



Canary Wharf, London

Description: **Cellular coverage across major Canary Wharf retail centres for Arqiva.**

Requirement: **Seamless 4G coverage in Canada Place, Crossrail Place and Jubilee Place.**

Solution: **A flexible, future-facing design capable of serving multiple mobile network operators in a busy environment.**

◆ Overview

CAM is a trusted supplier to Arqiva, one of the world's leading telecoms and media infrastructure companies.

Arqiva commissioned us to install a new 4G cellular system across Canary Wharf Group's retail centres at Canada Place, Crossrail Place and Jubilee Place in London's Docklands. Canary Wharf Group is a Qatari-backed joint venture that manages 16 million square foot of office and retail estate in London's Docklands. This includes the new Canary Wharf Crossrail station that will connect the area with locations as far away as Reading and handle over 25 million passengers per year.

Research from Arqiva has demonstrated that 46% of people are more likely to return to a store if they have connectivity and that one in three people will stay longer. Browsing the internet has become critical to consumer behaviour whilst shopping, whether it is for social reasons or to further research the goods on offer. Online connectivity also allows retailers to engage with consumers through their devices as well as face-to-face. Camille Waxer, Chief Administrative Officer of Canary Wharf Group explains, "We want all our visitors to be able to stay connected, wherever they are in Canary Wharf, especially as so many people use social media to share their experiences".

◆ What did the Project Involve?

The Canary Wharf development is an impressive engineering project that has created high quality transport and leisure hubs within a complex landscape. Much of the estate is either underground or inside large buildings, with Crossrail Place also below water level. This has the effect of cutting off access to local cellular coverage. The high number of visitors also means that local coverage simply could not handle the volume of data.

We were asked to design a Distributed Antenna System (DAS) that would allow all mobile network operators (MNOs) to offer 4G services to their customers. The system needed to complement the existing 2G and 3G coverage that was already in place at Canada and Jubilee Place and to comfortably flex as visitor numbers increase with the opening of the new Crossrail station.



CommScope's ION-M active RF over fibre in-building antenna system was selected as it could work across all technologies and the five cellular bands utilised by the MNOs. Single-mode fibre would feed remote units distributed throughout the centres and these were to connect to panel and omni-directional antennas with coaxial cable. Each of the retail centres was to have a separate system, fed from the equipment room, which would simplify access and backhaul connectivity issues.

The installation used multiple DAS zones, many of which included MIMO technology to improve performance. Low PIM components were also used throughout the antenna systems and the point of interface to reduce passive intermodulation interference between spectrum bands.

As a result, PIM performance is better than -150dbc.

◆ Why was the Project so Successful?

Careful planning was vital to the success of this project. With careful calculations around the coverage required, we could design a system that could skilfully handle traffic from the large number of visitors, both now and in the future.

Seamless coverage is now an expectation and poor performance can reflect on the reputation of a location. PIM (passive intermodulation) performance measurements have scored -150dbc.

Arqiva is delighted with the installation which has enhanced its reputation as a leading supplier of telecoms and media services, regardless of the complexity of the project.