

## Alpine South Corridor Phase II Underground structures

2010 - 2014



FRANCE -  
Rhône-Alpes

Client

SNCF RESEAU

Project owner  
SNCF Réseau

### Miscellaneous

Railway line: 80 km,  
3 masonry tunnels (170 m,  
780 m and 234 m),  
8 engineering structures to  
replace



### Description of the project

The railway lines linking the conurbations of Valence, Grenoble and Chambéry constitute what is commonly called the "South Alpine Arc". Phase II of the project consists of electrification of the lines between St-Marcel lès Valence and Moirans, connection of the line to the HSL (South operation) and electrification of the lines between Gières and Montmélian (North operation).

The consortium (ALSTOM – Representative, SPIE BTP, COLAS RAIL, NOUVETRA and SETEC) is working on the South operation in the frame of a design and construction contract. The 80-kilometre line runs along the terraces of the Isère Valley and cuts through a few rocky outcrops, which justified the drilling of three tunnels (Têche, Poliénas and Rochefort).

### Key features

- Geotechnical part of the Project Management
- Works follow-up on sit

### Description of the mission

As part of this project, TERRASOL, within SETEC's integrated Project Management team, participated in the project design and in the works supervision:

- line electrification (catenary, line substations, construction of a new substation);
- railway line connection to Valence HSL station (3.5 km of new line, 1 road bridge, civil engineering and track works);
- demolition of 6 standard structures, construction of 4 road bridges and 2 railway bridges;
- clearance upgrade for the 3 tunnels of the line: a thorough sensitivity analysis on various parameters was performed during the design phase using finite element calculations for the Têche tunnel, and instrumentation equipment was installed during construction to monitor displacements in the tunnels and on the external walls following grouting and excavation works on the central platform;
- installation of noise barriers in urban areas (≈ 6.4 km).

The works started in 2012, and the line was opened in December 2013, with electric train services starting in 2014.