FORTUNE 500
RETAILER
NORTH AMERICA

Protecting the delivery promise, one asset at a time

A Fortune 500 retailer needed a reliable way to track its assets and stop deliveries arriving late. With continuous, item-level visibility, Wiliot helped the retailer identify blind spots no other solution could see - and put $350M a year in potential savings within reach.

BUSINESS IMPACT AT A GLANCE

RETURN ON INVESTMENT

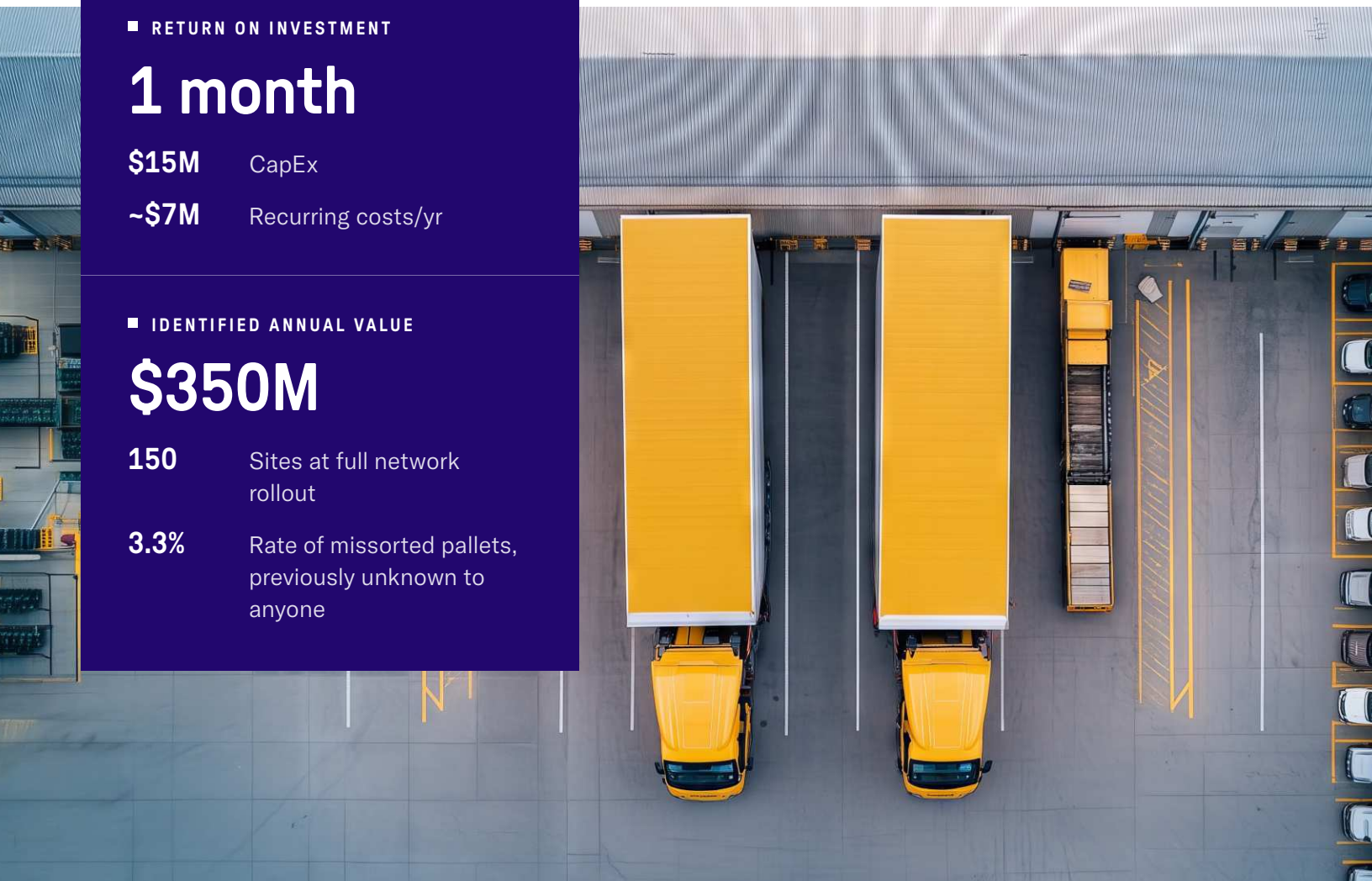
1 month

$15M	CapEx
~$7M	Recurring costs/yr

IDENTIFIED ANNUAL VALUE

$350M

150	Sites at full network rollout
3.3%	Rate of missorted pallets, previously unknown to anyone



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WHERE IT ALL BEGAN

In order to improve delivery estimated accuracy, this retailer needed to gain continuous visibility into their missorted items, assets that aren't where they are meant to be, and asset virtual-physical mismatch, which left massive gaps in their ability to locate and retrieve packages under the roof and throughout the network.

