

# Improving Inventory Accuracy through Data-Driven Retail Automation Services

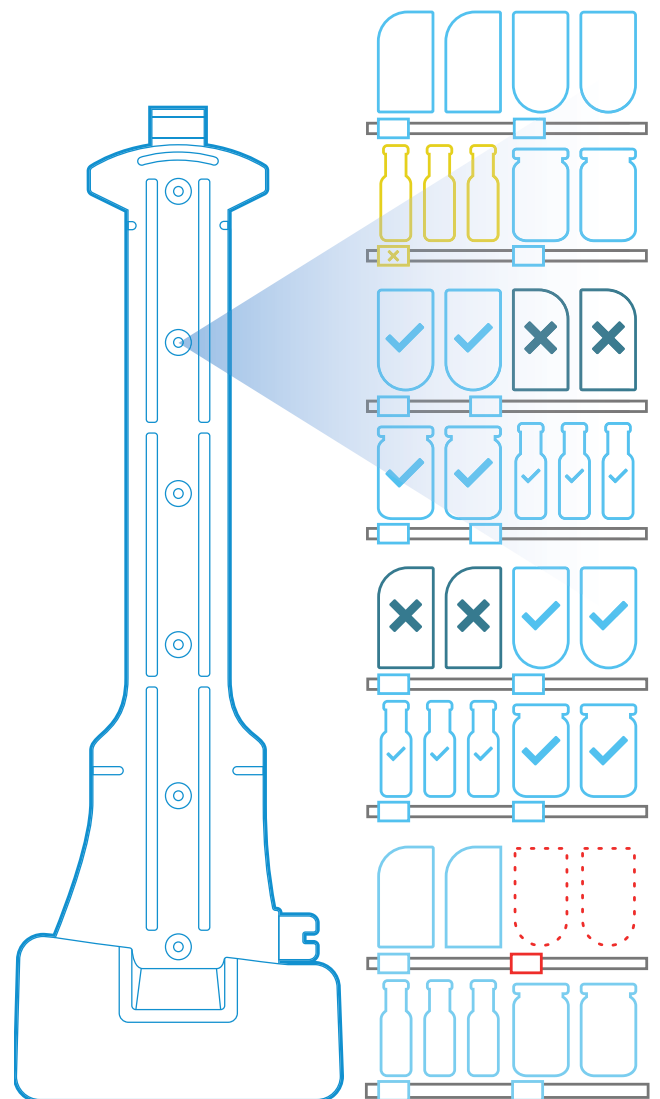
## Unlocking Insights with In-Store Robots

What can in-store robots reveal that you do not already know? The answer is transformative: they uncover the gaps that manual processes overlook and deliver real-time solutions to persistent retail challenges.

The \$7.3 trillion global grocery industry continues to adapt to a rapidly changing retail landscape. With consumer buying habits shifting dramatically during the pandemic, managing inventory across increasingly complex omnichannel operations has become a critical priority. Retailers are under immense pressure to leverage technology to meet new customer expectations while ensuring operational efficiency.

The global shift to online grocery shopping, accelerated during the COVID-19 pandemic, is more than a passing trend. According to a 2023 eMarketer report, U.S. online grocery sales were projected to grow by 12.7% year-over-year. This evolution makes e-commerce and curbside pickup services integral to retail strategies.

Accurate, real-time inventory data has become a critical competitive advantage, allowing retailers to **fulfill orders seamlessly** across channels and **maintain customer trust**.



# Out-of-Stocks and Inventory Disruptions: A Growing Concern

The pandemic reshaped consumer behavior, with fewer store visits but higher basket sizes per trip. This created unprecedented strains on in-store inventories. Simultaneously, supply chain disruptions—driven by labor shortages, factory closures, and transportation delays—exacerbated inventory management challenges.

Despite advances in retail technologies, inventory inaccuracy remains a pervasive issue. A 2023 McKinsey study revealed that poor inventory management and stockouts cost retailers \$1.75 trillion annually, a sharp increase from \$1.1 trillion in prior years. While distribution centers often achieve inventory accuracy rates exceeding 90%, the retail store level lags significantly. According to a 2023 Gartner survey, 60% of retailers face challenges in achieving real-time inventory visibility, leading to lost sales, diminished customer loyalty, and rising operational costs.

Today's consumers demand transparency: 60% expect to see accurate stock levels online, and 58% abandon carts when items are unavailable. As Mike Graen, a leading expert on On-Shelf Availability, asserts,

“ **Knowing what you have and where it's located in real-time is more important than ever. Accurate, up-to-date inventory data is no longer just a convenience—it's a necessity for maintaining customer trust, minimizing lost sales, and staying competitive in a rapidly evolving market.** ” This is true for both customers shopping in your stores, but also for Buy Online Pick Up In store (BOPIS) where store personnel or 3rd parties are shopping for customers. ”



# Robotics and Automation: Revolutionizing Inventory Management

Retailers are turning to automation—specifically in-store robots and AI-driven tools—to address inventory challenges. According to a 2023 ABI Research study, the global market for in-store robotics is projected to reach \$16 billion by 2026. Equipped with advanced AI, these robots perform shelf scans, monitor stock levels, and alert staff to restocking needs.



