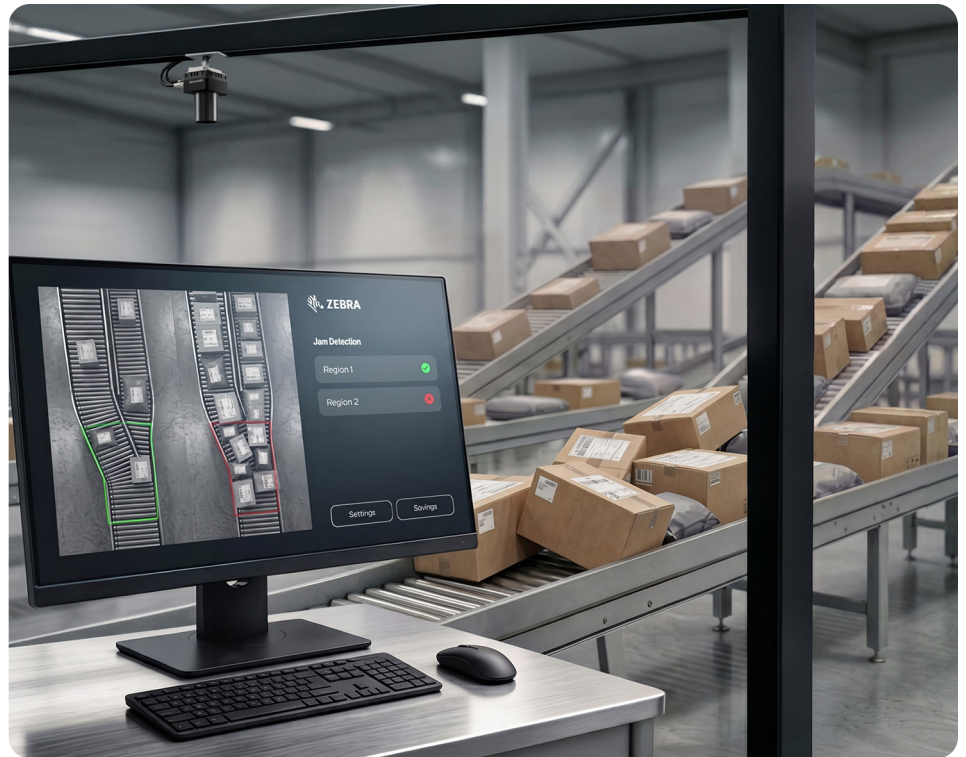


Real-time vision, real-world results

Zebra AI-Powered Machine Vision Jam Detection



The environment

In modern fulfillment centers, the baseline requirement for meeting service-level agreements (SLAs) is continuous, uninterrupted flow of material through the facility. Conveyor networks drive throughput, and even minor disruptions to a conveyor line can create cascading operational delays. When a package gets jammed in a sorter or enters recirculation, the consequences extend far beyond the immediate bottleneck. Unplanned manual interventions pull labor away from other tasks and erode overall productivity.

The challenge

The central issue is that legacy sensor-based systems lack contextual awareness. They often register temporary blockages as critical failures, generating frequent false-positive alerts. This reactive model leads to unnecessary line stoppages and labor diversion, causing uncertainty and inefficiency in the workflow.

The solution

Zebra solves this operational vulnerability by replacing mechanical sensors with intelligent visual perception. Utilizing Iris GTX smart cameras and AI-powered Aurora Vision software, our solution enables real-time visibility over package flow. Instead of rigid binary triggers, our system utilizes artificial intelligence to contextualize the environment, accurately distinguishing between temporary, self-resolving blockages and true mechanical jams.



Increase throughput by
up to 30%

Key benefits

- Differentiate between true and false jams
- Optimize labor utilization
- Minimize package recirculation
- Meet service-level agreements

Vision made easy.
Powerfully simple.
Always scalable.

We make machine vision better every day by making it easier to access, simpler to deploy, and more scalable to ensure it can address your automation goals today and tomorrow—so you can go from pilot to production with confidence—from your simplest use cases to your most challenging applications.

