

## **Piemontese Territory Control and Management Through a Geotechnical Databank and Through new Advanced Technologies Applied to the Geotechnical Regional Monitoring Net**

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Piemonte Region is equipped with a Geotechnical databank which collects geo-referred information, about the fields of land and rock, organised according different levels of deepening; the databank has two sections: a first one collects the data from the borehole investigations and the second one collects the data from the rock masses characterisation.

The Region, besides, has a monitoring net in order to control the relevant slope movements both in the mountains areas and in the hills surroundings; particularly it aims to monitor the instabilities due to planar and rotational shear landslides, to rockfalls and to deep seated gravitational deformations.

The studied sites are about 250 and they are monitored mostly by inclinometric and piezometric tubes. The most critical sites have been recently equipped with high technology experimental systems such as automated inclinometers, coaxial cables for the TDR readings (time domain reflectometry), micro-seismic monitoring nets to register also the rock noise and GSM systems for data broadcasting.

This experimental program, developed by Piemonte Region and in co-operation with CNR-IRPI of Turin, aims not only to define the cost-benefits relationship which comes from the use of the above experimental techniques but also to experiment new methodologies applicable in sites where the traditional systems are not feasible.

A greater diffusion of the automatic systems and of the data broadcasting would allow to collect instantaneously and continuously the data to correlate with the data of the regional gauging network (Rainfalls and water-stages).