Automation ensures continual inventory updates, reducing human error and improving accuracy. Robots significantly enhance operational efficiency by completing storewide scans in hours rather than days, allowing employees to focus on customer service and other high-value tasks. For instance, Badger Technologies robots achieve over 95% accuracy in identifying out-of-stock items and detect misplaced products or pricing errors with 90% precision.

Emil Martinez, CEO of Badger Technologies, describes the impact succinctly:

**“ Our robots are the better, stronger, faster solution to automating tedious, repetitive tasks like scanning shelves for out-of-stocks and generating replenishment lists. They improve on-shelf availability and much more, all while significantly reducing operating costs. ”**

## Bridging the Gap with Real-Time Integration

Historically, manual shelf scans provided sporadic and error-prone data, slowing restocking and order replenishment. David Hasler, President of Breakthrough Solutions Consulting, emphasizes,

“ To get the big picture, you must develop a near real-time view of on-shelf availability and integrate those details with supply chain systems. Until recently, tools to automate these critical processes weren't widely available. ”

Today, automation enables retailers to collect and process vast amounts of inventory data rapidly, addressing the demands of e-commerce competition and seamless omnichannel experiences. Integrating these insights into broader supply chain systems ensures timely, data-driven decisions.

## Enhancing Strategy with Automation

Brick-and-mortar retailers are accelerating their adoption of omnichannel solutions to compete with e-commerce. A 2023 Jabil survey found that 94% of retailers are investing in data analytics technologies like machine learning and AI to improve inventory management. Additionally, 67% have implemented or are planning to deploy inventory accuracy systems—a significant increase from previous years.

Robots extend their value beyond store shelves, empowering managers with actionable insights. By integrating shelf-scanning data with vendor, category, and pricing information, retailers can prioritize actions that maximize financial impact. Real-time data also supports planogram compliance, ensuring products are arranged to drive sales and optimize the shopping experience.



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## Accessible Insights for Stakeholders

To maximize the value of automation, retailers must make data actionable for all stakeholders. Dashboards and mobile apps provide real-time updates on stock levels, out-of-stock items, and compliance metrics. These tools empower store managers to address issues quickly while enabling regional and corporate leaders to align strategies across locations.

Mobile alerts play a critical role in addressing urgent challenges. For instance, store managers can receive instant notifications when high-demand items run out, ensuring timely restocking. Category managers and CPG brand leaders can leverage these insights to evaluate vendor performance and optimize trade fund allocations.

# Conclusion: The Future of Retail

The integration of in-store robots and advanced analytics is ushering in a new era of data-driven retail. By leveraging automation, AI, and real-time insights, retailers can achieve unparalleled inventory accuracy, enhance customer satisfaction, and streamline operations. In an industry where margins are tight and competition fierce, adopting these technologies is no longer optional—it is a strategic imperative. Retailers who embrace automation now will not only address today's challenges but also position themselves to thrive in the future of smarter, more efficient retail.

## Powered by Badger Technologies

At Badger Technologies, our robots are just one piece of a larger puzzle—a powerful enabler of a comprehensive solution that drives retail transformation. These robots don't just scan shelves; they take on the dull, dirty, and dangerous tasks, freeing your team to focus on higher-value activities. By collecting and delivering actionable data in real time, they provide the foundation for bigger, better, and faster insights into your store operations.

But here's the real edge: the value of our technology doesn't stop at solving immediate challenges. It's about positioning your business ahead of the curve in a rapidly evolving retail landscape. Retailers leveraging our innovative automation solutions are unlocking unparalleled improvements in operational efficiency, customer satisfaction, and overall profitability.

Don't risk falling behind. Our **Solutions as a Service** model makes cutting-edge automation more accessible than ever, eliminating hefty upfront costs and future-proofing your investment as your business grows.

With Badger Technologies, you're not just adopting automation—you're embracing a smarter, more agile approach to retail that empowers your team to excel where it matters most: serving your customers.

Discover how we're helping top retailers achieve:

- 1 | **ON-SHELF AVAILABILITY IMPROVEMENT**
- 2 | **PLANOGRAM COMPLIANCE**
- 3 | **PRICING INTEGRITY**
- 4 | **HAZARD MITIGATION**
- 5 | **SECURITY SOLUTIONS**



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...all while significantly reducing operating costs.

**The question isn't whether you can afford to innovate—it's whether you can afford not to.**