



## Case Study

# Costain: Two-Way Radio System Network Rail London Bridge Redevelopment Project



### Project Summary

Design, supply and install a Two-Way Radio System

### Market

Construction

### Location

Network Rails London Bridge  
Redevelopment Project



### The Client

Costain Group Plc is a British Civil Engineering and Construction Company based from Headquarters in Maidenhead, Berkshire. Costain projects are arranged over two operating divisions: Natural Resources (water, waste, nuclear process and oil & gas) and Infrastructure (highways, rail, power and airports).

### The Challenge

In 2011 Costain were awarded Network Rails London Bridge Station Redevelopment project lasting 5 years, this is a £400M project with works commencing in full from 2013 and completing in 2018. Business Communications were tasked with designing, supplying and installing a Two-Way Radio system providing site wide coverage for Costain and their associated Sub-Contractors for this 24/7 operation project. Our system design had to be flexible to accommodate the ongoing challenges of on-site demolition and construction works whilst providing continued site coverage to in excess of 130 radio users.

### The Solution

We designed a Distributed Antenna System (DAS) with 18 Antennae strategically placed to provide site wide coverage through a 'rabbit warren' of Arches, rooms and corridors, in and around the 130 year old station development site, including the Old London Dungeons. These were connected by approximately 1500M of RF cable.

The DAS was connected to a Combiner system using x 3 Motorola MTR3000 Digital Repeater Base Units with a Capacity Plus System managing multiple channels and user groups programmed into approximately 130 Motorola Digital 4400 Radios and a 4800 display radio.

As the project developed and areas of construction and demolition affected our cable routes and Antenna positions we would redesign the DAS, rework the RF signal balancing and reroute new and existing RF cables and reposition Antennae in new locations around any demolition and construction zones, so as not to affect the site coverage.