

Cold Chain Logistics and Monitoring for the Pharmaceutical Industry

Transforming Supply Chain Visibility

The pharmaceutical industry loses over \$35B due to failures in temperature-controlled logistics.

Pharma, biotech and life sciences companies use the Cloudleaf cold chain solution to collect real-time location and condition data about highly sensitive samples, resulting in increased FDA compliance and reduced waste.

By addressing gaps in supply chain visibility, pharmaceutical companies gain more control of their supply chain and can mitigate issues before they cause significant loss. The transformational shift from reactive problem solving to anticipating and preventing issues improves customer satisfaction and important metrics across your business.

USE CASES



Prevent Temperature and Condition Excursions

Knowing in real time where the product is and what condition it is in makes all the difference between spoilage and delivery. Keeping tight controls throughout the supply chain improves product integrity. Temperature excursions in particular can lead to products being quarantined or being declared a complete loss. Using the Cloudleaf Digital Visibility Platform, pharma manufacturers can gain location-enabled insight across all processes and touchpoints, from within the four walls, while in transit at the pallet level, to the end consumer.

Improve Regulatory Compliance Rates

Without automated metrics, it is difficult to measure both regulatory compliance and supplier performance. With Cloudleaf's Digital Visibility Platform, connectivity and applications work in unison to provide you with intuitive dashboards that enable real-time inventory tracking, product movement and condition history at a click of the button. Using granular ground-truth data, you get alerts, notifications, metrics, trends, analytics and KPIs to ensure accurate and fast regulatory reporting, resulting in significant administrative cost savings.

Optimize Inventory Management

Pharma companies often struggle with how to minimize inventory levels across the entire supply chain. By having visibility across the supply chain, pharma companies can optimize their inventory levels, increase flexibility in response to short-term demand fluctuations and avoid product overages/shortages. Cloudleaf provides you with continuous visibility into the location and condition of material and assets throughout the supply chain. By collecting the right data from any source, in real time, Cloudleaf illuminates the dark spots in supply chains, enabling pharma companies to use more complete data insights to optimize inventory.



Data Freedom

Cloudleaf brings together data from a multitude of sources, including edge sensors, in real time from across the supply chain to eliminate data silos and provide a current, complete view of your supply chain.



Ground Truth

Cloudleaf streams real-time data from the pallet or product level indoors or in transit to provide the best information possible.



Sensor-Agnostic

Cloudleaf works with a wide array of sensors and data streams, so you can easily leverage previous investments and use the best device for your situation.



Future-Proof

Cloudleaf's cloud-based SaaS solution eliminates the need for additional onsite technology for the platform. Our API-based platform facilitates quick integration with your 3rd party systems.

MORE USE CASES

Improve Revenue Recognition and Working Capital

As soon as a pharmaceutical product shipment is received, Cloudleaf provides a comprehensive view of the condition of those products throughout their journey, from within the four walls, to in-transit, to their final destination. This enables pharma companies to invoice their customers immediately and recognize revenue earlier. Without a digital visibility platform, the pharma company would have to wait for temperature logs to be downloaded and sent back, which can take a full seven days to complete after the shipment has arrived. When it comes to millions of dollars' worth of pharmaceutical shipments, this delay of 5-7 days in receiving payment can negatively impact their bottom line.

Improve Chain of Custody and Identity Reporting

Pharmaceutical shipment records are often incomplete, as links between shipments, orders and serial numbers can be missing. Cloudleaf's Digital Visibility Platform provides continuous visibility and monitoring into pharmaceutical products, from the lab all the way to their final destination. By leveraging supply chain visibility to monitor product shipments, pharma companies can more readily verify the quality of incoming components.

