



Solution Brief

# Beamup Middle Mile Integrity Intelligence



# AI-Powered Visibility for Hubs, Transit, and Carrier Performance

The middle mile is the supply chain's "black box", a complex network of sorting facilities, long-haul transit, and handoffs where visibility often fades and risk accumulates. **Beamup provides a continuous integrity layer**, transforming raw telematics and scan data into actionable intelligence.

The screenshot displays the Beamup interface. On the left is a navigation sidebar with 'Agents', 'Insights', 'Reports', and 'Data Center'. The main area shows a list of shipments, with one selected for a detailed view. The detailed view for shipment IN-2237764 is titled 'Potential in-transit theft detected: Suspicious unplanned stop' and is in 'In Progress' status. It features an 'Insight' section stating: 'An unplanned stop of 35 minutes outside of route geofence was detected on Shipment 3244 from Facility F14 to Facility D88 by Carrier ISXP. Shipment contains High Value Risk items worth \$18,000'. Below this is an 'Actions' panel with two tasks: 'Contact carrier dispatch office and confirm reason for unplanned stop' and 'Notify facility security to inspect trailer for missing inventory upon arrival'. A 'Reasoning Trace' section follows, detailing four key findings: 1. High value parcel (Shipment 3244, Outbound, Destination: Facility D88 via Carrier ISXP); 2. GPS data showed the shipment went outside of the approved route geofence and made an unplanned stop for 35 minutes (GPS tracker deviation at 11:42, stop from 11:45 to 12:20, location 2.3 miles off route); 3. Shipment transit time took longer than normal compared to average transit time for this lane (Actual: 8 hours 45 minutes, Average: 6 hours 30 minutes, Delay: 2 hours 15 minutes, 35% longer than average); 4. This carrier ISXP has a prior defect rate of 12% historically (Carrier ISXP rate: 12%, Industry average: 3%).

# The Three Missions of Middle Mile Integrity

Beamup monitors your operations through three distinct lenses to ensure that every shipment stays on track and every partner remains accountable.

## Guard Alerts: Real-Time Risk Detection

### MISSION

Monitor transit and hub operations against the "Promise Date."

### HOW IT WORKS

Beamup backward-schedules every milestone. If a geofence exit or a hub scan is missed, recovery protocols fire immediately.

#### MIDDLE MILE FOCUS

Detecting **Suspicious Delays** or **GPS Signal Loss** in to prevent en-route theft or carrier negligence.

## Detective Insights: Historical Pattern Analysis

### MISSION

Surface systemic weaknesses in your logistics network.

### HOW IT WORKS

By analyzing resolved issues, Beamup identifies which lanes, carriers, or shifts consistently underperform.

#### MIDDLE MILE FOCUS

Identifying **High-Risk Zones** or specific **Carrier Risks** where losses or "bricked packages" (tampered boxes) are statistically higher.

## Predictive Alerts: Upstream Risk Signals

### MISSION

Intervene before the "floor" or the customer is impacted.

### HOW IT WORKS

Detects risks early in the chain, such as inbound ASN delays, to reroute volume or adjust labor.

#### MIDDLE MILE FOCUS

Flagging **Hub-Level Misrouting** before the package leaves the sorting facility, saving days of transit time and preventing "lost in system" claims.

# Key Use Case Scenarios

CATEGORY	ROOT CAUSE / SCENARIO	BEAMUP CAPABILITY	SUCCESS OUTCOME
<b>Driver Risk</b>	<b>Theft &amp; Signal Loss:</b> GPS goes dark in a high-risk zone; driver claims "technical issue."	<b>Guard:</b> Immediate alert on signal deviation/loss with automated escalation to security.	Immediate asset recovery and the elimination of untraceable transit shrink.
<b>Operational Risk</b>	<b>Carrier Negligence:</b> Frequent delays or missed departure times in specific lanes.	<b>Detective:</b> Ranks carrier performance and flags lanes with recurring "integrity gaps."	Shift volume to high-reliability carriers, increasing overall network OTIF.
<b>Network Risk</b>	<b>Misrouting:</b> Incorrect transfer at sorting hub.	<b>Predictive:</b> Flags "Destination Mismatch" signals the moment a package is staged for the wrong trailer.	Elimination of recovery costs associated with cross-country misroutes.

# We protect customer loyalty **at scale.**

Beamup uses purpose-built AI agents to diagnose the supply chain failures that erode customer loyalty, then with your approval, run the fix automatically the next time the same failure mode appears. So delivery promises hold, NPS climbs, and repeat customers stay.



## End-to-end Signal Fusion

Combines long-haul GPS, hub scan events, trailer telematics, and historical carrier behavior into a single "Source of Truth."



## Human-Validated AI

Risk signals are prioritized for your Operations or Loss Prevention teams, ensuring your experts focus only on high-probability threats.



## Carrier Accountability

Move beyond anecdotes. Use hard data to hold third-party logistics (3PL) providers accountable for transit integrity and handling standards.

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Schedule a Custom Demo: [sales@beamup.ai](mailto:sales@beamup.ai)