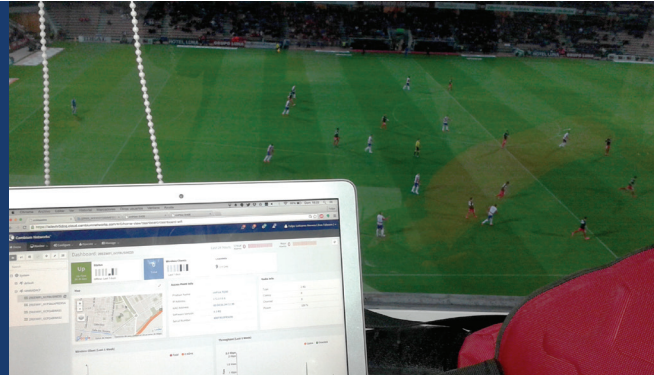


cnPilot™ E400, R200, ePMP 1000™ Hotspot Granada Football Stadium, Spain



Cambium's portfolio of indoor and outdoor access points allowed the customer to select the right AP for each application and manage them using cnMaestro.

Background

THE GRANADA FOOTBALL CLUB, FOUNDED IN 1931, plays in the Spanish Premier League, playing their home matches at the 22,524 spectator capacity Estadio Nuevo Los Carmenes stadium.

During league matches the stadium wanted to provide WiFi access to the sports media, club staff, officials, coaches and VIPs attending the games. At each event 100 - 150 simultaneous simultaneous users were expected to use the WiFi network.

The club had an 802.11n home-router based WiFi network, but it was missing several features such as:

- The ability to manage the entire network from a single console
- Bandwidth management
- Easy password rotation/changes by the administrator
- Ability to remotely turn off WiFi after-hours, when not in use.

Coverage was desired at multiple locations at the site, including the press boxes, business and VIP room as well as the football pitch itself.

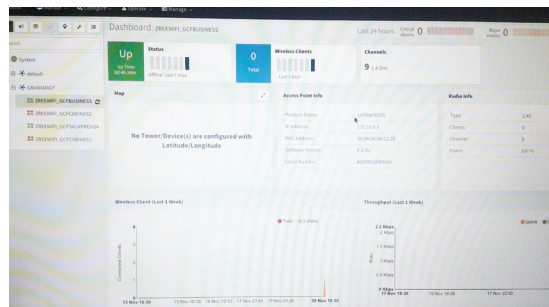


cnPilot E400

Solution

AFTER RESEARCHING THE ALTERNATIVES, ZREE TELECOM PROPOSED and implemented a solution using cnPilot access points (AP), managed through a cloud-based cnMaestro™ management solution, all from Cambium Networks.

Cambium's portfolio of indoor and outdoor access points allowed the customer to select the right AP for each application and manage them using cnMaestro.



Live monitoring of network performance with cnMaestro

The solution includes:

- *cnPilot* E400 Enterprise indoor APs in the press box on top tier of the stadium, and in the press room
- *cnPilot* R200 AP in the business club
- ePMP 1000 Hotspot outdoor APs with 2x90 degree sector antenna on opposite ends of the field for sports photographers

Installation

The entire network was installed in 3 days: 2 days for the wiring and 1 day to install and configure the APs.

All wiring was consolidated near the main grandstand, and used a fibre-optic ring installed in the stadium. Connectivity was through a 50 MBps fibre optic line.

The customer appreciated that all the components needed to install the E400 are included in the unit (mounting plates, screws, PoE etc). Installation of the R200 was also very simple.

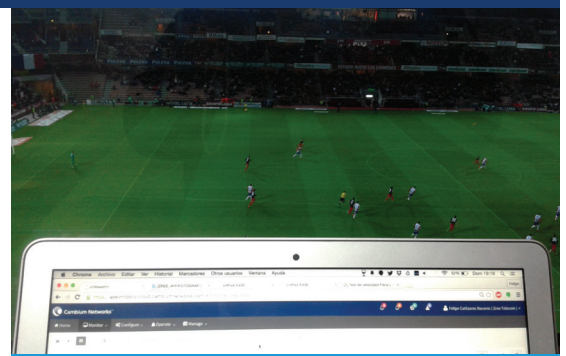
Once installed, onboarding the APs into *cnMaestro* was simple and intuitive. Central configuration management through *cnMaestro* made the installation a smooth and easy experience.

Results

The first match was a real test of the deployment, and everything worked well. In two hours data transfers had reached 10 Gb upload and 15 Gb download.

The E400 provided a strong, robust connection, free of interference in the 5 Ghz band. Several client devices such as Macbook Airs were using the high throughput of the 802.11ac APs.

Users were very satisfied by the network performance, and administrators liked the reliability, centralized control and rapid deployment of the *cnPilot* and *cnMaestro* solution.



Wireless broadband connectivity in the press box

Reliable High Speed Connectivity

Cambium Networks offers secure, scalable, cloud-managed WiFi solutions for homes, small business, and both indoor and outdoor enterprise applications.

The 802.11ac and 802.11n access points allow for rapid deployment and easy operation, and one-stop, intelligent remote diagnostics round out a managed network that makes it easy to connect the unconnected.

- **E400 and R200 Indoor Access Points are 802.11ac dual band enterprise grade WiFi modules that have a rich set of enterprise class features.**
- **ePMP 1000 Hotspot outdoor modules provide enterprise class WiFi hotspot features in an existing, reliable, hardware platform that connects to either wired or wireless backhaul solutions.**