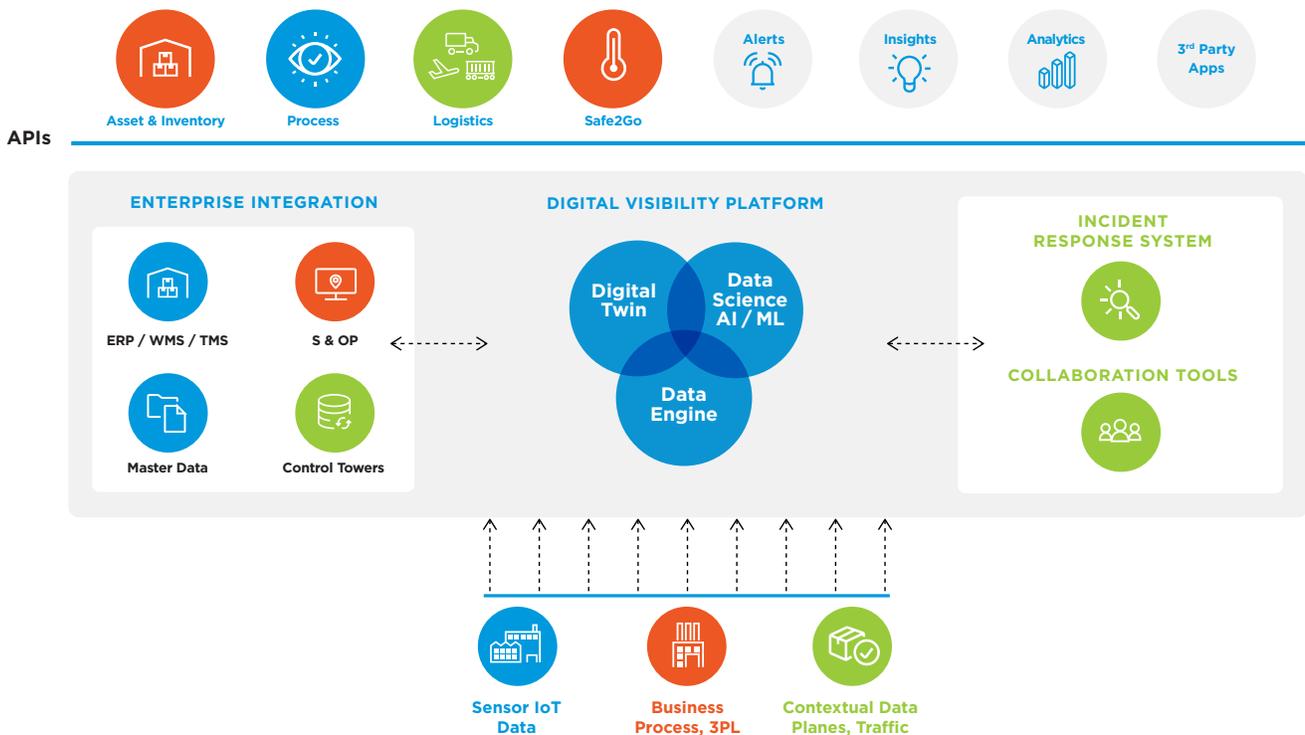
Accelerate and Improve Decision Making

Pharmaceutical companies need to power their decisions with real-time ground-truth data. The Cloudleaf Platform combines real-time data streams throughout the supply chain with contextual and other relevant data to analyze, learn, predict and inform better decisions. The platform is data- and sensor-agnostic and uses AI/ML models to identify anomalies and find exceptions. This provides pharmaceutical companies with continuous intelligence from the billions of data points collected throughout the supply chain.

Increase Sustainability

There is a global shift underway across all industries to achieve a sustainable future, and there is significant pressure on the pharmaceutical industry to commit to having a more positive impact on the environment. From discovery to disposal, the pharmaceutical industry is working to minimize the environment impact of their operations. Cloudleaf makes it possible for companies to improve processes, lower energy costs, and identify and significantly reduce causes of waste, all of which contribute to sustainability goals.

The Next Generation Digital Supply Chain Platform





One of the largest bio pharmaceutical companies gained 100 percent visibility into real-time location and inventory tracking of plasma containers, resulting in annual savings of \$10-15M dollars and the elimination FDA infractions.



The Cloudleaf cold chain solution provides continuous visibility into material loss/damage, real-time location tracking and condition monitoring (temperature, light, humidity, tilt and vibration). Cloudleaf’s predictive capabilities, product tracking and alerts enable preventive action and the safe delivery of medicine and critical supplies.

BENEFITS

- Increase revenue recognition through reduced shipment/storage losses and increased on-time delivery
- Greater compliance through availability of **real-time audit** records and quality certificates for regulatory authorities
- Greater customer satisfaction through on-time and certified **authentic** product delivery and consistent quality

RESULTS

- Eliminate supply chain blind spots
- Anticipate and avoid disruptions
- Eliminate waste
- Reduce operational and working capital costs
- Monitor and measure success instantly
- Seamlessly connect and communicate with all stakeholders
- Quickly respond to customers’ needs
- Enhance sustainability

Why Cloudleaf?

Cloudleaf is different. Our modern, open platform provides unrivaled, continuous visibility and insight into your supply chain. By connecting the physical and digital, we make it possible for you to know where all your critical materials are at every step and stage, all the time. You know their condition and status, including temperature, humidity, vibration and acceleration—and when thresholds for each are out of variance. You have the right insights, at the right time, to proactively assess and respond.

To take the first steps in transforming your supply chain, reach out to Cloudleaf.



Cloudleaf includes additional cold chain analytics that can provide further insight, such as:



Track and Trace

Cloudleaf collects data in real-time which enables you to determine the current and past locations of a product or pallet and pin point when and where it deviated from the original plan.



On Time - In Full (OTIF)

Cloudleaf enables visibility at the product level, so you can be confident that orders were delivered on time, in the right quantity, as promised.



Excursion Types

Cloudleaf is device agnostic giving you the freedom to use the right sensor for your needs. You can monitor product conditions, movement and transaction handoffs in real-time across stakeholders for product quality and compliance mandate reporting.



Excursion Types by Route

Cloudleaf provides you with detailed insights about location, condition and time that enable you to analyze excursions by routes.



Best/Least Performing Route/Carrier

Cloudleaf can track both routes and carriers to help you identify which are performing the best.