

Revolutionizing Stadium Connectivity

AI-Driven Wi-Fi
Solution at **Real Betis**
Balompié Stadium

CONNECTING YOUR WORLD

Introduction

Wi-Fi connectivity in large stadiums is a complex challenge requiring solutions that can handle tens of thousands of concurrent users and high data demands. At Real Betis Balompié's stadium in Seville, Wavesight in partnership with Galgus tackled these unique demands by deploying an AI-powered wireless network with Cognitive Hotspot Technology (CHT). This case study explores how this advanced solution transformed the fan and media experience through robust, scalable, and self-optimizing Wi-Fi infrastructure designed specifically for high-density sports venues.

About the Client

- Real Betis Balompié is a top-tier football club competing in Spain's La Liga.
- Their stadium in Seville is one of the largest football venues in the country.
- Regularly hosts tens of thousands of passionate fans during matches.
- Welcomes over 300 journalists and photographers covering events live.
- Prior to Wavesight's deployment, the venue experienced inconsistent and unreliable Wi-Fi connectivity impacting fan experience and media operations.

The Challenge

The connectivity issues revolved around:

- Delivering reliable Wi-Fi to tens of thousands of spectators simultaneously during high-profile matches.
- Managing multiple sources of wireless interference inherent in large open venues packed with electronic devices.
- Supporting hundreds of media professionals uploading intensive multimedia content with low latency.
- Ensuring the network could self-optimize and scale dynamically without manual intervention during peak usage.
- Providing secure, stable connectivity that complies with modern data privacy standards.

Solution Overview

Wavesight and Galgus deployed a comprehensive AI-driven Wi-Fi solution with the following key features:

- Installed 61 advanced access points featuring Galgus' patented Cognitive Hotspot Technology, which employs machine learning for real-time network optimization.
- Implemented dynamic radio resource management including automated channel selection, smart load balancing, and seamless roaming to maximize throughput.
- Utilized a cloud-based management platform (Cloud Manager) to provide real-time monitoring, analytics, and proactive network management.
- Secured all endpoints with WPA2/WPA3 Enterprise encryption and GDPR-compliant analytics for privacy and security adherence.
- Designed a fully distributed network architecture to reduce single points of failure and enhance overall reliability.

Results & Benefits

- Achieved zero downtime during high-capacity events like the Copa del Rey Final and major La Liga matches.
- Enabled simultaneous multimedia uploads for 300+ journalists and photographers without network congestion or latency.
- Provided tens of thousands of fans with uninterrupted Wi-Fi for live sharing, streaming, and real-time engagement.
- Demonstrated an intelligent, scalable network that adapts in real-time to fluctuating demand and interference.
- Gained detailed operational insights through cloud analytics, enhancing security and network performance management.
- The success has driven further deployments in major stadiums across Spain and Europe, showcasing market leadership.

Why Wavesight?

- Specialization in high-density, mission-critical wireless systems tailored for the unique challenges of sports venues.
- Partnership with Galgus, leaders in AI-powered Cognitive Hotspot Technology for continuous, autonomous network optimization.
- Proven track record delivering scalable, secure, and user-centric Wi-Fi experiences for tens of thousands of concurrent users.
- Cloud-managed infrastructure enabling real-time control, analytics, and proactive maintenance.