



Innovative microwave track-to-train OPO solution

Achieving the right balance between safety and efficiency when passengers move between train and platform has always been a priority concern for rail operators.

Operators like Metronet are looking to One Person Operation (OPO) solutions for passenger entrance and egress procedures to deliver cost efficiencies and a streamlined service more capable of handling high volumes of traffic and ensuring that highly regulated safety standards are met.

Updating the world's oldest underground railway for the 21st Century

As part of the service it provides to Transport for London, Metronet is carrying out an extensive upgrade programme on trains, stations, signalling, track and other related infrastructure that make up two-thirds of the London Underground.

Metronet's particular requirement for OPO is driven by the scheduled introduction of modern, faster rolling stock on the 'Sub-Surface' Metropolitan, District, Circle, and Hammersmith & City lines. Achieving greater speed between stations will only be able to deliver service improvements if it is met with effective platform procedures.

OPO - known as Drive Only Operation (DOO) in the Mainline Rail sector - is a tried, tested and proven solution, achieved in its simplest form by erecting strategically placed mirrors at the end of platforms, allowing the driver a view along the length of a platform. Whilst inexpensive, this method is only really appropriate on short, straight platforms.

telent has developed more advanced solutions for rail operators utilising CCTV images that feed trackside monitors, improving the driver's view of long or curved platforms, for which mirrors would not suffice. We've also established CCTV design skills focused on optimising camera plotting to obtain consistently clear images and we use advanced video analytics to produce single images of the entire length of the platform. A CCTV based system offers a dependable, high-quality OPO solution that can be delivered rapidly.

The consistency of lighting conditions, the lengths of trains in use and platform curvature determine the level of sophistication required when installing or upgrading OPO facilities. **telent's** experienced design teams can develop a solution that delivers the best balance between quality, complexity and cost for you; always ensuring that a system adheres to relevant standards & regulations.

Guaranteed train and platform visibility

In Metronet's case, **telent** is delivering a technological first for the UK, incorporating an advanced wireless solution to transmit images from 'track to train'.

We're designing, implementing and commissioning an innovative microwave-based system that takes images from up to eight high quality CCTV cameras on each platform and, using video processors, transmits a combined view of the train's exterior to the driver's cab.

We have already successfully deployed a similar wireless track-to-train system in Hong Kong and the equipment supplier chosen for system, Ogier Electronics, has installed microwave radio for an identical application, also in Hong Kong. We're offering Metronet a tried, tested and cost-effective solution to meet its need for increasing passenger safety and security.

Metronet at a glance

Metronet Rail is responsible for upgrading, replacing and maintaining rolling stock, stations, signalling, track, tunnels, bridges and other related infrastructure on:

- ▶ the Bakerloo, Central, Victoria and Waterloo & City lines which are the 'deep Tube' lines running under the streets of London
- ▶ the Metropolitan, District, Circle and Hammersmith & City lines which are collectively known as the sub-surface lines

With over two million passengers boarding Metronet maintained trains every day, a huge programme is needed to renew the world's oldest metro, while continuing to maintain existing services.

Metronet in numbers

347 trains in operation

442 miles of track

150 stations



“We're delighted at the confidence Metronet has shown in our ability to deliver what will be a leading-edge passenger safety system. With over 30 years' experience in metro and rail, **telent's** domain knowledge and technical expertise is unrivalled in this sector.”

Mark Plato, **telent**
Chief Executive Officer

Credible Metro/Rail Service Portfolio

Our dedicated project teams apply unrivalled technical capabilities and deep understanding of the sector's specific operational and safety requirements, track-side and within stations. Customers such as Network Rail, Serco Docklands, Tube Lines and South West Trains benefit from our wide range of services offered on a whole life, fully-managed basis and delivered to proven, accredited standards including TL9000 and Link-Up.

Services include:

- ▶ Network infrastructure including SDH and GSM-R
- ▶ System definition & design
- ▶ Installation and commissioning
- ▶ Systems integration
- ▶ PRINCE2 accredited project management
- ▶ Systems maintenance and management
- ▶ Customer information systems
- ▶ Station assets including PA, CCTV, Helpoints and Induction loop systems
- ▶ Acoustic design
- ▶ Communications and SCADA control systems



Point 3
Haywood Road
Warwick CV34 5AH
United Kingdom
Telephone: +44 (0)800 783 7761
Facsimile: +44 (0)19 2669 3888

www.telent.com

