

Enabling Intelligent Stores – In-Store Service Optimization



Improving Efficiency and Customer Experience

Operational inefficiencies in stores—long queues, inconsistent product quality, under- or over-staffed areas, overlooked cleaning or restocking, and challenges in evaluating final product quality—can frustrate customers and erode margins. For retailers with fresh food operations, including delis, grocery counters, convenience store cases, and in-store kitchens, menu innovation and advertising can create additional headaches as maintaining consistency and quality across multiple locations becomes difficult. Every misstep adds up, impacting service speed, product freshness, and overall shopper satisfaction.

Edge AI addresses these challenges by turning real-time video and sensor data into actionable insights that empower employees rather than replace them. The system monitors queues, guides staffing, evaluates food preparation and final product quality, and alerts staff when cleaning, restocking, or other attention is needed. Productivity is the key: automation is a helpful tool, but the real value comes from enabling the human behind the system to work more efficiently and effectively. By acting on these insights immediately, stores and fresh-food operations reduce waste, maintain high standards, and deliver smoother, more satisfying experiences—aligning people, processes, and operations with real customer demand.

Challenges of In-Store Service Optimization

- Managing queues, staffing, and product freshness is complex at peak times.
- Manual monitoring causes inefficiencies and inconsistent service.
- Disconnected systems limit staff coordination and restocking.
- Poor visibility into customer flow delays bottleneck response.
- Lack of predictive insights prevents proactive management.

Supermicro and NVIDIA AI-Enabled In-Store Service Optimization

- Enhances video and sensor data analysis to manage queues, staffing, and checkout.
- Supports monitoring of stock and store conditions, triggering restocking, cleaning, and safety alerts.
- Enables real-time adjustments to optimize staffing, layout, and customer experience.

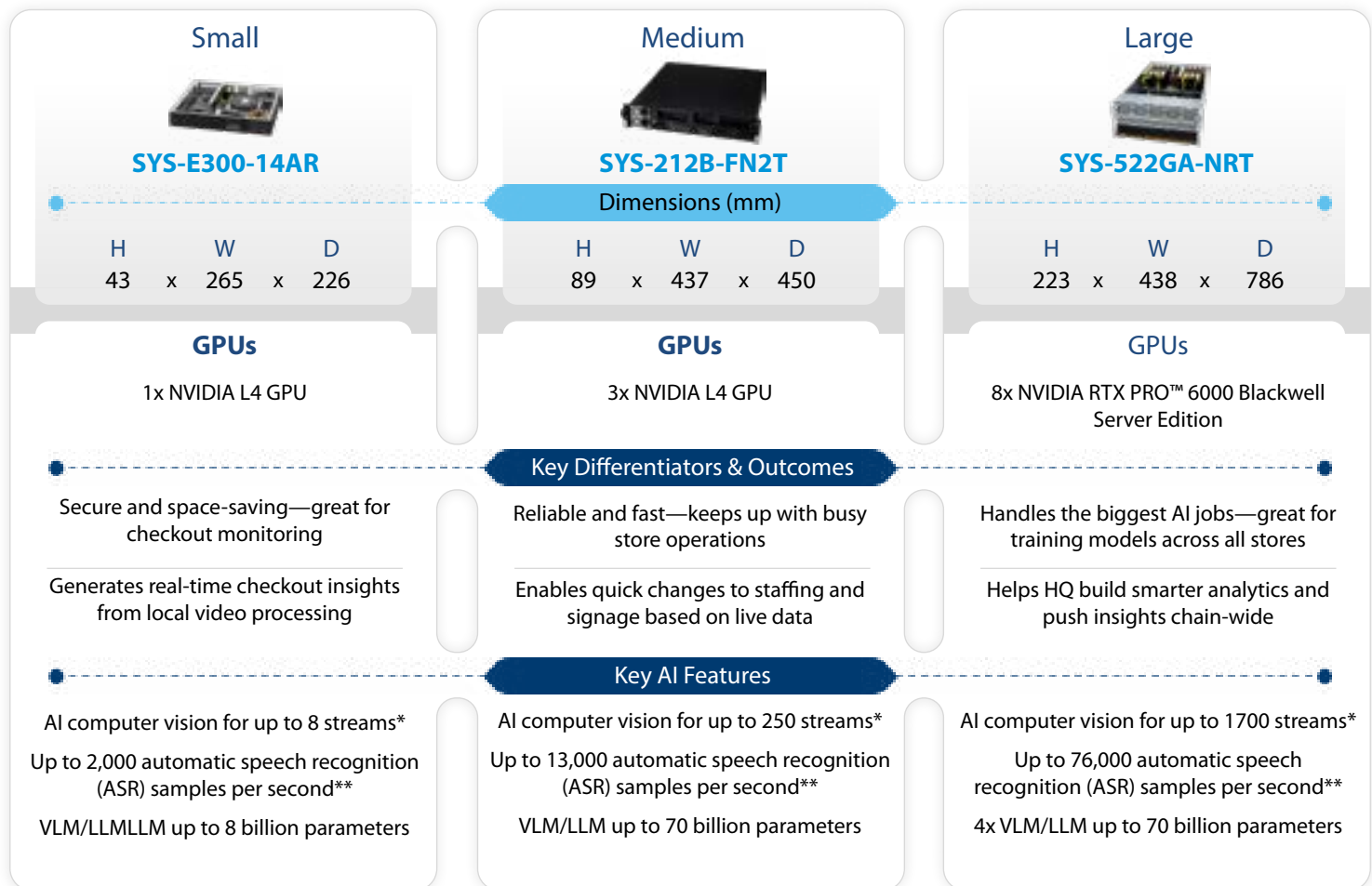


Supermicro and NVIDIA collaborate with software partners like Kwali, whose platform transforms real-time video and sensor data to improve food quality, operations, and workforce engagement.

[Learn more about Kwali](#)

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Supermicro Systems for In-Store Service Optimization



* Based on image classification model similar to EfficientNet-B4

** Based on using an ASR model like QuartzNet



Supermicro Systems Accelerating Your AI journey

Supermicro's AI-ready infrastructure solutions enable large-scale training to intelligent edge inferencing, allowing retailers to streamline and accelerate AI deployment. Their AI-infrastructure empower workloads with optimal performance and scalability while optimizing costs and minimizing environmental impact.

Supermicro and NVIDIA deliver scalable, edge-ready infrastructure that brings AI to life in every retail environment.. Built on NVIDIA Enterprise AI Factory–validated designs, this partnership provides the foundation to run advanced AI workloads in stores, while addressing real-world constraints such as limited space, power efficiency, and cooling. By simplifying deployment and enabling real-time insights, retailers can reduce shrink, optimize staffing and operations, improve product availability, and enhance the customer experience—unlocking productivity gains and building future-ready stores.

For more information, visit: [Supermicro.com/IntelligentStore](https://www.supermicro.com/IntelligentStore)