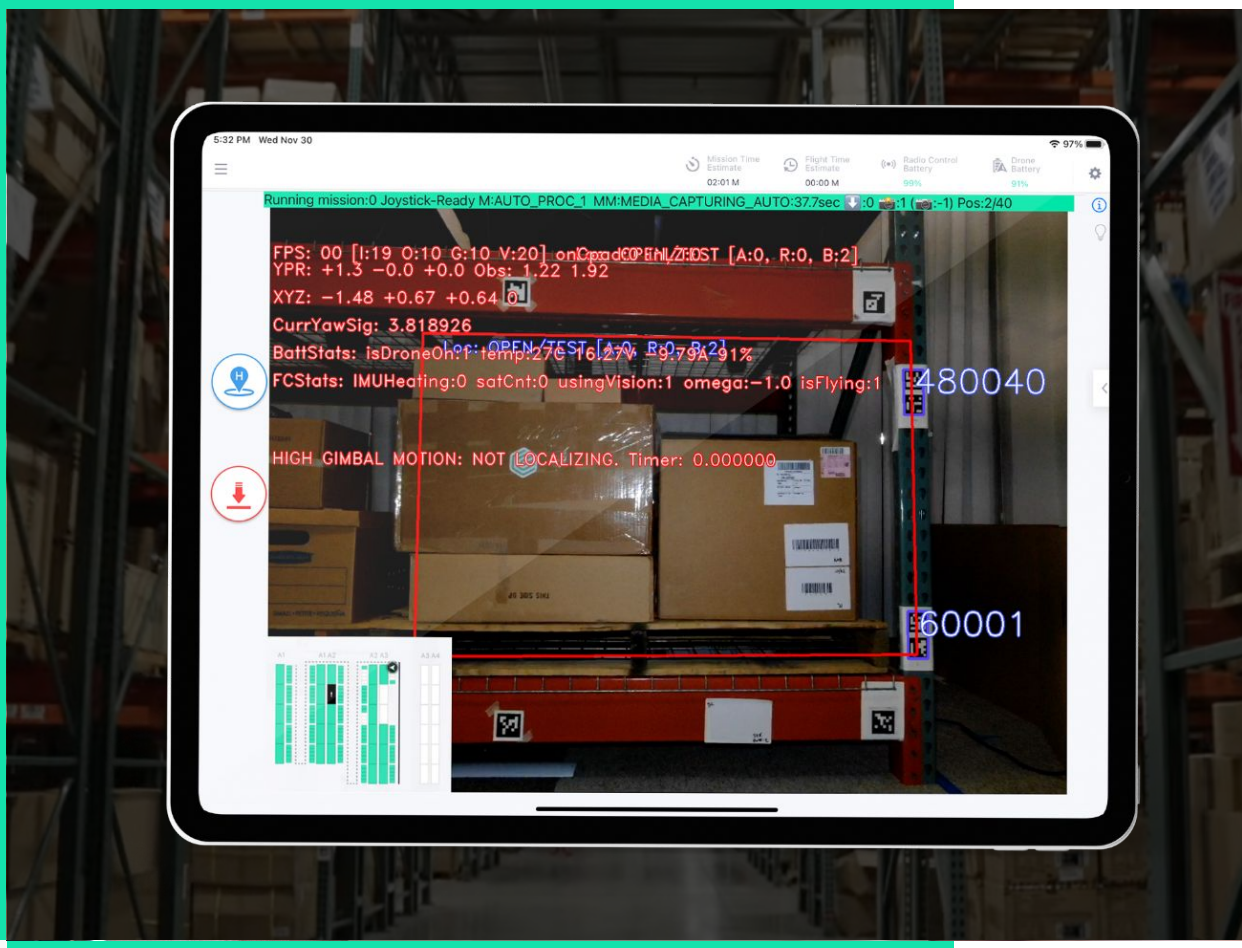


How Warehouse Drones Are Transforming Inventory Management

Benefits identified in interviews with 15 cutting-edge warehouses

GATHER AI

Introduction

Inventory monitoring drones are transforming warehouse operations today at facilities across the globe. They provide near-real-time visibility and traceability into the inventory of a warehouse. We talked to 15 cutting-edge warehouse operators that have implemented Gather AI's platform about how inventory monitoring drones have increased operational efficiency and revenue. The sample set of warehouses cut across multiple sectors including 3PL's, food and beverage, and retail distributors with warehouses spread across the United States. Their sizes range from 50K to 1M square feet.

