From Smart City to Race Circuit: Samsung’s The Wall in Control Rooms

Datum	15.10.2026
Subjekt	Samsung Electronics Slovakia
Region	Slovensko
Kategorie	Elektronický priemysel, Technológie, Bezpečnosť

On the front lines of crisis management, where timely decisions are critical, control rooms are evolving to meet the demands of today’s highly connected society. Moving beyond traditional monitoring, they have become centralized hubs that manage growing volumes of video and data while overseeing communications networks.

From industrial operations to sports and critical infrastructure, organizations around the world are turning to Samsung’s The Wall. Among them are the Iskandar Puteri Command and Control Centre (IPCCC), the integrated operations center for Iskandar Puteri City Council, Johor, Malaysia; and NASCAR, one of the world’s leading motorsports organizations.

Engineered for Mission-Critical Control Rooms

While the information displayed on screen varies across industries, every control room requires robust security and unwavering reliability.

The Wall uses the industry-standard Advanced Encryption Standard 128-bit (AES-128) encryption algorithm and Samsung’s proprietary Knox Security platform to securely encrypt data transmitted from S-Box to Cabinet.

AES-128, a symmetric-key encryption algorithm adopted by the U.S. National Institute of Standards and Technology (NIST), protects sensitive control room information while enabling fast data transmission and reception.

Designed for uninterrupted 24/7 operation, The Wall incorporates redundant power and signal systems. If an unexpected power failure or signal error occurs, the backup system activates immediately to ensure continuous monitoring and control.

The Wall’s modular chip-on-board (COB) architecture allows individual modules to be replaced quickly while the display remains on, minimizing downtime. With an LED lifespan[1] of up to 150,000 hours — among the longest in the industry – it also helps reduce long-term total cost of ownership (TCO).

Optimized for control room environments, The Wall offers a modular, scalable design that can be customized to virtually any space. Advanced display technology ensures large volumes of information are presented with clarity and precision.

IPCCC: Cross-Agency Coordination for Faster Emergency Response

Urban crises often unfold as a chain of interconnected events. For example, if a water main bursts, traffic may need to be redirected immediately. If a major traffic accident occurs, firefighters conducting rescue operations and police managing the scene must coordinate in real time.

In Johor, Malaysia, IPCCC uses Samsung's The Wall to support integrated city monitoring and coordination among relevant agencies. IPCCC selected The Wall for its image quality, color richness, and brightness, as well as Samsung's reputation as a reliable long-term technology partner.

IPCCC brings together traffic, public safety, and environmental monitoring data onto a single, unified display. Anchoring the operations center is Malaysia's longest The Wall installation, spanning 19.35 meters and capturing the city's vast network of information on one screen.

Today, the massive display serves as the command hub for citywide operations — from security monitoring to coordinated incident response. By consolidating this information, The Wall supports stronger inter-agency coordination across departments.

"Installing a curved large-scale display allows us to maximize the space while maintaining an efficient operational layout for our workstation and war room," said Farah Izzati Binti Muhamad Fuad, Director of the Smart City Unit at IPCCC. "The ultra-wide screen enables us to monitor multiple smart safety systems, improving coordination and allowing our team to respond more quickly to incidents."

NASCAR: Race Control for Split-Second Decisions

Beyond public services, control systems also play a critical role in sports — where capturing every moment of the action is essential. In motorsports, where speeds exceed 290 kilometers per hour and up to 40 cars race in close formation, officials must assess incidents and make decisions in fractions of a second.

NASCAR, the most popular motorsport in the U.S., built its Remote Race Control center around The Wall to support race control staff at the track with additional monitoring, analysis, and replay capabilities. Measuring 9.75 meters wide and 2.74 meters high, the massive display provides up to 24 officials a shared, high-resolution view, giving them the visual clarity to review and manage split-second race incidents together.

Equipped with a Micro AI Processor, The Wall analyzes complex live footage in real time to reduce noise. This enables dynamic camera feeds from around the track to be displayed in ultra-high definition with minimal noise and motion blur, helping officials make fast, accurate decisions.

At the launch in 2025, Steve Stum, NASCAR Vice President of Operations and Technical Production, highlighted the visibility that Remote Race Control would provide through more than 200 camera angles and multiple data points from every car, along with its potential to enable faster, more accurate competition calls and improve the racing product. Now in its second season of operation, the remote race control room gives officials greater visibility across races and supports more efficient and accurate officiating.

By consolidating multiple video feeds and data streams on The Wall, the remote race control room enables officials to view more information simultaneously and share feeds for collaborative review.

Describing the experience, Scott Miller, competition strategist at NASCAR, said, “It’s like having 20 monitors in front of you, as opposed to probably two or three sitting at a single work station.”

Control rooms across industries are evolving to meet increasingly complex demands — whether ensuring the stable operation of infrastructure, enabling integrated citywide monitoring, or supporting live sports where decisions made in fractions of a second can make all the difference. Regardless of the application, every control room depends on a display that helps operators process vast amounts of information and make fast, accurate decisions. As a safe and reliable visual hub for mission-critical operations, Samsung’s The Wall will continue to provide the clarity needed to support decision-making across major industries worldwide.

1. LED lifetime refers to the rated operating time (L50) until an LED’s brightness decreases to 50% of its initial output. ↩

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