Sol Data

Bridge Monitoring

NanPu Bridge

SHANGHAI - CHINA

Automatic monitoring of the piles of the access viaduct of Nanpu Bridge

Nanpu Bridge Station is located between the West side of the Nanpu Bridge and Guohuo Road, North side of the Zhonshan S; Road. The station is a 181.10x17.7m, oriented West-East, 3 floors underground structure.

Near the West side of the Station along Gouhou road is the New Land Building. On the South side of the Station, the nearest piles of Nanpu access viaduct to the diaphragm wall are less than 10m.

SolData installed an advanced automatic monitoring system to continuously monitor chosen viaduct piles with the cooperation of the Shanghai Institute of Geological Survey. This included the Cyclops Automatic Deformation Monitoring System (ADMS) and 5 in-place tiltmeters.

All these instruments were connected to a PC computer network in the main contractor's site office, more than 300m away.

Key staff has a 24 hour access to SolData's graphic display system, which displays the current instrumentation data superposed on images of the key site areas.
Alarms are shown directly on the screen with predefined color codes.

The Cyclops System consisted of one total station and 24 prisms to monitor compared to fixed reference targets affixed to nearby with pile foundations and their own movement was thereby.

Many manually monitored instruments were also installed on the site, and the SolData teams handled thousands of readings every day using their in-house data management and reporting software.

CLIENT	SHANGHAI METRO CONSTRUCTION
CONTRACTOR	SHANGHAI 4TH CONSTRUCTION
PERIOD	2000 - 2003

Scope of works :

- Installation of 1 Cyclops and 24 prisms
- Installation of manually monitored instruments