Prior to Wiliot, this retailer did not have insights into how much these metrics were delaying deliveries to their customers.

The problem

Pallets land in the wrong place and nobody knows for 1–3 days. Fixing it and double paying vendors costs more, and the delivery is already at risk.

Why RFID failed

RFID and scans confirm checkpoints, not where something is now.

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01

One of the largest extra-large-item retailers in North America

The retailer runs one of the largest extra-large-item fulfillment networks in North America for furniture, appliances, and other oversized goods that cannot travel through a standard sortation line. These items are picked, staged, and loaded - largely by hand - across facilities measured in hundreds of thousands of square feet.

PROJECT SCOPE

150
SITES AT FULL NETWORK ROLLOUT

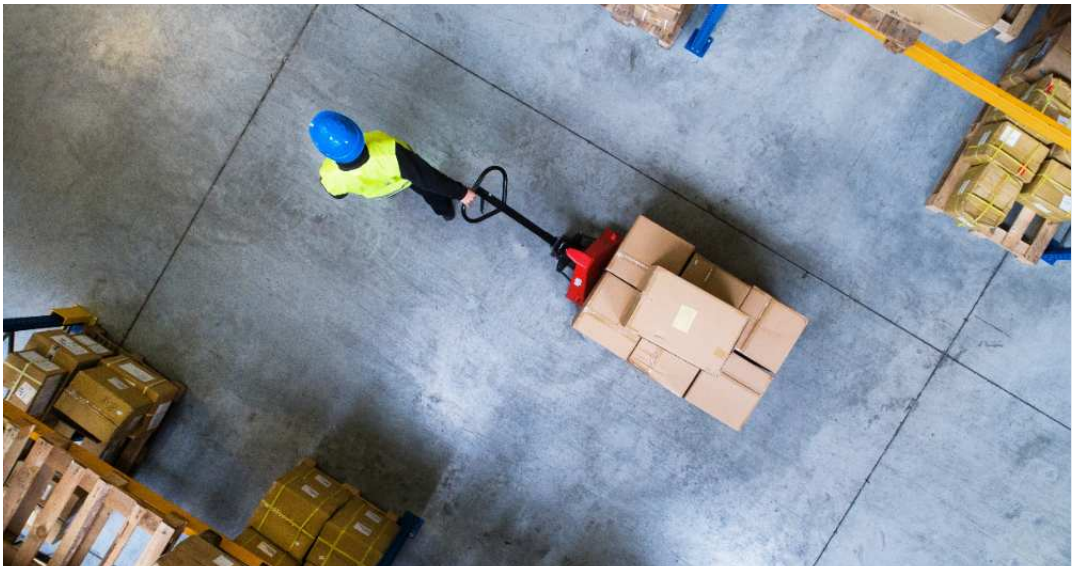
30M
WILIOT TAGGED ASSETS PER YEAR

6M
PALLETS THROUGH INBOUND AND OUTBOUND

$0.20
PER ASSET, FOR MATERIAL AND DATA

~$100K
PER SITE TO BUILD

75%
INFRASTRUCTURE COST REDUCTION



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02

Pallets land in the wrong place and nobody knows

The retailer needed a reliable way to know where its assets were inside the building and throughout the network in order to cut the deliveries that arrived after the date promised to the customer.

Wiliot was chosen as the technological solution that can deliver key insights into the retailer's DEA (delivery estimate accuracy), the share of items with an attempted delivery on or before the promised delivery date shown at checkout, and better understanding into where things were going wrong.

EVERY DEA LAPSE HITS THE P&L FOUR TIMES OVER

01

Concessions

Refunds, credits, and re-ships on the broken promise.

02

Downstream recovery

Labor to find, re-route, and re-plan the item.

03

Customer experience

Missed promises reduce repeat purchase, and that cost compounds.

04

Detection lag

The miss surfaces downstream, typically 1 to 3 days later.

ANNUALLY LOST TO DEA MISSES

$120M – $180M

before a single inbound missort is counted

By the time a DEA miss is known, the promised delivery date is missed, the asset is already in the wrong place, and every recovery option costs more than prevention would have.

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03

Visibility that never stops, for every asset

Wiliot's full-stack physical AI solution allows you to continuously follow an asset's journey end-to-end using battery-free, Bluetooth-enabled IoT Pixels and robust data-driven contextual analysis.

WILIOT CHANGED THE QUESTION THE OPERATION COULD ASK

BEFORE WILIOT	WITH WILIOT
Did the item get scanned?	**Where is the item right now and can we load it into the trailer in time?**

HOW WILIOT HELPED REDUCE DELAYED ARRIVALS

01 **Track every asset — without blind spots.**

Every package picked from inventory carries Wiliot IoT Pixels, and pallets and carts are tagged at container level, where inbound missorts happen. Bluetooth bridges and gateways cover the dock floor and every dock door, so coverage is continuous rather than checkpoint-based. No more guessing where an asset is between scans.

