WHITE PAPER: AMBIENT TEMPERATURE MAPPING

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THE IMPORTANCE OF AMBIENT TEMPERATURE STUDIES

Maintaining product temperature stability is key for temperature-controlled shipments. To ensure the product inside the packaging is stable, it is necessary to know what the outside temperature is during the shipment transit. Therefore, ambient temperature mapping (ATM) is essential to get the data necessary to determine what packaging will best suit the needs of the product every mile of the way to its destination.

APPLYING AMBIENT TEMPERATURE DATA

For several years, LifeConEx has incorporated ATM into cold chain analysis and optimisation. By understanding what conditions products could potentially be exposed to throughout entire trade lanes, a logistics partner is not only able to plan better processes to protect the product en route, but is also able to pinpoint trade lanes with lower risk. Moreover, areas of higher risk can be identified and more closely monitored for fast intervention in case of temperature deviation.

The Benefits of ATM

- Manage risk by understanding the ambient temperature ranges the shipment will encounter during transit throughout each season (spring, summer, winter, fall)
- Perform in-depth assessment of gathered data to better determine packaging needs
- Create additional data feeds into tracking and monitoring technologies for improved shipment handling and visibility
- Reduce the number of packaging types needed by utilising the same packaging types in areas with similar ambient temperature ranges
- Control the packaging cost by effectively selecting the packaging type best suited for client needs

ATM: CHOOSING YOUR TECHNOLOGY

When performing an ambient temperature study for a temperature-sensitive biopharmaceutical product, it's vital to consider the type of data logger that will be used. First, the technology should be compliant with pharmaceutical industry regulations. Second, the data logger(s) should be simple to operate and capable of providing data quickly. After the first two criteria are met, it's a matter of identifying the most cost-effective solution on the market. This solution may consist of both primary and secondary devices depending on project-specific factors such as transportation mode compatibility, options for reusability, return logistics and data recovery processes.

CASE STUDY

In late 2010, a LifeConEx client expressed interest in an ATM project. The project included shipments from the northeast U.S. to 12 zones around the world. These zones are representative of the client's global cold chain network. LifeConEx equipped the client with DHL SmartSensors and a handheld RFID reader as part of the project. Sensors were distributed to key DHL locations globally, and consignees were trained by LifeConEx to retrieve and return the sensors.

Ultimately, the network LifeConEx built for the project consisted of readers placed in four DHL Global Forwarding stations, as well as two client locations.

In mid-2011, roughly six months after the project began, the project had covered more than 30 trade lanes that originated from the client's two locations. In 2012, the project was expanded to cover inbound shipments (into the U.S.) as well as export shipments from other U.S. origins because of the continued success and value of the ATM.

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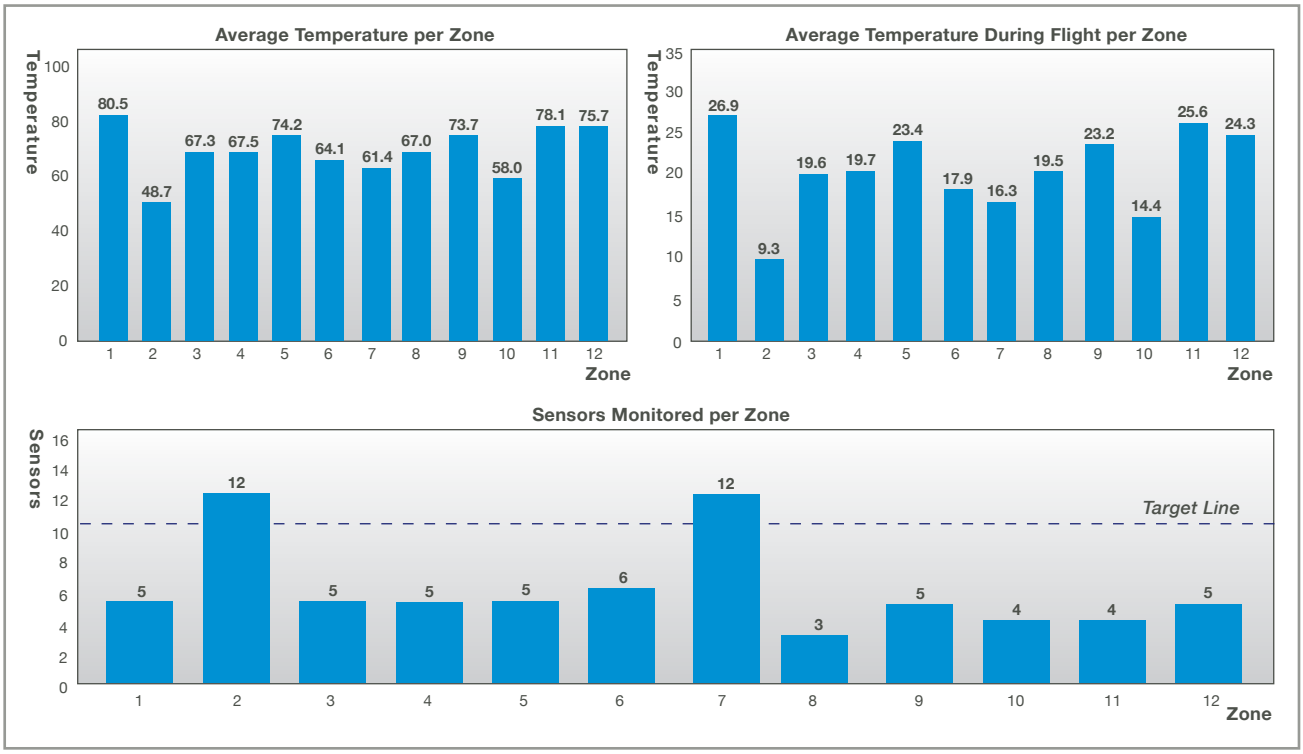
OVERVIEW OF AMBIENT TEMPERATURE DATA COLLECTED



MAKING ATM WORK FOR YOUR BOTTOM LINE

ATM can be a significant tool for any company looking to optimise both new and existing trade lanes and shipping processes. By establishing a means for ongoing monitoring, ATM is an asset for everything from effective packaging design to more secure shipment scheduling.

In recent years, LifeConEx has incorporated GSM sensors (in addition to RFID sensors) into ATM projects to improve trade lane assessment and facilitate the quick release of data at the destination. The faster a consignee has trip data, the faster it is able to release a pharmaceutical product into the market, where time not only means money, but also saving lives.

ABOUT LifeConEx

LifeConEx, DHL's temperature management specialist, enables clients of all sizes to transport temperature-sensitive products globally in the most optimal and efficient way possible. We combine proprietary technologies, such as LifeTrack and in-transit sensors, with expert analysts, advisors and auditors to deliver end-to-end visibility, monitoring and management of your cold chain.

ABOUT the Author

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With more than 10 years in the industry, Victor Santana has experience in the areas of data, business intelligence and analytics. He is constantly seeking to understand new technology and its impacts on the supply chain for the life sciences and health care sector. In addition to ensuring clients have the appropriate sensor technology to meet their needs, Santana diligently maps and interprets data.

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