THE TASK

The London Olympic Stadium was built as a bespoke venue for the Athletics events of the 2012 games plus the opening and closing ceremonies. It provided seating for up to 80,000 spectators as well as back of house areas for athletes, officials, sponsors, emergency services and the media.

iWireless Solutions were engaged jointly by all UK mobile operators to design and implement a high capacity solution capable of supporting 2G & 3G services to all areas of the venue including independent systems providing exclusive capacity for the Olympic Family Mobile System (OFMS), the Emergency Services (Airwave) and stadium operations (LOCOG).

OUR SOLUTION

Our Solution Requirements:

- A common infrastructure capable of supporting the voice and data demand of all UK mobile operators during the 2012 Olympic Games.
- Independent back of house coverage for the Olympic Family.
- Dedicated coverage for the Emergency Services and LOCOG.
- High carrier counts for all mobile operators in all bands.
THE RESULT

The Olympic Stadium DAS solution consists of 46 RFoF remote units, 9.1Km of coaxial feeder cable (1/2” to 1 5/8”), 11Km of fibre cable and 167 antennas.

The design is a mixed architecture solution consisting of:

- 40 discrete DAS sectors in the open bowl area delivered using active, radio-over-fibre (RFOF) technology
- 10 independent back of house sectors for OFMS coverage delivered over conventional passive infrastructure
- 16 antennas providing 8x TETRA channels to back of house areas for LOCOG and Airwave.
- 6 external microcells covering the stadium approaches

Providing a solution for the Olympic Stadium presented a unique set of problems. In order to overcome co-channel interference and deliver well-defined sectors, antennas had to be mounted at elevated positions above the seating tiers. The design of the stadium roof and the extensive fixtures used for the opening and closing ceremonies meant that suitable positions for the stadium antennas were very limited. The solution developed by iWireless engineers was to develop custom brackets that made use of existing PA speaker locations. This also helped to facilitate the installation work since it was possible to use the existing rigging equipment to hoist the antennas into place. iWireless Solutions also engaged an acoustic consultant to verify that the antennas would not impact on the operation of the PA system.

Get in touch

If you would like to discuss your wireless solutions needs, or discover more about what iWireless Solutions has to offer, please do not hesitate to contact us: +44 (0)1342 305038 or enquiries@iwireless-solutions.com
A member of our team would be delighted to speak to you.