



Beyond the Alert: How FourKites Connects Stockout Detection to Freight Execution in Minutes

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Overview

Over the past few years, artificial intelligence (AI) has significantly influenced and transformed business operations across all sectors. While capable of enhancing process efficiency and redefining the human element in workflows, AI has also intensified the challenges businesses face in managing, receiving, translating, and utilizing information. Currently, AI is constrained by data siloes and disconnected systems and a lack of context for its use. For it to evolve further, it is essential to foster collaboration and integrate disparate data sources.

The necessity for greater transparency is prompting fundamental changes in supply chain and planning operations. Organizations are beginning to connect disparate data streams to generate new contexts that enhance decision-making capabilities. This evolution in data management and system coordination within supply chain planning is enabling innovative processes, fundamentally reshaping the decisions being made by supply chain planners. By linking FourKites Inventory Twin with Booking Connect, supply chain teams can proactively address inventory stockouts and manage disruptions efficiently within a unified platform.

The data sources are already there, as modern companies currently utilize the systems necessary for advanced integration. The primary requirement is to unify these disparate sources to effectively deploy AI and redesign processes. This approach consolidates exemption resolution into a single workflow, removing the manual coordination that currently consumes 15–25 hours of planner time.

By Linking FourKites Inventory Twin with Booking Connect AI, supply chain and logistics teams can proactively address inventory stockouts and manage disruptions efficiently within a unified platform.

Key Takeaways

- Supply chain teams spend hours on fear of stock outs, causing higher expedited shipping costs and excess inventory.
- Unifying data sets and offering fresh context enables the development of innovative processes that harness artificial intelligence, resulting in minimizing time spent resolving stock-out situations.
- FourKites' new integrated system brings inventory and booking together on a single page, eliminating the need for separate platforms.

Current Scenario

Imagine it is Tuesday afternoon. An inventory planner receives an automated alert: the “Phoenix distribution center is projected to run out of a high-velocity SKU in exactly 14 days”. On the surface, visibility has done its job. The problem is identified with two weeks of lead time.

This is where the process typically stalls and diverts. Even though the planner sees the alert, they cannot act on it within the same screen. That is when they begin a manual search across multiple systems:

1. They log into the ERP to hunt for excess stock, eventually finding a surplus in the Dallas facility.
2. They open TMS or various carrier portals to check shipping rates and lane availability between Dallas and Phoenix.
3. They send several emails to brokers to confirm if a truck can be picked up by Thursday to avoid expedited costs.
4. They wait for replies, aggregate the data, and manually enter the booking details into a third system.

By the time the planner has a confirmed solution, three hours have passed. If this happens on a Friday or during a peak season, that three-hour delay often means the standard shipping window closes. The company is then forced to pay three times premium for expedited freight or face a steep On-Time In-Full penalty from the customer.

FourKites wants to solve this problem for companies and give supply chain planners back their time to focus on other high value responsibilities.

The Integrated Resolution

With a connected system, the same Phoenix alert arrives not just as a warning, but as a recommendation. The system has already checked the Dallas inventory levels and surfaced three live shipping options: the fastest, the cheapest, and the most optimal.

Instead of a three-hour manual scavenger hunt, the planner reviews the Dallas-to-Phoenix transfer recommendation, selects the optimal carrier with a single click, and the booking is executed instantly. The entire workflow from detection to execution happens in less than five minutes. The stock is moved using standard rates, the stockout is averted, and the planner moves on to the next task without ever leaving the platform.

Integrating Inventory Twin + Booking Connect AI

Planning tools show demand issues, visibility tools send alerts, and Transportation Management Systems (TMS) execute shipments, but none of these platforms work together, leading to slow, error-prone handoffs. Supply chain teams often know when an inbound shipment is running late or when a stockout is likely, but no system links this insight to corrective action. FourKites is closing the gap between “seeing” and “acting” for companies.

Inventory distortion is caused by companies holding either too much inventory or the wrong inventory because they lack accurate, real-time insight into supply, demand, and inbound disruptions. Currently, global inventory distortion incurs companies over a trillion dollars in penalties and massive unplanned costs, including expedited shipping. Expedited shipping is the most energy-intensive and least efficient way to ship products, prioritizing delivery to their destination as quickly as possible. Inventory distortion occurs because companies hold excess inventory to avoid stockouts, fearing unplanned production interruptions, missed delivery deadlines, and failure to serve high-value customers. Secondly, when inbound load arrives late, companies do not have enough time to respond effectively. Companies assume inventory will arrive on time, and when it does not, they panic buy, overorder, or expedite. Supply chain teams are constantly putting out fires and are pressured to find quick solutions to stockout scenarios. These decisions are costly and effort

intensive. FourKites built a native connection between inventory risk detection and freight execution to address this.

The Cost of the Workflow Gap Between Detection and Execution:

- **On-Time-in-Full (OTIF) Penalties:** An OTIF penalty is a fine that retailers charge suppliers for late shipments. It is estimated that the industry spends \$5–6 billion annually on these fees.
- **Revenue Impact:** Stockouts typically result in a 4–10% loss of revenue.
- **Budget Inefficiency:** Between 38%–48% of freight budgets are often consumed by unplanned expedited shipping.
- **Inventory Distortion:** Global inventory distortion is valued at approximately \$1.73 trillion, often including \$150,000 per facility sitting idle as excess safety stock.

FourKites new Solution Addresses the Disconnect between Booking Visibility and Inventory Management:

Instead of just informing supply chain teams about inventory stockouts or risks impacting shipping, FourKites is closing the loop. Inventory Twin watches on-hand in transit inventory across every node in the network, detecting stock-out risks 2–6 weeks out. Instead of just sending an alert, it recommends a specific transfer by analyzing the full network, identifying which facility locations have excess stock while accounting for facility capacity and customer priority.

From Recommendation to Action

The planner approves the transfer, an Order is created to track the request, and a booking request surfaces LTL, parcel, ocean, and air options with real-time rates and carrier performance data from the FourKites visibility network. Three options appear: optimal, cheapest, and fastest. The planner (human in the loop) selects one, clicks book, and the shipment is executed with automatic tracking. What used to take 2–3 hours now take less than five minutes.

Conclusion

FourKites is closing the gap between detection and execution by unifying two traditionally disparate systems into a single, seamless workflow. This integration eliminates manual effort and surfaces decision intelligence, providing planners with initiative-taking recommendations rather than just alerts. Traditionally, a stockout triggered a multi-hour manual scavenger hunt across ERPs and carrier portals, often leaving planners with no choice but to pay a premium for expedited freight to mitigate OTIF penalties. In a landscape of constant supply chain volatility, teams need the ability to pinpoint inventory and execute solutions with confidence. The FourKites Inventory Twin + Booking Connect AI solution empowers planners to resolve exceptions in minutes, ensuring they can avert stockouts without ever leaving the dashboard or resorting to costly expedited shipping.

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