

The ROI of Real-Time Supply Chain Visibility

Good supply chain visibility results in myriad benefits, and these are now measurable, delivering an annualised return of millions of dollars

In the life sciences supply chain, maintaining strict temperature conditions to ensure consistent product quality and integrity remains a key challenge for enterprises. As the global cold chain grows in complexity, there is an increasing need to capture environmental and product movement traceability data in real time to reduce product and operational waste, satisfy the reporting requirements, and share data with key stakeholders. Too often, supply chain data is siloed, preventing mission-critical information from driving both day-to-day and strategic decisions.

Approximately \$53 billion worth of global biopharma products are at risk of temperature excursions every year. Supply chain transparency, collaboration, and resilience are becoming increasingly important because the frequency, magnitude, and costs of disruptions are increasing. This trend is expected to continue.

Multiple Risk Points

Within the cold chain, problems typically happen at multiple handoff points. Today, temperature excursions account for nearly 80% of supply chain problems. Each lane of travel – air, road, rail, and sea – requires different

types of handoff points and poses different risks.

Losses of temperature-controlled products often occur because cold chains have historically lacked real-time access to actionable data that enables accurate decision making and documents the integrity of delivered cargo.

This problem is compounded by the nature of data collection for temperature-sensitive and perishable products. Many siloed points along the supply chain lack connectivity, and data collected by condition-monitoring devices – while current when it is collected – is not always immediately available for review and analysis to assess and ensure the quality and safety of products at the end of the supply chain.

The lack of visibility has limited businesses to decision making based

on collecting data only at the endpoints of the product journey, and often only after degradation or waste has occurred.

The Costs of a Temperature Excursion

The costs incurred from temperature excursions are not limited to the direct costs of the ruined product and the costs associated with replacing it. Supply chain waste also includes the operational costs associated with the reporting, root cause analysis, and corrective and preventive action taken after a temperature deviation occurs. These operational costs have been reported to range from \$3,000 to \$10,000 for each investigation, at a per-incident average of approximately \$6,500. The product and operational costs are adding up to several tens of millions of dollars annually for a single enterprise.

Controlant's Partnered Approach: Cold-Chain-as-a-Service (ChaaS)

Controlant's mission is to increase safety and reduce waste by digitally connecting the global cold chain. The pay-per-shipment ChaaS solution is threefold and includes access to



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Internet of Things (IoT) data loggers that collect and automatically send critical supply chain data to a fully validated and compliant cloud-enabled software platform, and cost-reducing operational services.

The Controlant solutions empower those responsible for supply chain performance to stay abreast of critical metrics in real time when their products are in transit, addressing problems quickly when they arise. Data analytics provide enterprises with deeper insights to fuel decision making and collaboration throughout their entire supply chain.

Automated Data Loggers

Controlant's real-time supply chain monitoring solution delivers advanced analytics and comprehensive end-to-end insights into supply chain operations, from suppliers through to manufacture, distribution, and the last-mile. These insights include location, environmental conditions (such as temperature and light), utilisation, and anomaly detection. Data are automatically sent to the cloud, where shipment data can be viewed and shared on-demand. No gateways or manual USB uploads are needed. The Controlant solution is approved for all lanes (air, road, sea) and is EU Aviation Safety Agency, IATA, and Federal Aviation Administration compliant.

Validated and Compliant Software Platform

Shipment information can be viewed in real-time through Controlant's proprietary cloud software platform. Custom

dashboards are tailored to customer preferences and key performance metrics and include trends and insights regarding their supply chain (origins, destination, routes, and sub-routes), partners (freight forwarders, airlines, packaging solutions), and external points of interest (cross-docks, harbours, airports, borders). Enterprises can benchmark their supply chain data with key industry data to identify risks and improvement areas. The Controlant cloud platform is validated for life sciences use cases and is compliant with 21 CFR Part 11 and GMP Annex 11.

Cost-Reducing Operational Services

Controlant will form a proactive partnership to identify inefficiencies, explore opportunities, manage logistics, and reduce costs:

- Change management: a variety of professional services are available to assist with change control and implementation, standard operating procedures development, temperature studies, and packaging and lane validation
- 24/7 global support: first-level email and phone support are available during and after a pilot and rollout
- IoT management: hassle-free logger



reuse program and reverse logistics are fully managed by the Controlant team

- 24/7 monitoring and response: Controlant's professional team reacts to alerts and works with identified stakeholders to facilitate corrective action during shipment

Calculating the Benefits

Businesses cannot manage what they cannot measure. The same holds true in the pharmaceutical supply chain. Linking analytics to operations and ongoing measurement will be key to mitigating supply chain risk, driving continuous improvement and better margins. Moving forward, collaboration and proactive partnerships will be necessary to share performance insights and reshape supply chain strategies to adapt to the ever-changing demands while achieving efficiency, quality, and compliance, and implementing customer-centricity to ensure patient safety.

Controlant's ChaaS solution provides a single source of supply chain truth in real time. Customers are achieving improvements leading to an annualised value in the tens of millions of dollars.



Controlant's mission is to ensure consumer safety and decrease waste by digitally connecting the end-to-end supply chain. The pay-per-shipment, ChaaS solution provides a single source of supply chain truth, consisting of reusable IoT data loggers that send mission-critical data and insights in realtime to a proprietary, cloud-enabled software platform, and cost-reducing operational services. Controlant customers leverage the improved visibility to connect stakeholders, improve efficiency, and increase revenues. For more information, please visit: controlant.com