

London Olympics

The inside track: In-building coverage during London 2012

COBHAM

Case Study

The most important thing will build is trust

Overview

Cobham Wireless worked closely with JOOG (Joint Operators Olympics Group) to deliver cellular coverage across the entire Olympic park and associate venues.

Challenge

With the Olympics attracting over 10 million people, this system need to be able to cope with the demand of users communicating via calls, text and social media. This project involved multiple environments with multiple challenges.



The Challenge

The London 2012 Olympic and Paralympic Games delivered the ultimate in sporting drama, seeing over 10 million people attend the events over the 4 weeks during the summer.

The UK mobile operators, along with Airwave, the public safety operator, formed the Joint Operators Olympic Group (JOOG). The group was created specifically to deal with the mobile traffic challenges presented by the Games. JOOG understood the considerable challenge of delivering cellular coverage across the entire Olympic Park and associated venues. The mass proliferation of smartphone technology led JOOG to consider both raw capacity, and the propagation of such capacity to the many attendees around the various Olympic venues, as critical requirements.

Not only was the task an immense operational challenge, but it was not something that could be easily planned for either. Simulations and trials were run as part of the event preparation but it was very difficult to accurately predict how mobile traffic would act onsite on a particular day.

The Solution

The Joint Operators Olympic Group selected Cobham Wireless as their provider of the many Distributed Antenna Systems (DAS) that were used to propagate capacity and coverage around the various Games sites. In addition, JOOG commissioned Cobham Wireless to provide service advice and system support throughout the duration of the events.

Cobham Wireless met this challenge by providing one of the most sophisticated multi-sector Fibre DAS installations in the world, delivering cellular connectivity to the Olympic Park and associated venues, for all of the UK operators. A central base station hotel was installed, housing a few hundred base stations. All venues within the Olympic Park were then connected to this base station hotel through the Cobham Wireless Fibre DAS. The system provided coverage for all the UK operators, with technology deployed to cover the 900MHz band, 1800MHz band and 2100MHz band. Both GSM and UMTS 3G services were supported in multiple bands.

Cobham Wireless deployed over 300 optical remotes in total, including deployments across the entire Olympic Park, Greenwich Park, Horse Guards Parade, Earls Court and football stadiums throughout the UK. Providing cellular coverage to the main Olympic Stadium was the sole responsibility of UK Operator, EE for which Cobham Wireless supplied a Fibre DAS network configuration of 46 optical remotes providing coverage for



"The real challenge for us during this project was ensuring that no matter which venue the end-user was in, that the in-building coverage was seamless and uninterrupted."

"Our next generation in-building solutions ensured that 2G and 3G coverage was distributed around the stadia in an efficient and effective manner."

Ian Brown, CEO, Cobham Wireless

the stadium's 80,000 seats. In addition, Cobham Wireless also installed DAS solutions in different parts of the Olympic park, such as the Athlete's Village, to provide public safety coverage for the emergency services.

Cobham Wireless provided service advice and support to both contractors and the mobile operators when the technology was initially installed. As the project progressed, Cobham Wireless linked the various Distributed Antenna Systems with their network operations centre in Chesham, Buckinghamshire.

Cobham Wireless' network management system, AEM (Active Element Manager), was used to monitor the condition of all the DAS systems operating throughout the Olympics to ensure that they were delivering optimised and adequate coverage. As the Games drew closer, this became a service that was operated 24 hours a day, 7 days a week. As well as this remote support, Cobham Wireless also had a team of engineers on-site, at all times.

The Benefit

The deployment covered a third of a million seats at its peak, and throughout the Olympic Games no UK operator experienced service degradation or network performance issues.

The millions of visitors, including athletes, delegates and media were all provided with seamless cellular connectivity, due to the intelligent multi-band/multi-operator equipment provided by Cobham Wireless. The UK confounded a lot of its critics by providing this level of mobile connectivity, and the first truly digital mobile Olympic and Paralympic Games was a resounding success.

Richard Caul, the Senior Manager at EE in charge of the Olympics deployment, commented *"we installed a unique design never used before and Cobham Wireless' equipment was central to this design. The equipment installed across multiple on and off park venues has performed exceptionally well with excellent network performance reported by all the network operators in the UK. The Cobham Wireless equipment was installed to a very high standard and the technical support from their Operations Monitoring Centre was first class"*.

