Smart Retail Evolves with IoT and AI-Powered Differentiation

Beyond Actionable Insights

Location	Number of Devices Deployed	Applications
Europe	650* VS133 AI ToF People Counting Sensor	Smart Retail, People Counting and Occupancy

Background

Retail shops have long been the backbone of consumer culture, serving as the primary touchpoints where products meet customers. Over the centuries, retail has evolved from traditional marketplaces to sophisticated, multi-channel environments designed to enhance the shopping experience. As the retail landscape continues to change, driven by technological advancements and shifting consumer behaviors, understanding the dynamics of retail operations has become increasingly crucial.

In the dynamic world of retail, staying ahead requires a deep understanding of customer behavior and efficient management of store operations. As the industry continues to evolve, driven by technological advancements and changing consumer expectations, retailers must embrace innovative solutions to remain competitive. The integration of advanced technologies, such as AI ToF people counting sensors, offers significant opportunities for retailers to enhance the shopping experience, optimize resources, and drive growth.

Retail

Challenges

Inaccurate Foot Traffic Data
Without precise people counting sensors, retailers often rely on manual counting or basic infrared sensors.

Energy Inefficienc
Integrating people counting data with building management systems can improve energy efficiency.

Limited Marketing Effectiveness
Accurate foot traffic data is vital for measuring the success of marketing campaigns and promotions layout design.

Inadequate Customer Insights
Detailed customer insights help in understanding shopping patterns and

Inefficient Space Utilization
Effective use of retail space is critical for profitability.

Inefficient Staff Allocation
Accurate data on customer flow is essential for optimal staff allocation.

Poor Store Layout Optimization
Understanding how customers navigate the store is crucial for effective

Introduction to the Device

What is an AI ToF People Counting Sensor?

An AI Time-of-Flight (ToF) People Counting Sensor is an advanced device that combines Time-of-Flight technology with artificial intelligence (AI) to accurately count and track people in a given area. These sensors are widely used in various environments, including retail stores, shopping malls, airports, and public transportation systems, to monitor foot traffic and gather data on occupancy and movement patterns.

AI ToF People Counting Sensors represent a significant advancement in monitoring and analyzing human movement. By combining the precision of Time-of-Flight technology with the intelligence of AI, these sensors provide highly accurate, real-time data that can transform operations across various sectors. Whether in retail, transportation, or public spaces, AI ToF People Counting Sensors enable better decision-making, improved customer experiences, and enhanced operational efficiency.

Solution

The deployment of the VS133 AI ToF People Counting Sensor in over 700 retail shops across Europe, including notable brands like JOTT, HERNO, and HAWKERS, has significantly enhanced their retail operations. By providing accurate, real-time insights into customer behavior through group counting, flow analytics, queue management, heat mapping, and conversion rate analysis, these retailers have optimized staff allocation, improved store layouts, and executed more effective marketing strategies. As a result, they have seen increased sales, improved customer satisfaction, and enhanced operational efficiency. Embracing this advanced technology has given JOTT, HERNO, and HAWKERS a competitive edge in the rapidly evolving retail market, showcasing the transformative power of data-driven decision-making.

