

### Fanling-Yuen Long Substation Cable Project

Hong Kong - CHINA

#### Use of GEOSCOPE WEB software for acquisition and data management

SolData Group's Automatic Deformation Monitoring System - CYCLOPS - was used to monitor rail tracks and overhead line masts of the existing East Rail in Fanling, 20m on both sides of the proposed pipe jacking vicinity.

The CYCLOPS monitoring system was composed of the TACT software for total station management, COMP 3D software for data processing, and Geoscope Web for data acquisition, visualisation and alarm management.

7 reference prisms were installed on existing structures and KCRC overhead line masts to calculate the position of the total station. 106 monitoring prisms were installed along 50m of sleepers of the track to monitor the settlement, cant, twist of the railway. Another 4 monitoring prisms were installed on 2 numbers overhead line mast to monitor the settlement and tilt of the masts.

Manual checking by optical survey was carried out monthly to verify the CYCLOPS monitoring data.



Installation was focused on speed, reliability and easy use aspects:

Automated alarm management system for data and for advanced parameters calculation.

Fast reporting tools allowing customized reporting.

Daily, Weekly, Monthly Reports and alarm messages automatically generated and sent to various supports: SMS, E-mail etc.

#### WORKS CARRIED OUT

- Set up and use of Geoscope Web for data acquisition, visualization & alarm management
- Installed 117 nos. of targets and 1no. Total Station for Track monitoring
- Handled 1872 data within a day for visualized reports
- Manual survey for cross check the ADMS data once a month

Owner: KCRC

Main Contractor: Nishimatsu

Date of Works: Oct-2005 to Jan-2006