

## MONORAIL KUALA LUMPUR, MALAYSIA

**Emtelle's FibreFlow™ blown fibre solution was chosen to provide the fibre optic backbone network system for use with the SCADA, CCTV and communications systems for the Kuala Lumpur monorail in Malaysia.**



The requirement was for a fibre optic system that would reduce installation costs, provide flexibility for design and be capable of being easily upgraded and accommodate design changes. These requirements, in addition to being easy to install, upgrade and maintain meant that our FibreFlow™ blown fibre provision was the optimal solution.

### **Project Overview**

The project required a fibre optic ring network, distributing 8 cores of single mode fibres from each guide way beam to each of the 13 stations. 7-way DI (BFT) tubes were installed along the length of the two monorail guide way beams – each 8.6km in length. Blown fibre was installed in a 60mm HDPE duct, which was embedded in the monorail beams. The BFT was dropped off at each station from the up and down guide way beams to a communications room, where the fibres were terminated into 19" rack mount fibre panels.

The 8 cores of single mode fibre connecting each monorail station carry data for communications, SCADA, security cameras and signalling.

## Flexibility of FibreFlow™ blown fibre



Such is the flexibility of our FibreFlow™ blown fibre solution that the system allowed changes to the installation very late on in the project – changes that would not have been possible using standard cable.

This included the provision for a 2-core fibre link from the two end stations to be installed directly to five locations and multimode fibre links to be installed into the same 7-way DI infrastructure for connectivity between the stations to the power switching rooms.

The two ends of the 7-way DI tube are terminated in 19” racks at each station using tube patch panels and tube bulkhead connectors. This allows for good tube management and subsequent fibre identification.

Fibre is blown into the selected tube from the front or back of the cabinet. By using an extended 5mm tube, it is possible to leave an over-length of fibre unit to be kept safely for splicing later.

## Installation flexibility

The installation of the FibreFlow™ blown fibre system progressed in parallel to the civil works on the monorail project. Once the two beams were connected between each station, the 7-way DI tube was installed. The fibre was blown in once the station communications room was complete.