

case study: smart stadiums Empowering 5G Smart Stadiums

OVERVIEW

Enhancing the Game Day Experience

Smart technology is impacting almost every aspect of people's daily lives, including the fan experience at sports and entertainment venues. New stadiums are being built with smart technology in mind from the start while many existing venues are incorporating it to keep up with fan expectations, streamline operations, and level the playing field with their innovative counterparts. Just like plumbing and electricity, wireless connectivity must be in the initial architectural design when constructing a new facility to ensure it is optimized and concealed. This wireless connectivity provides the foundation for the optimal smart stadium experience.

SITUATION The Evolving Stadium Experience

When thinking about a smart stadium this issue is further compounded by IoT (Internet of Things) applications, which are prevalent in smart stadiums. With IoT, the fan experience is further impacted in so many other ways, from information about wait times and queues to parking availability and targeted marketing. However, a smart stadium affects numerous other areas such as safety and security, which are becoming increasingly important at major sports and entertainment events. At a smart stadium, localized data, notifications, and intelligence can speed the response time of emergency personnel. Also, facility management can be smarter with information provided about energy consumption, water usage, traffic flows and more. Operations are more efficient and intelligent with asset tracking, vehicle and machine diagnostics, and consumable monitoring. Finally, retail sales are a big component of the sporting event experience today.

A smart stadium can enable supply chain information, and remote point of sale and payment capabilities.





SOLUTION The Smart Stadium Enabler: XRAN

JMA Wireless is helping to fulfill Golden 1 Center's goal of being the most connected sports and entertainment venue in the world.

Supporting this level of intelligence is not an easy feat. However, the JMA Wireless XRAN[™] solution was specifically engineered to provide the indoor wireless capacity and coverage needed to enable the smart stadium experience. This 100 percent software solution runs on off-the-shelf servers, and completely virtualizes the full baseband protocol stack, layers 1-3.

XRAN delivers to smart stadiums in multiple ways, including:

- Supports multiple MNO network access, including public safety bands
- Provides options for licensed and unlicensed spectrum
- Offers carrier-class performance and security
- ((c)) Adapts for 5G, IoT, and applications for new services and business processes

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- Applies resources to sites when needed to meet utilization demands
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- Enables operators to capitalize on the best economics for backhaul or fronthaul connectivity



- Offers easy visualization and streamlined configuration thanks to web-centric interfaces for configuration, policy setting, and monitoring
- Delivers a flexible, modular, economical solution for existing infrastructure as well as for greenfield deployments

To learn more about how XRAN is reinventing indoor wireless connectivity to enable smart venues, **please visit jmawireless.com/xran**.



About JMA Wireless

JMA Wireless is the leading global innovator in mobile wireless connectivity solutions that ensure infrastructure reliability, streamline service operations, and maximize wireless performance. Employing powerful, patented innovations their solutions portfolio is proven to lower the cost of operations while ensuring lifetime quality levels in equipment and unrivaled performance for coverage and highspeed mobile data.

JMA Wireless solutions cover macro infrastructure, outdoor and indoor distributed antenna systems and small cell solutions. JMA Wireless corporate headquarters are located in Liverpool, NY, with manufacturing, R&D, and sales operations in over 20 locations worldwide.

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