02 **Continuous location sensing for full coverage.**

Contextual analysis turns raw position into meaning. An asset's live location is evaluated against the zone it should be in and the destination it is routed to, so a pallet staged in the wrong lane reads as a missort in progress rather than as a coordinate. Dock-door detection verifies what physically crossed into the trailer against what the system believes is inside it.

03 **Ensure assets reach their destination on time.**

Under-the-roof location events feed a facility map and a dashboard the operations team uses directly. A discrepancy becomes an action inside the pull-time window instead of a report three days later. Detection moves from 1–3 days after departure to real time at the dock.

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04

From a six-site pilot to a national mandate in four months

THE INVESTMENT: TAGS, NETWORK, AND DATA

Wiliot operational efforts were able to cut overhead by 75% while improving performance, bringing installed cost to about $3,000 per dock door with software and integration included rather than billed per site.

That cost curve is what turned a six-site pilot into a national program. Rather than approving the next ten sites, the finance organization mandated nationwide rollout in January 2026 — four months after the first site went live. Installation runs about one week at a small site, two to three at a larger one, and the team compressed the full schedule from twelve months to nine.

Adoption was won on the floor rather than in a training deck: an under-the-roof “treasure hunt” let warehouse associates watch the system locate assets in real time, in their own building.

One further saving is now in pilot. The retailer had planned to add a scan step when items arrive at the dock, and to hire staff to perform it. The pilot tests whether continuous sensing can replace that manual scan, with an expected ~$3M in savings per year, network-wide, if it rolls out.

WHAT IT COST

ONE-TIME CAPEX

$15M

Full network build across 150 sites, about $100K per site

ANNUAL OPEX

$6–7M

Tag and data, plus professional services

PER ASSET

$0.20

For material and data, cost scales with volume

WHAT IT RETURNED

9 months

ROLLOUT, COMPRESSED FROM AN ORIGINAL 12

~$3M

EXPECTED SCANNING SAVINGS PER YEAR, IN PILOT

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05

WHAT THE SYSTEMS MISSED

Missorts and VPM: what only Wiliot can see

Before Wiliot, operations teams at the retailer were not even aware of their missorts, which were happening at a rate of 3.3%. The existing systems simply could not see them, so they were never counted, never corrected, and never costed.

Virtual physical mismatch (VPM) is when the system says the asset is in one place, while in reality the asset is somewhere else. No scan contradicts the record, so nothing flags it.

Continuous item-level reporting is what closes that gap: the record and the physical item cannot diverge without the divergence being visible immediately.

6M
PALLETS THROUGH INBOUND AND OUTBOUND, PER YEAR

3.3%
COMBINED VPM AND MISSORT RATE IDENTIFIED

198,000
AFFECTED PALLETS SURFACED PER YEAR

$1,000 – $1,500
SHARED COST PER MISSORTED PALLET

MISSORT AND VPM COST AVOIDED

$198M – $297M

Combined missorts and VPM, across 150 sites

BEFORE WILIOT

1–3 days
TO DETECT, AFTER THE TRAILER DEPARTS

WITH WILIOT

Real time
AT THE DOCK, INSIDE THE PULL-TIME WINDOW

Please note: this analysis covers only pallets lost during operations at inbound cross-dock facilities, which make up 19% of total sites — extending Wiliot across the entire supply chain would reach well past these sites.

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06

Reducing delayed deliveries requires continuous visibility

The retailer had already deployed RFID for under-the-roof presence detection. While RFID performed to specification, the limitation is structural, and it shows up in three places.



RFID CHALLENGES

RFID reads at checkpoints, not continuously

Checkpoint reads mean that in between scans the asset is unobserved. Previous operations could confirm that something had passed a reader; it could not answer where something is now..

RFID requires human intervention and/or expensive infrastructure

A gate read requires the asset to travel through the gate and for the scan to happen at the right moment, every time. Both are the dependencies that produce VPMs in the first place.

