

# PepsiCo Leads in AI-Powered Automation With KoiVision Platform

KoiReader Technologies and NVIDIA help PepsiCo achieve precision and efficiency in dynamic distribution environments.

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Global leader in convenient foods and beverages PepsiCo is deploying advanced machine vision technology from startup KoiReader Technologies, an NVIDIA Metropolis partner, to improve efficiency and accuracy in its distribution process.

PepsiCo has identified KoiReader's technology as a solution to enable greater efficiency in reading warehouse labels. This AI-powered innovation helps read warehouse labels and barcodes in fast-moving environments where the labels can be in any size, at any angle or even partially occluded or damaged.

This is up and running in a PepsiCo distribution center in the Dallas-Fort Worth area, with plans for broader deployment this year.

"If you find the right lever, you could dramatically improve our throughput," said Greg Bellon, senior director of digital supply chain at PepsiCo.

KoiReader's technology is being used to train and run the deep learning algorithms that power PepsiCo's AI label and barcode scanning system.

Once near-perfect accuracy was achieved, its application is being expanded to validate customer deliveries to ensure 100% accuracy of human-assisted picking operations.

At the Dallas facility where PepsiCo is testing the technology, Koi's AutonomousOCR technology scans some of the most complex warehouse labels quickly and accurately on fast-moving conveyor belts.

It also is being investigated to assist warehouse workers as they scan pallets of soda and snacks. The same AutonomousOCR technology has also been deployed to automate yard operations as tractors and trailers enter and exit PepsiCo's distribution center in Texas.

"KoiReader's capability offers up the potential for many use cases — starting small and demonstrating capability is key to success," Bellon says.

The system is already generating valuable real-time insights, Bellon reports.

Koi's technology can accurately track regular or irregularly shaped products, with and without labels, as well as count how long it takes workers to pack boxes, how many items they are packing, and how long it takes them to retrieve items for boxes.

It acts as a real-time industrial engineering study answering many questions about the influence of people, process and technology on throughput.

A broad array of the NVIDIA Metropolis stack is being used by KoiReader across its diverse solutions portfolio and customer workflows.

NVIDIA TAO Toolkit , DALI and Nsight Systems are being used to train and optimize models on large NVIDIA A6000 GPU-powered servers.

The NVIDIA DeepStream SDK , TensorRT and Triton Inference Server are used to maximize throughput and deliver real-time results on edge nodes powered by NVIDIA A5000 GPUs, and NVIDIA Jetson AGX Orin module-enabled servers for larger-scale deployments.

And every aspect of Koi's applications are built cloud-native, using containerization, Kubernetes and microservices.

Additionally, the NVIDIA AI Enterprise software suite promises to help PepsiCo confidently scale up and manage its applications and AI deployments.

"The KoiVision Platform was built to deliver logistics, supply chain, and industrial automation for enterprise customers. Our solution suite is helping PepsiCo improve operational efficiency and accuracy in its distribution process," said Ashutosh Prasad, founder and CEO of KoiReader.

"We're testing out object- and activity-detection capabilities and computer vision today to figure out what kind of data we want to collect with that sort of application," Bellon said.

Bellon said he's excited for what's next. "We're going to be on a journey together," he said.

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