



GETTING A GRIP ON INVENTORY WITH ARTIFICIAL INTELLIGENCE

TAKEAWAYS

- 1 Maintaining an accurate inventory is a huge problem for retailers
- 2 By capturing shelf photos using mobile devices, fixed cameras, drones, or robots, retailers can improve inventory management and increase revenues
- 3 Trax helps reduce audit times for traditional trade retailers from 20 minutes to two minutes

When searching for an item in-store, you might as well flip a coin. Heads you find it, tails you don't—or at least it has all the wrong details. Maintaining an accurate inventory has long been a challenge for retailers.

Doug Benson, VP marketing, Americas, at Trax, offers a solution. We recently spoke to Benson about using advanced image-recognition technology to help retailers keep track of their goods and stay competitive as the retail industry transforms.

Q: Despite considerable time and money spent on tracking, counting, and replenishing inventory, retailers still struggle with inventory management. What is your approach to solving this problem?

A: We give retailers unprecedented visibility into the products on their store shelves. By capturing shelf photos using mobile devices, fixed cameras, drones, and/or robots, retailers can improve operational efficiency and increase revenues. Store employees can quickly address shelf issues such as out of stock, planogram compliance, and pricing errors.

Q: What role does artificial intelligence play in the Trax solution?

A: AI is fundamental. Recognizing products, prizes, and promotions from photographs of store shelves is a complex process requiring multiple specialized AI engines such as panoramic stitching, fine-grain image recognition, context, and other applications.

The key to any AI engine is repetition and volume. Every time the AI engines process new data, they get better at producing accurate and consistent results. Trax has processed more retail images than anyone—more than 7.5 billion images to date. Trax currently processes more than 300 million new images every month, and that number is growing daily.

Q: This is a difficult time for many retailers. How do you help companies stay competitive?

A: One of the primary ways is to increase product availability by quickly addressing out-of-stock items. Globally, retailers report that between 4 and 12 percent of items are out of stock. Often, the products are available elsewhere in the store so the inventory can be reallocated. But the retailers need to know when the last products are removed from the shelf. Trax can identify an out-of-shelf occurrence and send alerts within seconds to the appropriate



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store employees. Just half a percentage reduction in out of stocks can result in significant revenue uplift.

Q: Can you give an example of how real-time analytics from Trax could help a retailer increase revenue?

A: Retailers use fixed cameras to capture shelf images every few minutes. Those images are uploaded where Trax machine-learning algorithms and engines identify every product, price, and promotion. When a product is missing from a shelf, alerts are sent to store employees who can replenish the missing products with inventory located in other areas of the store (endcaps or storage).

Trax enables retailers to monitor real-time and historical data across their entire chain. Retail executives can easily see performance variations between stores, regions, and store types. This enables retailers to identify successful practices of their higher-performing stores and implement them in their underperforming stores.

Here's an example: Coca-Cola HBC [Hellenic Bottling Company] is the world's second-largest Coca-Cola anchor bottler in terms of volume. Trax helped them reduce store audit times while simultaneously increasing coverage.

Average audit times have been reduced from 20 minutes to 2 minutes in traditional trade retailers and 45 minutes to 15 minutes in modern trade retailers.

These reductions in audit times have enabled Coca-Cola HBC to expand their regional coverage from 35 to more than 130 cities and rural territories, and invest additional time towards in-store sales and promotion activities.

Q: You've recently partnered with a robotics company, Fetch Robotics. What do you hope to achieve together?

A: Automated image capture is very important to retailers. Unlike consumer goods companies who are only concerned with their products and respective categories, large retailers can have more than 100,000 unique SKUs in their store. They want all of them to be available at all times. Even though large retailers typically have several full-time resources tasked with shelf audits and stocking, it is still a manual process. Fixed cameras and robots are two automated solutions available to retailers. Fixed cameras can take pictures every few minutes, providing close to real-time out-of-stock alerts. Robots are typically considered for daily (or nightly) full-store audits.

A robot can travel through every aisle of a store taking photos of every product, shelf, and display. These images are very useful for verifying planogram compliance, out-of-shelf, promotional compliance, and price tag validations.



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Q: What misconceptions do retailers have about image-recognition technology?

A: The most common misconception of retailers and CPGs is that human audits are “good enough.”

The most frequent feedback we get from clients after a proof of concept or trial rollout of Trax is that they were surprised at the number of compliance, promotion, and pricing discrepancies. We have come to expect this reaction from our clients. Humans are simply not effective at analyzing thousands of products and prices. Product packages today are so similar that many look identical to auditors.

Consumers, however, inspect items much more closely than auditors. Consumers look at the items they wish to purchase and read the labels closely. With the number and variety of products on shelves today, it takes that level of inspection to detect many differences. That is the reason that human audits have become so error prone.

Q: How does the partnership with Intel improve Trax products?

A: Trax and Intel technologies address some of the most pressing data, storage, and analytics issues retailers are looking to solve as they look to better integrate their physical and online businesses. A Trax/Intel partnership will allow for valuable information sharing between our two organizations, which will help us improve our existing products and create new solutions for the market.

