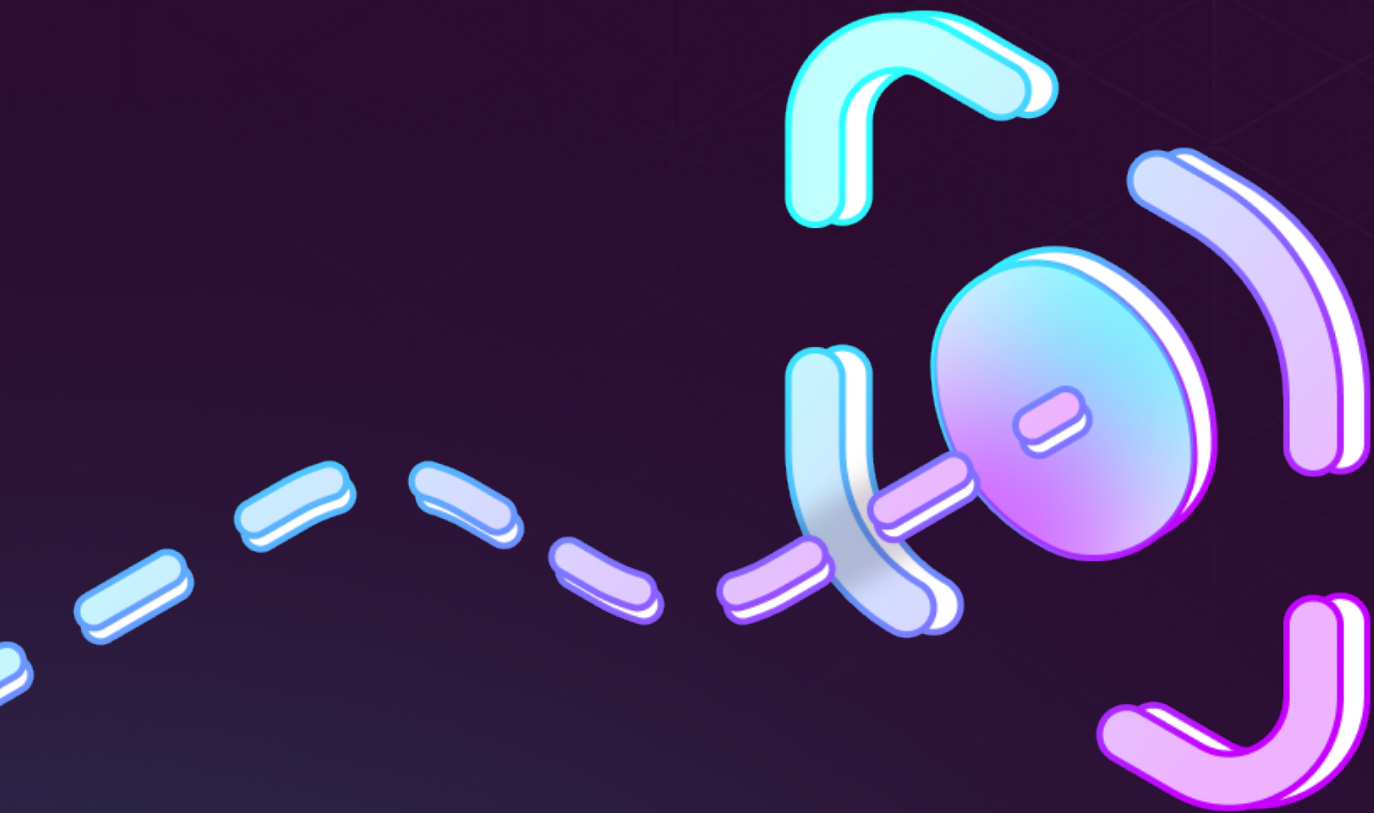




Solution Brief

Last Mile & Supply Chain Integrity Intelligence



AI-Powered Visibility for Every Milestone

The last mile is the most vulnerable and costly segment of the supply chain, yet its success is dictated by the integrity of the fulfillment floor and the middle mile. When visibility fades, risk accumulates in the form of delivery fraud, scanning inconsistencies, and process bottlenecks that erode customer trust. Beamup provides a continuous “Integrity Layer” across the end-to-end journey, transforming raw telematics and scan data into proactive defenses against order failure. By protecting every link, we ensure that the promise made at the warehouse is the reality delivered to the doorstep.

The screenshot displays the Beamup interface, which includes a sidebar with navigation options: Agents, Insights, Reports, and Data Center. The main content area shows a list of incidents on the left and a detailed view of a specific incident on the right.

Incident List:

Incident ID	Description
IN-2237766	Purchase c... Items idem...
IN-2237760	Temperatu... storage can... increase
IN-2237765	48 High Va... secure loc...
IN-2237764	Potential in... Suspicious
IN-2237763	Unexplaine... potential d...
IN-2237762	High stow... Team Mem...
IN-2237757	Driver Theft... Substitutio...
IN-2237759	DC labor st... required at...
IN-2237757	Driver Theft... Substitutio...
IN-2237790	Not all parc... delivered c...

