Sol Data

Transport (Railways)
Automatic sensors

GARE DU NORD TGV & EUROSTAR

PARIS - FRANCE

Control of track movements at the Eurostar terminus during the repair of a sewer by grout injection

A sewer lies just 0.8 m beneath the tracks of the Eurostar and TGV railways just outside the Gare du Nord station in Paris.

The sewer required major repair and upgrading works by grouting. There was a substantial risk of heave below the SNCF (French Railway) tracks.

The Client imposed a torsion limit of 7 mm to the existing track.

The specifications required real time monitoring linked to alarms that could immediately stop the grouting if excessive movements were detected.

Fifty electrolevels were installed on the tracks.

A digital radio link gave real time communication with the grouting control room over 500 metres away.

The Geoscope software displayed the displacement from initial position, allowing precise control of the grouting works just beneath the tracks.

In case of displacements exceeding the pre-set trigger values, a pager immediately informed the Client's Engineers.

Gare du Nord Terminus: Electrolevels on TGV tracks

The monitoring network allowed the renovation of the sewer without any disruption of the rail traffic of this important international station. The distortion of the tracks was maintained within the alert limits defined by the Client because the grouting works were controlled in real time.

OWNER :	SNCF
PROJECT DURATION:	1997

SCOPE OF WORKS:

- Installation of 50 electrolevels on Eurostar sleepers.
- Data relayed via radio link.
- Real-time monitoring and alarms.