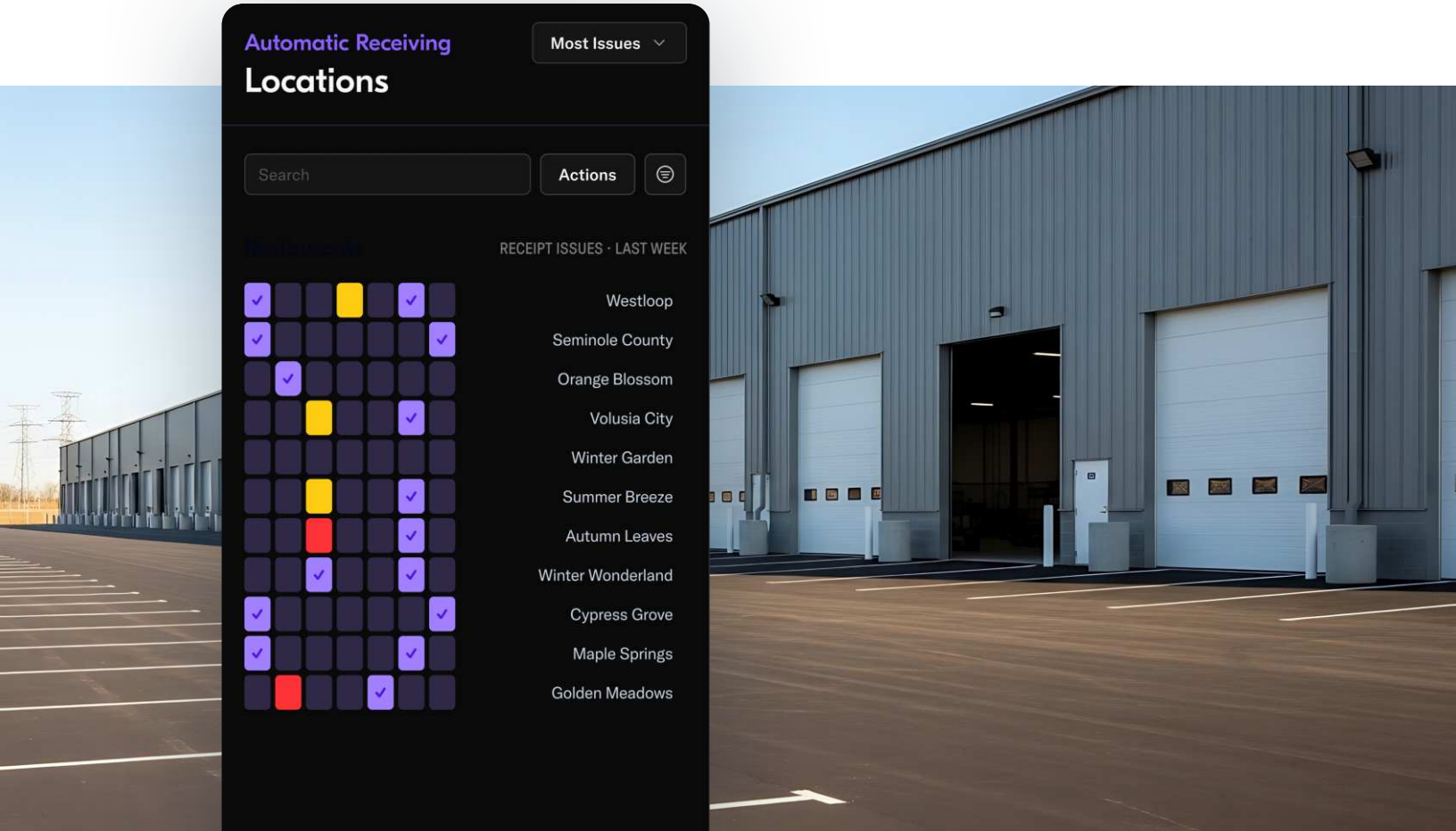
With RFID, if you want to know more you'll have to pay more

RFID only reports location. It cannot capture other conditions such as temperature or light, so adding any condition-based analysis would require separate infrastructure and raise overall costs.

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RFID VS WILIOT, ON SITE

	RFID	WILIOT
Per dock door	Starting from $5,000	$900 all-in, software included
Scanning method	Point-in-time reads via checkpoints or manual scans	Continuous and automatic self-reporting - no fixed read points or manual scanning required
Conditions sensed	One per tag type	Location, motion, temperature, humidity, light
Reaches VPM	No - blind between gates	Yes - record and item cannot diverge



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07

Scaling visibility across operations

Wiliot helped the retailer reach its goal of reducing delayed deliveries with more than an innovative, tailored solution: a team on hand to scope the project in full, partners and vendors who executed quickly and professionally, and data integration support that made setup almost immediate. Starting with delayed deliveries has opened the door to value at multiple points across the entire supply chain.

RESULTS THAT SCALE

Pallets inbound and outbound, yearly	6,000,000
Combined VPM and missort rate	3.3%
Shared cost per pallet	$1,000 – $1,500
Missort and VPM cost avoided	$198M – $297M
Concessions saved	~$50M
Scan and headcount savings, in pilot	~$3M

TOTAL IDENTIFIED ANNUAL VALUE

$251M – $350M

ABOUT WILIOT

Wiliot provides real-time data mining capabilities for organizations that want continuous visibility into their physical operations. Wiliot is the only multi-modal sensing technology for asset tracking that is cost-effective and scalable across any supply chain, and so much more. If you move physical assets, we have a solution for you.

Visit www.wiliot.com to learn more.