The 15 warehouse operators identified 5 key benefits from using inventory monitoring drones:

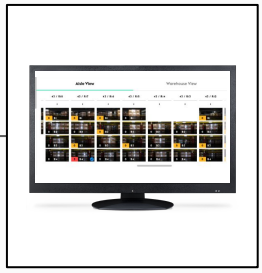
Benefit	Example
1. Increased cycle count frequency	Full inventory collection time reduced from 90 days to 2.5 days
2. Increased inventory accuracy	Decreased WMS error rate from 11% to 3% in 3 months
3. Decreased travel times	$250K-$350K saved by improving putaway efficiency
4. Improved labor efficiency	15X pallets scanned per hour
5. Increased sales	2x sales in one year

In this paper, we will explore these benefits and how they have improved warehouse operations. But first, we briefly start with a description of the inventory drones workflow.

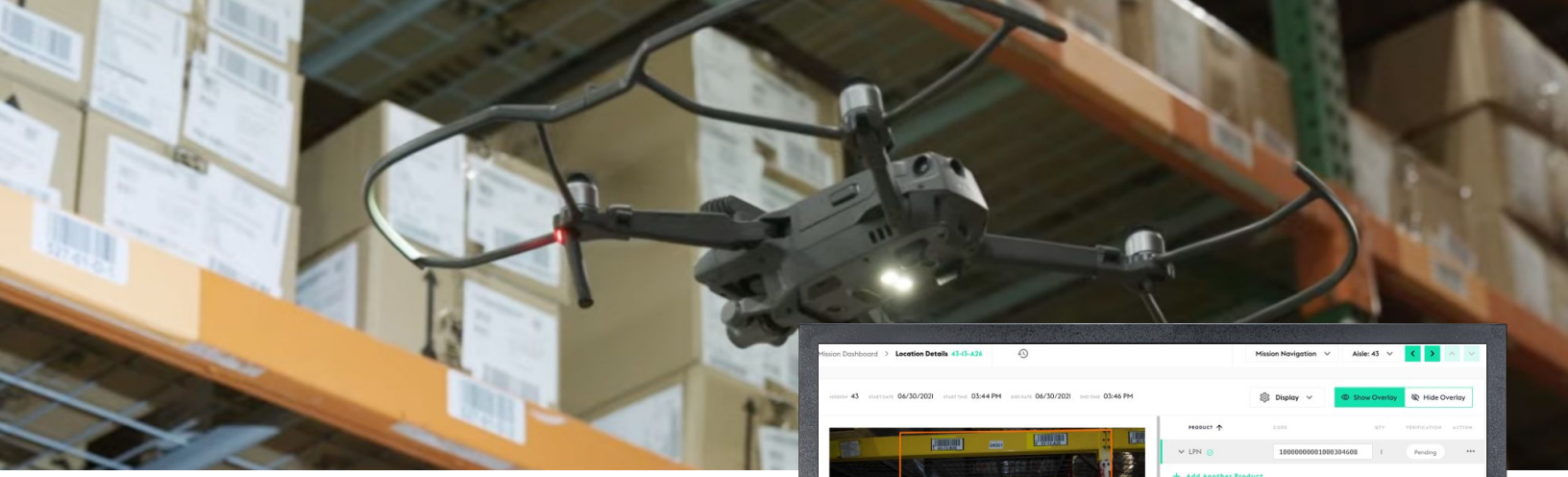
How it works:

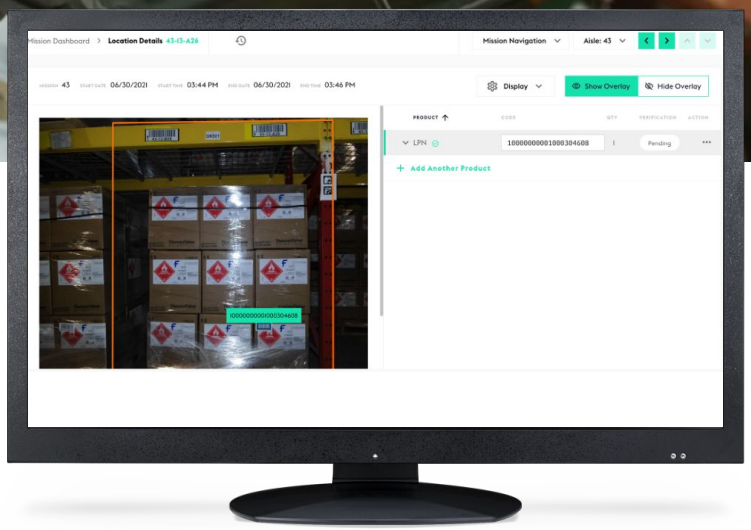
Operator uses iPad app to determine locations to be scanned

