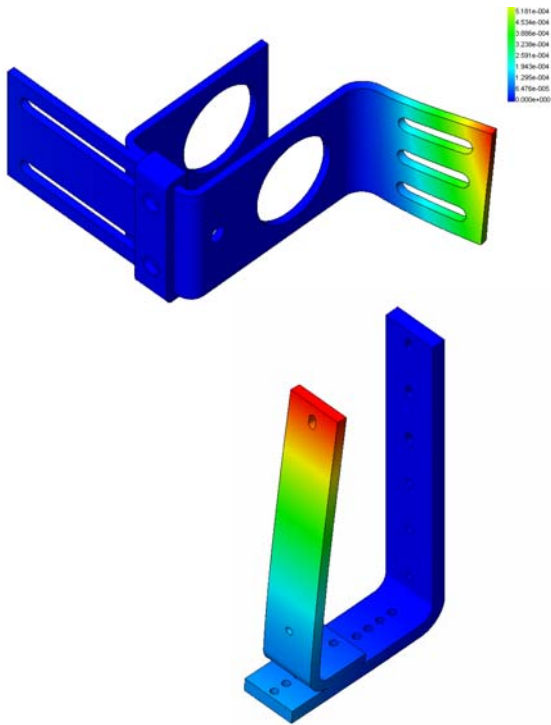


# London Underground Connect

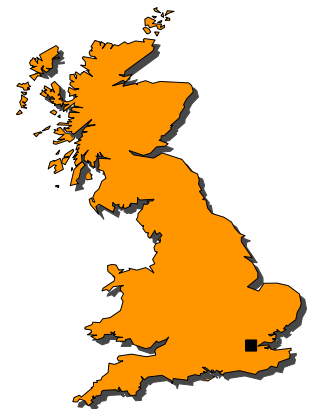


The Connect Project will deliver a fully integrated communications system. A network wide, TETRA standard, digital radio system to replace the current range of stand-alone radio systems. This is supported by a new, highly flexible, fibre optic transmission system.

Nuttall Finchpalm is the main trackside contractor for installation of the new cable and equipment. The works are being managed as a complete project package. Surveys commenced in 2000 and were quickly followed by the commencement of a range of documentation and design of cable and equipment accommodation and support bracketry. Working on or near every line on the network meant that the project team utilised experience gained over years of working on various parts of London Underground.

The project demands a high highly responsive and innovative approach, many of the installation processes being modelled from first principles. Working practices have been constantly updated as the network develops over the course of the works, part of risk management processes on the operational railway.

Most of the cable installed on the project, excepting depot works, is run from cable trains. This activity has been fine-tuned to achieve maximum results from the limited train capacity due to the nature of the network, team work playing a major part while running two trains within a specified area. →

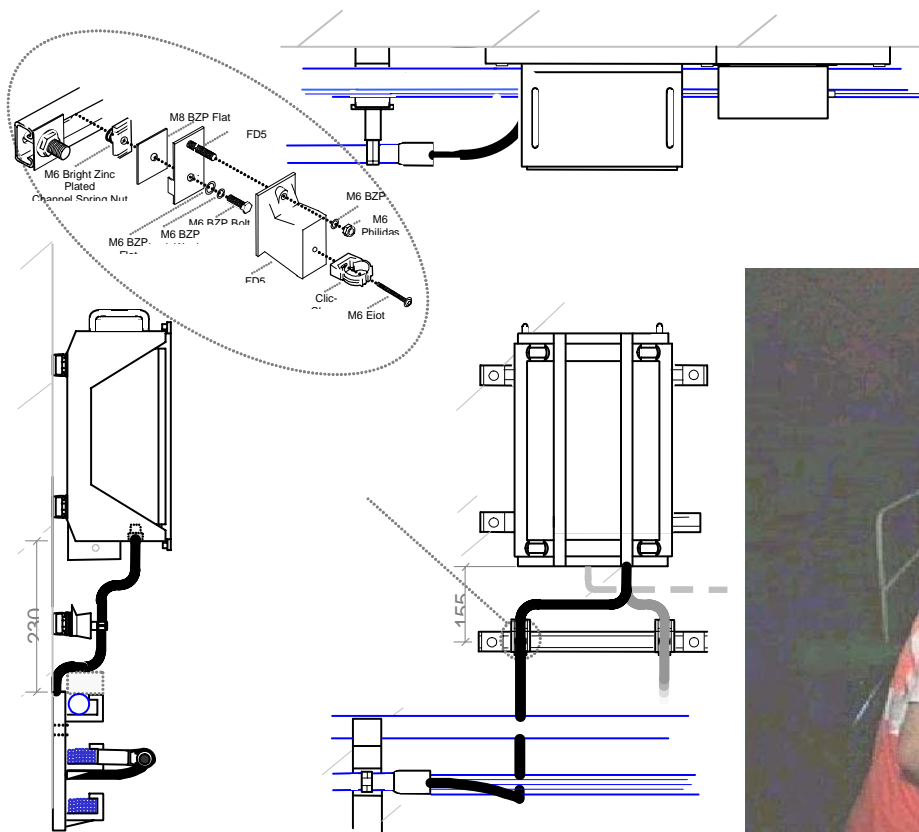


**Location :**  
London

**Client :**  
Fluor

**Date :**  
1999 - 2005

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A landmark moment was the record-breaking installation of 16,000m of cable during one 2.5 hour shift on the Victoria Line.

All equipment is installed and checked by trained gauge operators to ensure the infrastructure is safe for hand-back following completion of the works. In order to maximise the kinematic envelope available, bespoke bracketry was designed to house each piece of equipment in both tunnel and open sections. A number of 'one-off' tools and manual handling aids were designed and manufactured to meet the demands of the fixing and handling requirements.

Management of equipment logistics has been essential to maintain a high level of control of over 300,000m of radio cable, 320,000m of fibre cable and over 1000m individual items of system control equipment. Quality control of this equipment and associated consumables is managed from the project depot at Ruislip London Underground Depot, from where engineering trains are also loaded and despatched.