Driver Theft: Multiple Product Substitution Events

Overview Resolution Activity Owner Status In Progress

Insight
Driver (ID: 299330) suspected in multiple product substitution occurrences of high value SKU AK399300 (Apple iPhone 17) on Route S19 out of Facility F11

Reasoning Trace
How the agent arrived...

Actions

- Immediately suspend Driver ID: 299330 and remove from active delivery routes pending investigation Create task
- Initiate investigation into all 7 "delivered not received" incidents for SKU AK399300 on Route S19 from February 25, 2026 Create task

1 Identified p...

- 7 customer... but not re...
- All incidents occurred on Route S19 out of Facility F11 on February 25, 2026
- Driver ID: 299330 assigned to all affected deliveries

2 Correlated delivery route scan history with facility outbound inventory

- Facility F11 outbound scan history shows 7 units of SKU AK399300 scanned for Route S19 [View source](#)
- Driver scan history shows 7 packages scanned as "delivered"
- GPS delivery locations confirmed at customer addresses

3 Analyzed driver history and identified product substitution pattern

- Driver 299330 has 23% higher "delivered not received" rate vs. team average (4% vs. 1.7%) [View source](#)
- All incidents involve high-value electronics (SKUs >\$800)
- Customer complaint reports mention receiving lower-value substitute items in sealed packages

The Three Missions of End-to-End Integrity

Beamup utilizes three distinct intelligence missions across the end-to-end delivery journey to protect every order and elevate customer confidence.

Guard Alerts: Real-Time Risk & Theft Detection

MISSION

Monitor every active fulfillment order and transit milestone against the "Promise Date".

HOW IT WORKS

Beamup backward-schedules milestones; if a pack-station scan, geofence exit, or hub arrival is missed, recovery protocols trigger immediately.

LAST MILE FOCUS

Detecting suspicious **unplanned stops**, GPS signal loss, or **shipping cutoff risks** at the sort station to prevent theft and ensure adherence to delivery timelines.

Detective Insights: Systemic Performance Analysis

MISSION

Surface systemic weaknesses across stations, carriers, and delivery routes.

HOW IT WORKS

By analyzing resolved issues, Beamup identifies which shifts, lanes, or drivers consistently underperform or cause "Short Ship" errors.

LAST MILE FOCUS

Identifying recurring damage patterns, **high-risk loss zones**, or **specific driver misconduct profiles** where product substitution rates are statistically higher.

Predictive Alerts: Proactive Floor Management

MISSION

Intervene before risks reach the fulfillment floor or impact the final customer.

HOW IT WORKS

Detects early-chain signals, such as inbound ASN delays, to reroute volume or adjust labor before the "fulfillment wave" begins.

LAST MILE FOCUS

Flagging **hub-level misrouting** or local inventory shortages early, allowing for order "pushing" to alternate nodes to maintain the **delivery promise**.

Key Use Case Scenarios

CATEGORY	ROOT CAUSE / SCENARIO	BEAMUP CAPABILITY	SUCCESS OUTCOME
Driver Risk (Last Mile)	Theft & Misconduct: GPS goes dark or contents are swapped for low-value items.	Guard: Immediate alert on signal deviation with automated escalation to security.	Immediate asset recovery and the elimination of untraceable transit shrink.
Operational Risk (Middle Mile)	Carrier Negligence: Frequent delays or missed departure windows in specific lanes.	Detective: Ranks carrier performance and flags recurring "integrity gaps".	Optimized arrival windows at delivery hubs to ensure no "left-behind" parcels for the final route.
Node Resiliency (Fulfillment)	Inbound Bottlenecks: Delayed inventory arrival prevents the start of fulfillment.	Predictive: Flags inbound ASN delays early and suggests rerouting to alternate nodes.	Securing end-delivery dates by neutralizing upstream volatility.

Key Use Case Categories and Associated Root Causes

1. Driver Theft & Intentional Misconduct



Package received but contents missing; multi-box orders with missing cartons.



Package is on the truck but never scanned; often associated with concealment or theft.



Customer claims delivery not received, driver has proof of delivery.



Driver or third party swaps the intended parcel/contents and uses staged POD to “prove” delivery.



Order is canceled only *after* truck departure—strong indicator of targeted theft.



Driver intentionally delivers to the wrong address.

2. Driver Error (Unintentional)



Package scanned to wrong address.



Lost package (never scanned).

3. Post-Delivery Theft & Customer Fraud



Fraudulent claims / concession abuse.



Package was delivered correctly but stolen after delivery from an exposed drop location.

4. Pre-Delivery Upstream Errors



Wrong item picked/packed in fulfillment center.



Inventory staging errors / packages not loaded on truck.

5. Pre-Delivery Insider Theft (Distribution Centers)



Bricked package (box shipments with no valid product inside).



Intentional wrong product shipment.

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.



Total Signal Fusion

Unifies long-haul GPS, trailer telematics, and hub scans with core OMS, IMS, and WMS data into a single, undeniable Source of Truth.



Human-Validated AI

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



Scalable Accountability

Uses hard data to hold 3PL providers, carriers, and drivers accountable for transit integrity and handling standards across the entire network.

Schedule a Custom Demo: sales@beamup.ai