Intelligent perception, continuous throughput

With Zebra machine vision, operations teams receive precise, actionable alerts only when needed, alleviating alert fatigue while preventing package recirculation. Precise, vision-based verification significantly reduces false positives, keeping critical personnel on task. True jams are identified accurately, enabling rapid resolution before they can impact downstream processes.

Zebra's intelligent solution is easy to deploy and scale across any number of outbound sorter lanes. And it delivers measurable results with up to 30% increased throughput.

Ensure efficient, predictable workflows to meet SLAs in your fulfillment center with Zebra machine vision.

Key components



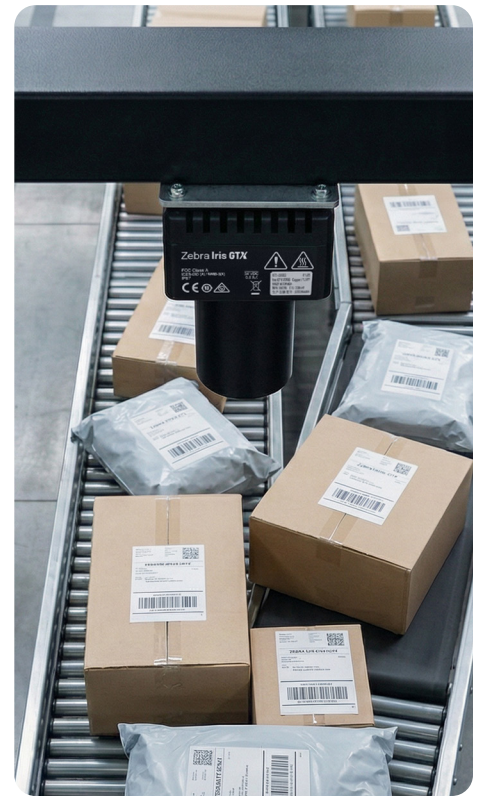
Zebra Iris GTX Smart Camera

Get high-resolution image capture, embedded dual-core processing, and easy connectivity in a smart, rugged design. See zebra.com/iris-gtx to learn more.

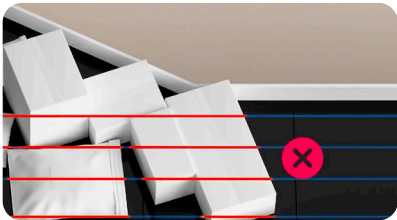
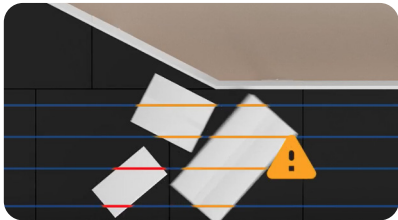
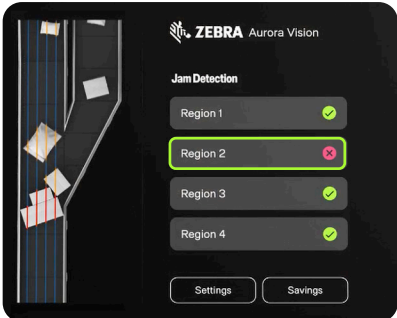
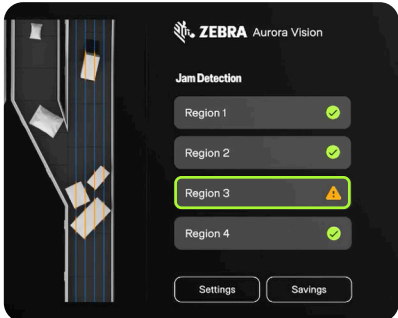
Zebra Aurora™

Zebra Aurora™ Suite

Create and customize robust machine vision applications with simple, flowchart-based development. See zebra.com/aurora-design-assistant to learn more.



Differentiate between true and false jams to optimize labor and increase throughput.



Recognizing false jams

Identifying true jams



→ For more information about jam detection and other machine vision solutions, visit zebra.com/jam-detection.