Case Study

JOTT
JOTT, known for its stylish outerwear, has integrated the VS133 sensor to better understand customer flow during different seasons. By analyzing foot traffic data, JOTT can identify which products attract the most attention and adjust their inventory and marketing strategies accordingly. This has led to more targeted promotions and improved inventory management, ensuring that popular items are always in stock.
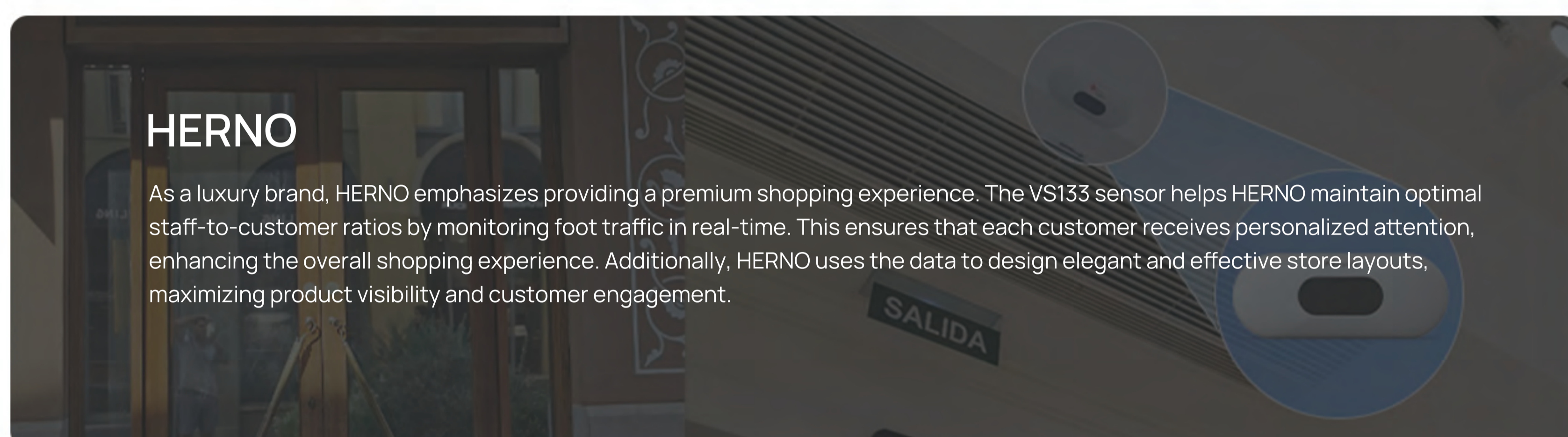
HERNO
As a luxury brand, HERNO emphasizes providing a premium shopping experience. The VS133 sensor helps HERNO maintain optimal staff-to-customer ratios by monitoring foot traffic in real-time. This ensures that each customer receives personalized attention, enhancing the overall shopping experience. Additionally, HERNO uses the data to design elegant and effective store layouts, maximizing product visibility and customer engagement.

HAWKERS
HAWKERS, a trendy eyewear brand, uses the VS133 sensor to track the effectiveness of window displays and in-store promotions. By understanding customer behavior and movement patterns, HAWKERS can strategically place high-demand products and promotional displays in high-traffic areas. This has resulted in increased sales and a more engaging shopping environment.

Main Features

Group Counting	Flow Analytics	Queue Management	Heat Mapping	Conversion Rate
Objective: Accurately count groups of people entering and exiting the store.	**Objective:** Analyze the flow of customers throughout the store.	**Objective:** Monitor and manage queues effectively.	**Objective:** Visualize customer movement patterns within the store.	**Objective:** Calculate the conversion rate of visitors to buyers.
Benefits: Helps understand family or group shopping behavior, enabling stores to tailor services and promotions accordingly.	**Benefits:** Identifies high-traffic areas, optimizes store layout, and enhances product placement strategies.	**Benefits:** Reduces wait times, improves customer satisfaction, and allocates staff efficiently during peak times.	**Benefits:** Identifies popular areas, improves product placement, and enhances store layout for better customer engagement.	**Benefits:** Provides insights into the effectiveness of marketing campaigns and promotional strategies, helping to optimize sales efforts.

Featured Products

VS133 AI ToF People Counting Sensor

Line Crossing & Regional People Counting
Staff Detection and Adults/Children Differentiation
Insightful Group Counting
Advanced Heat Map
100% Anonymous Detection (GDPR Compliant)
Industry-Leading 99.8% Accuracy
Extendable Multi-Device Stitching
Device Management & Application Development

Results

High Accuracy
The VS133 AI ToF sensors offer higher accuracy compared to traditional people counting methods, such as manual counting or basic infrared sensors, which can be prone to errors due to overlaps, shadows, and other visual obstructions.

Real-Time Data
These sensors provide real-time data, allowing businesses to monitor and respond to changes in foot traffic immediately. This is particularly useful for managing crowd control, optimizing staffing, and improving customer service.

Enhanced Analytics
With the integration of AI, these sensors can deliver detailed analytics, such as peak hours, dwell times, and customer movement patterns, which are valuable for making informed business decisions.

Versatility and Adaptability
The VS133 AI ToF people counting sensors can be used in various environments and can be integrated with other systems, such as security systems, HVAC control, and customer management software, to enhance overall operational efficiency.

Milesight Partner

TC Group Solutions

TC Group Solutions was founded in 2007 in Barcelona, one of Europe's leading centres of innovation. The company has since become a benchmark in the development of Retail Intelligence technology solutions and is now present in more than 40 countries around the world.

With its head office in Barcelona and with representatives in Paris, Milan, New York and Hong Kong, today TC Group Solutions offers a comprehensive service to more than 300 brands in its network of global shops.

Milesight

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