, Commercial Director, Jan de Rijk Logistics, said, "We continue to see the need to audit various partners which is, although time-consuming, but still a necessity. A common standard independently audited, as CEIV is a big help. It simplifies this process, makes value proposition towards the shippers clear and the supply chain easy to work with."

LATAM's pharma approach

LATAM Cargo has also seen an increase in pharma volumes in the past few years. Rodolfo Marre, product development senior manager, LATAM Cargo, said "For all our Pharma shipments, we place at least one data logger to monitor the temperature and make sure it complies with the cargo's temperature range stated on the AWB, from the reception of the cargo to its delivery. In case it doesn't, a Corrective and Preventive Action (CAPA) is triggered allowing us to perform continuous improvement."

Also, LATAM's Marre expects forwarders to provide correct booking and a right label for proper delivery. "Correct booking is essential, given the wide range of pharmaceuticals and options to ship them. It is key to match the right product to fulfil each shipment's needs. Regarding our handlers, we expect that the cargo is handled, in accordance with the LATAM Cargo's SOP," stated Marre.



PHOTO: Unilode Aviation Solutions



DoKaSch Opticooler RAP maintains stable interior temperature where ambient temperature reaches +50°C or -30°C

Personal Care

Alexander Kohnen, chief executive officer, time: matters, said, "The integrity of biological products and samples during the entire supply chain has always to be guaranteed. Special procedures, such as "do no x-ray & upright loading", on-time delivery, continuous monitoring and documentation of the entire transport to prevent temperature deviations can only be achieved through the highest level of supervision by trained logistics specialists."

Pharmaceutical products such as ATMPs (Advanced Therapy Medicinal Products) need tailor-made, customised and transparent logistics concepts besides speed and reliability. "Since about 10 years, time:matters offers specialised transport solutions for life-saving products like HSC (Hematopoietic Stem Cell) transplants. This segment has achieved above-average growth over this time period with several thousand international transports per year," informed Kohnen.

Due to increasing customer inquiries in the field of logistics solutions for ATMPs, this segment has a strategic focus for time:matters.

Digitalisation trend

As the logistics solutions provider, Bolloré Logistics uses a risk assessment tool that gives visibility on all risks at each trade lane. "Thus, we are able to select the right



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Alexander Kohnen
time:matters

subcontractors and choose the best option for our customers to minimise the risks considering all the specifications of the products. Bolloré's high technical standardised track & trace system under real-time

temperature control with proactive alerts allows taking immediate action in case of deviations. We have set up some 24/7-365 Competence Centers to follow the shipments and interfere if needed," said Bellin.

There is still a lot of time consumed in distributing the essential information between partners in the supply chain. "Apart from direct system to system connections, Jan de Rijk Logistics developed a portal that enables customers to book directly, have complete insight in the operational and temperature status, freight documentation, settlement and billing," informed Kleppers.

On the other hand, Unilode has concluded a series of Proof of Technology (PoT) and Proof of Concept (PoC) of its digitalisation programme in collaboration with its ULD management customers, namely, Cathay Pacific, AirBridge-Cargo and Air Canada.

Benoît Dumont, CEO, Unilode Aviation Solutions, said, "Unilode continues to invest heavily into the Bluetooth Low Energy (BLE) 5.0 based technologies, which will be used to equip the entire Unilode ULD fleet with digital tags. This will enable pharma customers to link serialised packing data with the container ID, securing transparency across the air cargo supply chain. Furthermore, the various sensors included in the Unilode solution will also record temperature, and send alerts when the unit is tampered with." ■