

**KeLink1000™ helps keep London Underground's safety record on track.**



### The Challenge

With an ever increasing emphasis on safety, London Underground Limited (LUL) required a safe method of departure for the thirty-three Victoria Line platforms and the new fleet. The Victoria Line had previously utilised traditional methods of safe departure provision using mirrors and platform-based monitors, however LUL had a commitment to increase efficiency and safety on the line. With many ongoing concurrent projects in progress on the Underground and a new fleet of trains that were already in final development stages, LUL needed a full bespoke Driver Only Operated CCTV system designing within the considerable time and access constraints imposed.

### The Solution

As a result of extensive experience of Driver Only Operated systems and the London Underground environment, KeTech was awarded the contract to design the Driver Only Operated CCTV system for the prestigious Victoria Line Upgrade project.

Working within the considerable time and access constraints, KeTech was able to design a completely bespoke system from the ground up. Leaky feeder-based analogue transmission technology was selected as the optimum solution for this project. The choice was made with a wealth of experience in the various technology types available for Driver Only Operated applications and is by far the most flexible when performance, installation and ease of maintenance are considered.

Leaky feeder technology, which was installed under the platform edge or along the track, transmits images from cameras positioned on the platform. As a train travels alongside the leaky feeder, transmitted signals are received by antennas mounted on the train, which are then fed into the train-borne equipment. These signals are intelligently processed and displayed on LCD monitors located in the train operator's cab, and the system is configured to provide continuous coverage until the last carriage is clear of the platform.

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An additional benefit of the KeLink1000™ system design, is the removal of the need for powered trackside equipment (all hardware is located in safe areas on platform or wayside). This helps to accommodate the space constraints on an existing network and ensures future maintenance can be undertaken safely.

## The Outcome

The result was a system which provides drivers with interference free, colour pictures via the KeLink1000™ Driver Only Operation system, which is widely recognised as the most reliable system on the Victoria Line.

The leaky feeder technology has proven itself in the harsh underground environments, consistently providing high-quality images direct to the driver to ensure the safety of passengers when the train is departing, with no distortion or picture freeze.

The ability to install the KeLink1000™ system quickly and simply was the perfect solution to the challenges faced on this prestigious and high-profile project.