Sol Data

Urban Works

Cyclops, Automatic and Manual Sensors

Barcelona Metro

BARCELONA - SPAIN

Monitoring building and ground movements throughout Barcelona for the construction of a 40km rail tunnel and stations for Route 9.

The city of Barcelona is developing its metro network by constructing a new line, providing services from the future TGV station, the city suburbs and the new Barcelona airport. It will be complete in 2010.

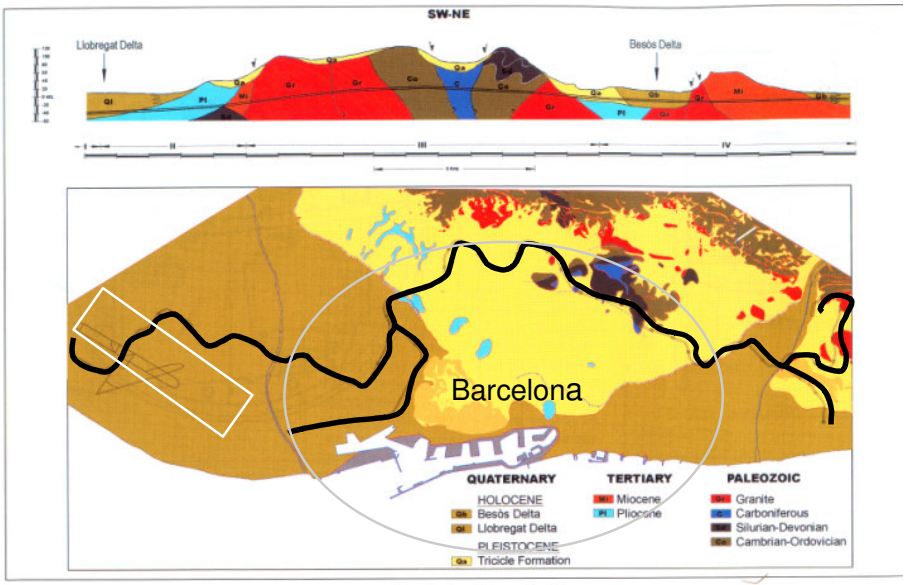
The new line is 41.4Km long, and will have 43 stations. The innovative use of a single, 12 m diameter tunnel has been chosen. The metro will run on two levels. Each level will be dedicated to a specific direction of travel.

The layout of the tunnel, with a depth that varies from between 15m and 60m, passes in the alluvial plains under the rivers Lobregat and Besos, and passes through many different geological interfaces

The monitoring contract for the whole project has been awarded to the Joint venture of Sol Data Iberia / T5IIC.

The monitoring includes the buildings and structures, the surface and geotechnical movements, the tunnel itself, and all of the access wells.

It covers all geometric, topographic, geotechnical, hydrological, thermal and seismic aspects of the project, and includes the supply and installation of sensors and acquisition systems and the collation of the recorded information for the customer.



OWNER :	CATALAN REGIONAL GOVERNMENT
CONTRACTOR :	SOLDATA IBERIA T5IIC JV
CONSULTANT :	PAYMACOTAS
PROJECT DURATION :	AUGUST 2003 – AUGUST 2007

SCOPE OF WORKS :

- Real time monitoring of 18,000 buildings and structures
- Follow-up of the 40 000 m-tunnel deformations
- 600 CYCLOPS positions
- 4320 instruments in real time
- Manual levelling of more than 10,000 measured points
- 17,000 linear m of boreholes, equipped with piezometers and inclinometers
- Collation of all the recorded data on GEOSCOPE.