

# Brazil Stadia

GOLO! Scoring seamless coverage across the stadia of Brazil

**COBHAM**

## Case Study

The most important thing will build is trust

### Overview

Working closely with our partner Radio Frequency Systems (RFS), we helped to deliver a reliable mobile phone coverage system to Brazil's sporting venues, including two of the country's largest stadia with a combined capacity of over 141,000.

### Challenge

During these sporting events there will be 3.72 million tickets available, meaning sports fans will be staying in touch with friends via social networks simultaneously, putting immense strain on the communications network.



### The Challenge

The stadia of Brazil are in the middle of a busy few years, with the eyes of the world watching as they play host to a myriad of high-profile sporting events.

There will be a total of 3.72 million tickets available for the highlight of the football calendar alone in June 2014, and the country hopes to welcome around 600,000 foreign tourists for the events. The sports fans will be keen to keep in touch with friends and family via social networks and share the action as it happens, so ensuring that the host venues have a communications network that will enable visitors to do this is vitally important for the organising committees.

As well as providing a network that will cope with this immense number of people using it simultaneously, designing and deploying a network in a stadia environment brings its own set of challenges. A stadium environment is like no other, with fans remaining static while using voice and data services, rather than roaming around like in most indoor scenarios. The users are likely to produce a large volume of uplink traffic as they post pictures and videos online and the mobile traffic on the network will consist of significant peaks and troughs. Lastly, the nature of the building itself means that the materials used in its construction block RF signals, making seamless signal propagation across the entire venue a challenge.

### The Solution

Working closely with leading partner Radio Frequency Systems (RFS), Cobham Wireless has helped to deliver cellular mobile phone coverage to sporting venues in Brazil, including the Maracanã stadium and the Mineirão stadium: two of the country's largest stadia with a combined capacity of over 141,000.

Cobham Wireless met this challenge by providing a multi-band, multi-operator fibre DAS (Distributed Antenna System) installation, delivering 2G, 3G and 4G services to the stadia.

The base station hotels, located inside each stadium, are connected to the latest Optical Master Unit - the OMU II. The OMU converts the Radio Frequency (RF) signal into optical signal and distributes it through fibre optic cable to a series of multi-band fibre (MBF) remotes installed throughout the venues. The signal is then re-converted at the remote unit and distributed via a series of cables and antennas around the necessary areas of the stadium.



A fibre-fed remote unit

*"Deploying one of the most sophisticated DAS networks in the world for the London 2012 Olympic Games prepared us well for these projects in Brazil. The stadium environment is unique in many ways when it comes to designing and installing a wireless coverage network, and the insight we gathered during London 2012 has meant we can supply a world-class communications system that will support the fans during Brazil's upcoming major sporting events".*

Matt Thompson, VP of Sales - Americas, Cobham Wireless

In addition the team at Cobham Wireless was able to provide advice and support to contractors and mobile operators when the technology was installed, ensuring that the networks were optimised and capable of delivering the coverage required.

*"We are proud to be able to work with the team at Cobham Wireless to bring comprehensive wireless coverage to these world class venues. Thanks to our strong local RFS presence in Brazil and our proven capability and expertise to provide RF design, commission and deployment services, combined with first class products, our solutions are very well suited to such a large-scale and complex endeavour."*

Peter Raabe, Global Product Line Director for Transmission Lines and Wireless Indoor Solutions, RFS

### The Benefit

The venues now benefit from a world-leading fibre DAS system, allowing visitors to the high-profile sporting events to connect to the internet and share the experience with friends and family without suffering network degradation. 2G, 3G and 4G coverage is distributed around the stadia in an efficient and effective manner.

The system is future-proof and will make any further additions and upgrades quicker and easier as a result, meaning further sectors and additional equipment can be added with minimum disruption.

As Brazil prepares for the world stage, the mobile operators, stadium owners and organising committees can be sure they have a cellular communications system that the fans can rely on.

