

DART CASE STUDY

Elevating Sales and Enhancing Retail Operations



Customer Challenge

Retailers often struggle with inventory management, a critical issue that impacts sales and customer satisfaction. Manual inventory checks are time-consuming, error-prone, and require significant resources, especially for large retailers like supermarkets and big-box stores. Dart Displays recognized the need for a streamlined solution that would automate inventory monitoring, provide real-time insights, and ensure products remain available on shelves.

Their goal was to create a system that could efficiently address stockouts, product misplacements, and compliance with planograms. This innovation needed to reduce operational burdens, minimize resource requirements, and empower retailers to make better data-driven decisions.

Solution Overview

Oxit developed a system integrating Wi-Fi enabled cameras with cloud-based analytics. These cameras autonomously capture shelf images twice daily, conserving battery life through a sleep mode. The data is processed through AWS IoT Core, enabling real-time inventory analysis via AI algorithms. A user-friendly dashboard provides actionable insights, allowing retailers to optimize operations.

The Result

The collaboration between Dart Displays and Oxit delivered the Magic Eye solution, a game-changing tool for inventory management. With cameras capturing shelf images twice daily and uploading them to an intuitive portal, retailers gain unprecedented visibility into their operations. The AI-powered system identifies stockouts, misplaced items, and compliance issues, enabling retailers to address problems before they impact sales. The AWS-integrated dashboard provides actionable insights, helping teams make informed decisions faster and with greater precision. By automating manual inventory checks, the Magic Eye solution reduces labor costs, improves operational efficiency, and minimizes the risk of lost sales.

The system's battery-efficient design eliminates the need for frequent maintenance, further lowering operational overhead. Ultimately, this solution empowers retailers to optimize product availability, drive increased sales, and elevate the shopping experience for customers, delivering long-term value across the board.

Innovative Solutions Delivered by Oxit

Battery-Efficient Camera Design

Developed Wi-Fi enabled cameras with ultra-low-power sleep mode, ensuring years of operation without maintenance, perfectly aligned for scalable retail applications.

AI-Powered Inventory Analytics

Integrated AI algorithms to automate inventory checks, detect stockouts, and provide actionable insights, enabling data-driven decisions for retailers.

AWS Cloud Integration

Designed a robust cloud-based ecosystem leveraging AWS IoT Core to process and visualize data, ensuring seamless connectivity and scalable operations.

End-to-End Development

Delivered a comprehensive system, including hardware design, firmware engineering, and a user-friendly dashboard, tailored for dynamic and large-scale retail environments.

About Dart Displays

Dart Displays is transforming the retail industry with innovative solutions that enhance inventory management and on-shelf availability. By leveraging cutting-edge technology, including Wi-Fi enabled cameras and AI-powered analytics, Dart Displays empowers retailers to optimize operations, ensure product visibility, and drive sales. Their solutions streamline processes, reduce costs, and elevate the shopping experience.

For more information, please visit www.dartdisplays.com



About Oxit

Oxit Engineering Services empowers businesses to turn innovative ideas into reality through lasting partnerships built on trust and collaboration. With deep expertise in IoT technologies, our team delivers tailored solutions that drive accelerated time-to-market, optimize development costs, and provide a competitive edge.

This case study highlights Oxit's unwavering commitment to delivering impactful, high-quality solutions while fostering collaboration and ensuring our clients' long-term success.

Want to know more?

Visit us at www.oxit.com

Why Oxit?



Hardware Development

Oxit's engineering team specializes in designing IoT hardware that combines reliability, scalability, and performance. With expertise in RF systems, low-power design, and long-range technologies like LoRa, we deliver solutions that meet today's challenges and anticipate tomorrow's needs.



Software Development

Oxit bridges today's proven technologies with emerging trends, offering expertise in Wi-Fi, Cellular, Bluetooth, Zigbee, LoRa, and edge machine learning. Our approach ensures scalable, innovative solutions that keep our clients ahead in an ever-evolving market.



IoT Experience

With over a decade of IoT development experience, Oxit provides clients with secure, cost-effective, and adaptable architectures. We minimize risks, avoid costly mistakes, and empower our partners to scale confidently.



Comprehensive Ecosystem Understanding

Our knowledge of competitors, suppliers, and research partnerships enables us to streamline processes, avoid delays, and ensure efficient collaboration across all stages of development.



Defined Roles & Responsibilities

Oxit works closely with partners to balance priorities and clearly outline responsibilities. This structured approach creates alignment and maximizes the partnership's success.



Collaborative Interdependence

We prioritize mutual trust, recognizing that successful outcomes depend on seamless collaboration. By fostering interdependence, we ensure that every contribution aligns with the shared vision.



Matrixed Relationship Management

Our team engages at multiple levels, offering diverse perspectives and services to address every need. This dynamic approach ensures clear communication and smooth execution across all initiatives.



Open and Transparent Communication

We maintain consistent communication to align immediate goals with long-term objectives. This clarity ensures trust and keeps all stakeholders informed at every stage.



Self-Awareness

Oxit recognizes its strengths and adapts to overcome challenges, ensuring we remain a dependable and forward-thinking partner in delivering transformative solutions.