

CASE STUDY



Balfour Beatty

System Design for London Underground

Balfour Beatty Rail is an international leader in rail engineering projects and the UK's largest rail engineering and services provider.

UK communications specialists, TES, were awarded the contract to provide a new custom built radio installation for Balfour Beatty's engineers, whilst working on the multi-million pound London Underground's Waterloo to Bank Line renewal works project.

TES, having several years relevant experience in multi disciplined, transport communications and on-train security solutions, secured the contract after providing the company with a unique package of services that involved the design, installation, testing and commissioning of a state of the art radio system. The radio system was purposely designed to operate independently within the challenging environment that exists on the London Underground.

Project Manager of Balfour Beatty Rail, (John Smith) said: "Before any work could be started underground, a secure and reliable communication system had to be supplied to support and protect our workforce, and TES, having relevant experience together with the technically capable staff, provided advice and consultation for a new custom radio installation, that is performing beyond our expectations".

"We were delighted at the opportunity to work with Balfour Beatty on this exciting and important project", said Paul Farmer, Business Development Manager of TES. "We were proud to use our communications experience in delivering our service in support of a major rail infrastructure project and support Balfour Beatty in their efforts to ensure the final refurbished scheme is one of which London can be proud."

The communication scheme required a failsafe system to facilitate instant communication between three user groups working throughout the 5km of tunnels and station areas, included throughout the vicinity of the upgrade. The initial survey's led to an optimised solution of complex Leaky Feeder Antenna cabling, that had to be fine-tuned for complete coverage.

The resulting system is a highly resilient multi-channel trunked radio system with built in fall-back mechanisms which allows the users the ability to call individuals, select groups or teams of people, working at remote locations throughout the entire project. The system also allows the use of emergency and priority calls with instant connection, even if the system is busy.

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Various accessories were also supplied for the radios user, ranging from lightweight through to heavy duty audio equipment, designed to operate efficiently in loud and hazardous areas and still offer clear, crisp communications. Initially, TES quickly acquired all the relevant parts through their efficient supplier relationship and the entire system was then built 'in-house' by their highly trained team of dedicated Communication Engineers.

Full design documentation was produced, allowing the installation work to be carried out smoothly and in good time, together with a full training package that incorporated a class-room based training course and personal guide cards were provided for all system users.