The drone flies autonomously and gathers data from the warehouse locations



You and your team view actionable inventory data on the web-dashboard





How drones improve warehouse operations

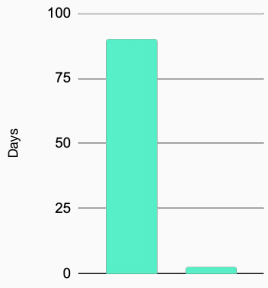
Inventory monitoring drones are like flying barcode readers that make cycle counting teams much more productive. Instead of climbing on forklifts and going up and down aisles, a cycle counter sets off an autonomous drone to take the inventory for them. This allows them to focus their work on improving operations, rather than the laborious task of manual cycle counting. Inventory monitoring drones use computer vision to provide much richer information than barcode readers such as case counting, text reading and damage detection. All the while leaving a traceable data trail. They also improve team member engagement and job satisfaction.

15 Gather AI users have identified five ways that inventory drones and the data they provide have helped them reduce costs and improve their bottom line:

1 Increased cycle count frequency

Warehouses we spoke with wanted to do inventory frequently, but with a shortage of labor it was hard to do more than annual, semiannual, or quarterly cycle counts. Drones today are enabling warehouses to do continuous cycle counting much faster. These warehouses are leveraging a limited labor pool to do cycle counts more efficiently and report that they are exceeding their customers' contractual cycle counting requirements.

One warehouse was able to significantly reduce their inventory monitoring time from 90 days to 2.5 days. This improvement helped them to meet contractual reporting obligations and has given them the ability to be proactive rather than reactive.

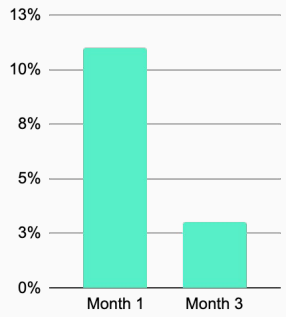


One customer was able to reduce their inventory monitoring time from 90 days to 2.5 days.

2 Increased inventory accuracy

The data collected by autonomous drones provides full inventory traceability. Images of every pallet location are captured by the drone with the time and location stamped. These images are then saved in a screen view that provides an accurate pictorial representation of actual racking locations, like a DVR for your warehouse. What this means, is that warehouse managers can now virtually walk their facility's aisles and check their inventory using any web-enabled device. Not only do they now have a virtual representation of their inventory and racking, but the AI engine also reads the barcodes, scans any desired text, detects empty locations, counts cases, and then provides a direct comparison with the WMS system.

Leading 3PL warehouses report that they've seen a significant increase in inventory accuracy through frequent cycle counts and exception reporting. One warehouse decreased their WMS error rate from 11% (89% inventory accuracy) to 3% (97% inventory accuracy) in 3 months. This improvement has translated into significant savings. One warehouse found $600,000 in lost inventory over one year. Another reported $80,000 in reduced surprised shortages and expedited purchasing.



One customer decreased their WMS error rate from 11% to 3% in just 3 months.

3 Decreased Travel Times

Machine learning and artificial intelligence engines are able to analyze drone pictures and detect rack occupancy percentages, including detecting empty bins. Warehouses report that this information has increased efficiencies and optimized putaway and order fulfillment cycle times. This capability has resulted in a significant reduction in travel times and significant savings.

Decreasing putaway travel times has resulted in significant savings, especially in full warehouses. One customer reported a labor savings of between $250K and $350K per warehouse per year because they were able to reduce 5-7 shifts per day and reallocate the associated material handling equipment.

$250K - $350k **Amount saved per warehouse per year by improving putaway efficiency.**

4 Improved labor efficiency

Facing the challenge of a limited labor pool, cutting-edge warehouses are leveraging drones to improve their labor efficiency and increase employee satisfaction. Warehouses report that they are having difficulty hiring cycle counters. After implementing drones, they are able to cycle counting with their limited labor. For example, with three drones, one cycle counter is able to scan 900 pallet locations per hour. This is 15 times faster than traditional cycle counting.

