



How Smart is Today's "Smart Retail"?

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Gone are the days of old retail store technology, when data analytics were slow to process and receive, restocking items would take days or weeks, and surveillance hinged on outdated, low quality systems. Nowadays, retail stores are getting smarter by integrating advanced computer hardware solutions with technology like Intel® RealSense™ and Intel® vPro™ into their store's infrastructure in order to improve brand loyalty and product offerings to result in increased sales revenue and market share. With this new technology, collected data from customer behavior patterns can be used to gain a better understanding about what makes shopping more enjoyable to improve sales, remotely manage store inventory and even provide better loss prevention techniques through improved surveillance systems.

Make Shopping Easier and More Enjoyable



The retail industry has changed significantly through the use of smart technology and the Internet of Things (IoT). Companies can now use camera systems controlled by embedded computers with Intel® RealSense™ to recognize, collect, analyze and transfer important visual data via the cloud or directly to a server. This includes which items in a store have been picked up, left untouched, discarded, and sold. While this information might seem trivial, the collected data can be analyzed across thousands of customers and many other stores via connected embedded computer systems to build a better sense of how a

store can improve its sales. Depending on various factors required to get the analytics that they need, the embedded computers chosen may need features including high performance CPUs, extensive storage, wireless communication options, and more.

Once this information is collected and processed, timely in-store changes can be implemented to enhance brand loyalty and maximize profitability in a variety of ways. This information can be used to help retailers understand buying trends and to show which products are liked by which demographics. Based on their findings, retailers can make immediate physical changes like improved store layouts or better product placement to catch the eyes of shoppers. They can note their customer's preferences and provide suggestions for related products to make sure each customer leaves with everything they need.

Retail stores can integrate Open Pluggable Specification (OPS) [digital signage players](#) to their existing display for customized offers or creating interactive communications to enhance customer's engagement. Smart retail solutions have proven to have positive effects on retail store's revenue generation.

Empty Store Shelves Are Now a Thing of the Past

In order to stay well stocked with products during the busy holiday season, [embedded computer systems](#) and [IIoT gateway devices](#) with technology such as Intel® vPro™ can offer secured remote management for a store's inventory system to allow for automatic re-ordering of popular low stock items. Instead of relying on retail or warehouse staff to constantly reorder products, advanced computer hardware with remote management technology can automatically make restock orders based on the store's specified threshold level - that way every customer can walk away with their intended purchase to maximize profits while the store can limit its overstock.

Enhance Brand Loyalty

Cameras, integrated with embedded systems with Intel® RealSense™ technology and software can also recognize customer demographics and associated purchasing patterns that differ from one location to another. Coupled with a good point-of-sale (POS) system, the resulting analysis and findings allow for greater understanding of their direct customer base and conversion trends, which is crucial for a store's success.

Protected Merchandise through Improved Surveillance

From securitynewsdesk.com, global retail theft through store employees has grown by 11% just within a year and represent approximately 40% of overall retail thefts. Coupled with threats from external theft, retail stores need good surveillance system for effective loss prevention. Smart retail surveillance systems can utilize embedded computer hardware to create an effective surveillance system for a retail store. An embedded computer can be integrated with surveillance cameras, security software and other peripherals to manage and monitor activities in stores. It is one of the key operational considerations that have a direct effect on profit margin of the business.

Axiomtek Offers End-to-end Solutions

Axiomtek's ecosystems of partners include leading security software companies, world-renowned camera manufacturers, specialized hardened network design and manufacturers, and technology leaders. Along with Axiomtek's team of expert engineers, the team can help any retail customer design great end-to-end solutions that will fit their surveillance and retail analytics needs.

Axiomtek's Retail Products

Axiomtek offers a variety of high interoperability [digital signage players](#), [embedded systems](#) and [IIoT gateway devices](#) that are well-suited for smart retail and surveillance applications. These systems are highly reliable, scalable and can be integrated and customized to fit a variety of demanding smart retail and surveillance application needs.

With products like Axiomtek's digital signage player product series, retail advertising and promotion as well as entertainment messages through digital signage system displays can be customized for targeted audience groups with easy content updates that can be scheduled and remotely managed. Axiomtek's advanced OPS digital signage players have been chosen by many industry leading retail stores, grocery chains and more, to enhance customer satisfaction. The [OPS digital signage players](#) feature 4K/2K high definition resolution support, easy maintenance and installation through its Intel® Open Pluggable Specification compliance, high compatibility with retail operation software and hardware, extensive storage capabilities and rich I/O options. This high quality product line offers long product lifecycle and requires little to no maintenance. Axiomtek's OPS products offer our customers lower total cost of ownership and, ultimately, higher return on their investment.

Axiomtek's fanless [embedded computer systems](#) are versatile, feature-rich, highly customizable and easy-to-integrate to suit the needs of smart retail stores. Axiomtek's embedded computer systems can function as a retail IoT device, an NVR for store surveillance or an operation controller for tasks such as remote inventory management, and more. Axiomtek's eBOX products are feature-rich. Among many key features, the product line offers scalable CPUs, extensive storage options, standard interfaces and open system architecture for easy integration with existing systems.

Axiomtek's [IIoT gateway devices](#) come with the Intel® IoT Gateway Solution, including software stack for manageability, connectivity, and security – making them ideal for collecting and safely transferring important data for operational monitoring, further analysis for planned improvements. These IoT gateway devices offer many useful features including low power consumption Intel® Atom™ CPUs, rich I/Os, multiple communication options such as 3G/Wi-Fi/4G/LTE, USB, Bluetooth to provide flexible connectivity for data management.

To learn more about Axiomtek's [eBOX fanless embedded systems](#), [IPC industrial computers](#), [tBOX intelligent transportation systems](#), [OPS digital signage players](#), and [rBOX DIN-rail embedded controllers](#), contact us at info@axiomtek.com.tw.

About Axiomtek

[Axiomtek](#) Co. Ltd. is one of the world's leading designers/manufacturers of PC-based industrial computer products. From our roots as a turnkey systems integrator specializing in data acquisition and control systems, Axiomtek has mirrored the PC evolution in various industries by shifting our focus toward the design and manufacture of PC-based industrial automation solutions.

Axiomtek Co., Ltd. established in 1990, has more than 60 distributor partners globally. Axiomtek offers Industrial PCs (IPC), Single Board Computers and System on Modules (slot CPU card, small form factor embedded boards & SoM), Fanless & Rugged Embedded System (eBOX and rBOX), Intelligent Transportation System (tBOX), Industrial Firewall Platform, Industrial IoT Gateway Solution, EtherCAT Master Controller, Touch Panel Computers (TPC), Medical PCs (MPC), Human Machine Interface (HMI), Digital Signage and Players (DS), Industrial Network and Network Appliances (NA).

As an associate member of the Intel® Internet of Things Solutions Alliance, [Axiomtek](#) continuously develops and delivers cutting edge solutions based on the latest Intel® platforms.