

Description: **Implementation of a multi-operator cellular coverage solution throughout ExCel London**

Requirement: **Seamless coverage and high capacity for London 2012 and beyond**

Solution: **A multi-sectored active DAS providing extensive voice and data capability throughout the venue.**

◆ **Overview**

Located in the heart of London's Royal Docks, ExCel London is the UK's most flexible event space and home to London's only International Convention Centre, ICC London. The centre is owned by Abu Dhabi National Exhibitions Company (ADNEC) whose portfolio also includes the Abu Dhabi National Exhibition Centre and the Al Ain Convention Centre.

ExCel London is the host venue for a variety of events from award winning exhibitions and conferences to international association meetings, product launches, award ceremonies and sporting events. The venue is part of a 100 acre campus with three on-site DLR Stations, easy access to the Jubilee Line and London City Airport and with parking for 3,700 cars. ExCel London was one of the key off-Olympic Park venues for London 2012, providing arenas for table tennis, judo, boxing, weight lifting and fencing.

Given the high footfall nature of the events held at ExCel London, the requirement for a robust, high capacity cellular coverage system for the centre is paramount. This was particularly driven by a requirement to provide seamless coverage and data capacity for all UK MNO for the Olympics in 2012 including front- and back-of-house coverage for the Olympic Family Mobile Service (OFMS) provided by O2 during the games.

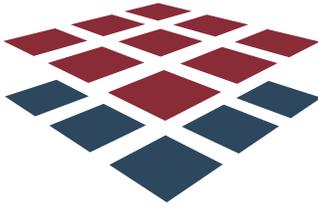


CAM's main client was Arqiva who owned and operated a legacy system within the centre. The system was not fit for purpose for London 2012 and beyond. In addition, CAM worked closely with ExCel, the Olympic Delivery Authority (ODA) and the UK MNO to ensure the delivery of a system that provided the required levels of coverage and capacity in time for June 2012 and the Olympics.

◆ **What did the Project Involve?**

Arqiva owned and operated a multi-operator legacy system which had become obsolete. It provided some coverage to areas of the centre together with limited levels of capacity. With the Olympics approaching and with ExCel a key Olympic venue, it was apparent that the legacy system needed to be swapped for a new solution that provided seamless coverage throughout all parts of the venue. It was also important that there were high levels of capacity to ensure that all attending the Olympics received a premium cellular experience. An added complexity was the requirement to provide OFMS coverage throughout the site including back-of-house areas not usually covered by multi-operator systems.





## CELLULAR ASSET MANAGEMENT

### Case Study: ExCel, London

Cellular Asset Management completed the design for ExCel London during 2011. The design offered a suitable system upgrade path to provide multiple sectors and site wide coverage, meeting the requirements of the UK MNO and the OFMS. The installation was instructed in the spring of 2012 with a challenging deadline of June 2012. By this time the system had to be fully installed, commissioned and operational in time for the centre to be shut down in preparation for the Olympics.

The entire delivery of the design and subsequent system installation was handled by CAM's Project Manager, Gary Britz. Considerable management was required to interface between Arqiva, ExCel, the ODA, and the UK MNO to ensure that the system was installed, tested, commissioned and brought live before the centre shutdown date in June 2012.

CAM used an experienced design resource to work on initial plans. Installation teams comprising site supervisors, team leaders and installation engineers were responsible for installing all elements of the system including fibre and co-axial cable, RF components and antennas, and the active remote units across the venue.

The company's engineering resource was required to fully level and commission the active DAS and to test the system to ensure that it met the coverage requirements and the Joint Operators' Technical Specification (JOTS).

Gary was heavily involved in managing multiple stakeholders from the UK MNO to ensure that their base station equipment was installed, connected to the new DAS and operational by June 2012.

The installed system comprised:

- ◆ Full multi-operator system for all UK MNO designed to meet JOTS
- ◆ 15no. available sectors for 2G and 3G
- ◆ Additional separate DAS installed for OFMS only areas (within car parks)
- ◆ Sectorisation carefully planned to concentrate capacity into defined arenas within ExCel
- ◆ Ion-B System comprising 25 remote unit locations and 123 antennas
- ◆ System designed for 24 carriers per sector for GSM900 and GSM1800 and 12 carriers per sector for UMTS
- ◆ U900 Supported and operational on the system

CAM successfully delivered the full solution with all UK MNO and the OFMS live on the system by the cut-off date of June 2012. The Olympics was a hugely successful event with an excellent level of cellular service provided across ExCel London by the UK MNO. Since the Olympics, the system has continued to provide seamless coverage and capacity to busy events and has also been upgraded with the addition of LTE for some of the UK MNO.



#### ◆ Why was the Project so Successful?

The project's success can be attributed to seamless coverage and high capacity which ensured an outstanding customer experience to attendees at ExCel London for London 2012 and beyond. All of this was achieved against a challenging turnaround in time for the centre to shut down in June 2012. Through CAM's exceptional project management and full turnkey in-house resource, from design, through installation, to system test and commission, CAM were able to meet the demands of the project and deliver a world-class system in time for London 2012, a system that continues to provide a superior experience to this day.