

# St-Gotthard Tunnel, Erstfeld Portal, Switzerland

**osmos**

Integrated safety for structures



Optical caterpillar installation in a boring hole

## Anchorage and retaining wall monitoring

### Client

Alptransit Gotthard AG

### Structure

Pile wall and rock anchors at the Northern entry of the Saint-Gotthard tunnel.

### Context

An ambitious program of work, consisting with the construction of a tunnel under the Saint-Gotthard pass, is disturbed by the local geological complexity.

### Client needs

Regarding these geological specificities, the customer wishes to supervise during 5 years the movements of ground and anchoring of the retaining walls surrounding the entry of the Tunnel of Saint-Gotthard, currently under construction.

### Instrumentation

- 1 monitoring station
- 3 optical caterpillars with each 3 articulations and 2 inclinometers
- 2 optical caterpillars with each 2 articulations and 2 inclinometers
- 32 load cells
- 5 temperature sensors

### First results

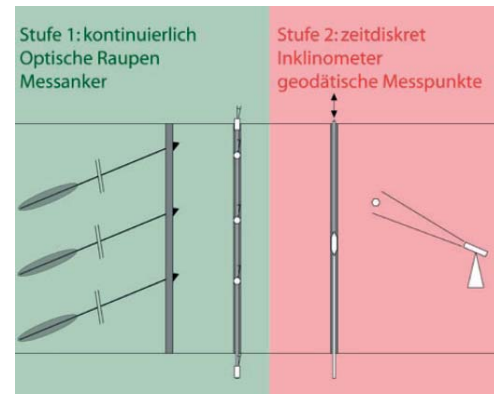
The first results show an overall stability of the instrumented geological massif.

### Client benefits

Permanent Monitoring of the portal structure for a period of 5 years is possible. There are cost saving to be made compared to conventional monitoring.



Load cell on an anchorage head



Instrumentation principles