



Cold Chain Series Part 2: The supply chain risks healthcare & life sciences executives need to be aware of and the trends that will shape the future



Joseph Esteves, VP Industry Partner at Maine Pointe looks at the potential risks and rewards for transportation carriers and 3PLs operating across the cold chain logistics market.

The term **'cold chain logistics'** refers to the storage, handling and transportation of product under temperature-controlled conditions. These conditions can be frozen, chilled or ambient, but any product that requires a controlled, monitored environment where a constant temperature is maintained is included. The two main product categories under the 'cold chain' umbrella are food and healthcare & life sciences products.

The highly-complex, highly-regulated nature of cold chain logistics makes it a potentially lucrative endeavor for transportation carriers and 3PLs alike. There are many companies who operate across the cold chain market and communication is vital as damaged or spoiled product can cost millions in top-line revenue from insurance claims.

Compared with dry cargo, supply chain risk increases exponentially when dealing with temperature-controlled transportation and storage. Temperature excursions (where cargo temperatures deviate from the shipper's optimal levels) can cause massive financial losses due to spoiled, damaged or degraded cargo. According to temperature monitoring specialists CargoSense, the healthcare & life sciences industry suffers north of \$15bn in product losses every year due to cold chain interruptions. This staggering figure has led suppliers to press their logistics partners for more stringent commitments and safety measures to ensure cargo is delivered as expected.

An example of how a seemingly small error can cause huge losses comes from the pharma-giant GlaxoSmithKline (GSK). In one case, GSK lost an entire vaccine shipment, worth millions, when Fahrenheit temperatures were misread as Celsius.

Incidents like this have prompted calls from shippers for deeper collaboration among cold chain partners, particularly airline carriers where excursions can occur up to 70% of the time. This trend is driving many suppliers to switch to ocean carriers, where improved 'reefer'* container technology is trending the excursion percentage below 20%. However, switching perishables to the ocean supply chain comes with increased insurance requirements and higher liability risks.

Innovation, specifically around cargo visibility, is the way to mitigate these very apparent risks. Suppliers are demanding a way to monitor their cargo while in the shipping lines' care, to ensure the cold chain

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is 'bottled up' manufacturer to customer. New technologies such as blockchain, that maintain and track temperatures for finished products from the warehouse through distribution to the end customer, embrace the IoT. Data logging is an important part of this equation.

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Life Sciences: cold-chain trends and key growth drivers

The global life science cold chain sector is valued at close to \$13 billion. Annual growth has been forecasted at 8-9%, pushing the market value close to \$17 billion by 2020. The expansion of such a lucrative industry inevitably goes hand-in-hand with increasingly stringent regulations. To protect themselves, **drug manufacturers are demanding even more from their transportation partners, 3PLs and storage providers**, many of whom are investing more heavily in capacity, technology and certifications to meet the compliance demands. In lieu of this heavy investment, an increasing number of logistics service providers have also launched their own branded healthcare services.

As previously mentioned, air freight has dominated the inter-country trade of healthcare cargo. This is chiefly because ocean carriers have struggled to transport perishables effectively and without spoilage. That's changing, as improved technology onboard vessels and within containers is helping ocean freight increase its market share. However, this market penetration has been minimal within the high-value, high-yield pharmaceutical market... until now.

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What does the future hold?

Looking forward, the key battleground for logistics providers is not in warehousing or packaging services, it is in transportation. Cold chain logistics is becoming ever more important in the globalized supply chain world we live in today. Areas of the world that were previously unconnected to Western medicine, now have access to life-saving drugs such as insulin and cancer treatments, but only if there is no break in the cold supply chain. Consumer buying habits are moving more and more to the online space, forcing logistics providers to invest in new planes required to facilitate overnight express deliveries to warehouses and refrigerated vehicles to meet last-mile distribution needs. Executives involved with any company in this space need to take a hard look at their current supply chain structure and identify the strongest partners to aid in conquering the challenges of tomorrow. Whether you are a manufacturer, 3PL, carrier, freight forwarder or end-consumer, end-to-end supply chain collaboration and innovation is the only way forward.

If you would like to discuss any of the issues raised in this article, contact us for a no-obligation discussion. Email:

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*The term 'reefer' is used in shipping to refer to refrigerated ships and refrigerated shipping containers that transport perishable commodities by sea.

About Maine Pointe

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