Employees also report increased job satisfaction. Instead of spending hours walking the warehouse and manually checking inventory, cycle counters now set the drone flight plan and focus on corrective action. They are already trained on inventory control processes and now they get to spend all of their time improving warehouse operations instead of physical data collection.

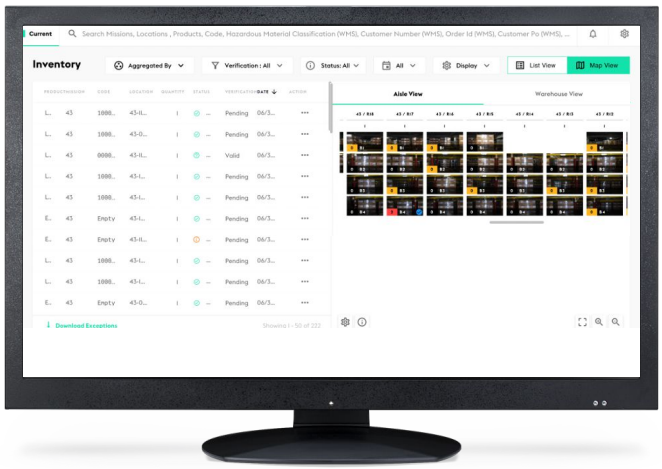
15x Faster

Three autonomous drones are able to scan >900 pallet locations per hour with one operator. That's 15x faster than traditional cycle counting methods.

5 Increased Sales

Warehouses report that they have been able to use the data provided in the web dashboard to differentiate, grow revenue and give their customers visibility into their own inventory.

One logistics company leveraged the data from the drone platform to provide inventory visibility directly to their end-customers. This reporting capability enabled them to book their largest deal ever and double their sales in 1 year.

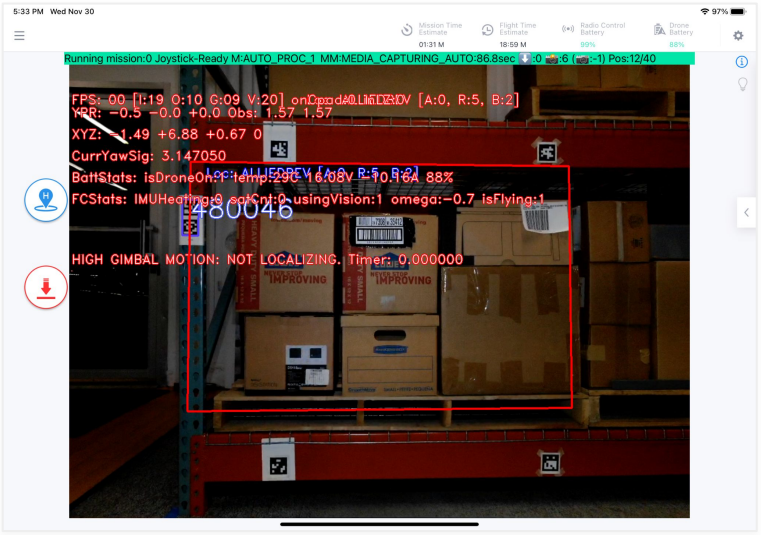


2x

Doubled sales in 1 year by providing inventory visibility directly to end-customer.

Why Gather AI?

Cutting-edge warehouses use Gather AI's solution to transform inventory management and to improve labor utilization, increase operational efficiency, and decrease costs. With no capital expense and no infrastructure changes, Gather AI makes overcoming inventory challenges easy.



What makes us different:

Easy to deploy and use

Gather AI's solution integrates into a warehouse environment. No human pilots, lights, or infrastructure changes are required. Readily available, off-the-shelf commercial drones fly autonomously through the warehouse - piloted by Gather AI's software. Because Gather AI uses off the shelf drones, the drones have proven reliability and can be easily replaced within 24 hours.

Data at your fingertips

With Gather AI's dashboard, warehouses get unparalleled insights that empower them to make informed operational decisions. They can easily view pictures of the pallet locations at their warehouse and see any discrepancies with what's in the WMS. They can go back in time to view historical data and track down when and why issues occurred to prevent them from happening again.

World-class support

Gather AI's mission is to bring warehouses the power of data and inventory visibility. Gather AI's team is determined to ensure our customers' success. We continuously work with our customers to optimizes the performance of the drones and to ensure they get the maximum value from the data the drone provides.

Learn more about how you can improve labor utilization, increase operational efficiency, improve safety, and decrease costs with Gather AI.

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