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DEGLI STUDI  
FIRENZE

**DST**

DIPARTIMENTO DI  
SCIENZE DELLA TERRA

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**Object: Preliminary survey at Roncovetro landslide (28 May 2014)**

On 28 May 2014 a preliminary field survey has been performed at Roncovetro landslide (RE) by technicians from RER, DST-UNIFI and INGV.

The objectives of the survey were:

- observation of the morphology and evaluation of the state of activity of the landslide;
- individuation of stable points for the installation of the total station;
- laser scanner and GPS surveys for producing a reference acquisition in order to measure possible displacements with future acquisitions;
- individuation of active parts of the landslide that may be optimal for the installation of Wi-GIM, with special reference to the distance and the line of sights among the nodes.

The absence of vegetation in certain zones are the results of continuous processes of deformation and erosion characterizing the more unstable areas, whose localization is important in order to individuate candidate areas for Wi-GIM monitoring (Figure 1).

The survey showed that the deformation caused by the landslide produces severe damage also beyond the main body, to affect a neighbouring building (Figure 2). However, stable areas can be found even close to the fracture, and represent possible installation points for the total station.

Eventually 4 reflectors were installed on the upper part of the landslide and a terrestrial laser scan has been acquired as a reference (Figure 3). The exact location of the reflectors has been recorded with a high precision GPS in order to allow the quantitative comparison between the reference scan and the future one. This will furnish a support for deciding the optimal installation points of the total station and Wi-GIM.

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**Figure 1. Photographic composition of the upper part of Roncovetro landslide.**



**Figure 2. Damages on a neighbouring building.**

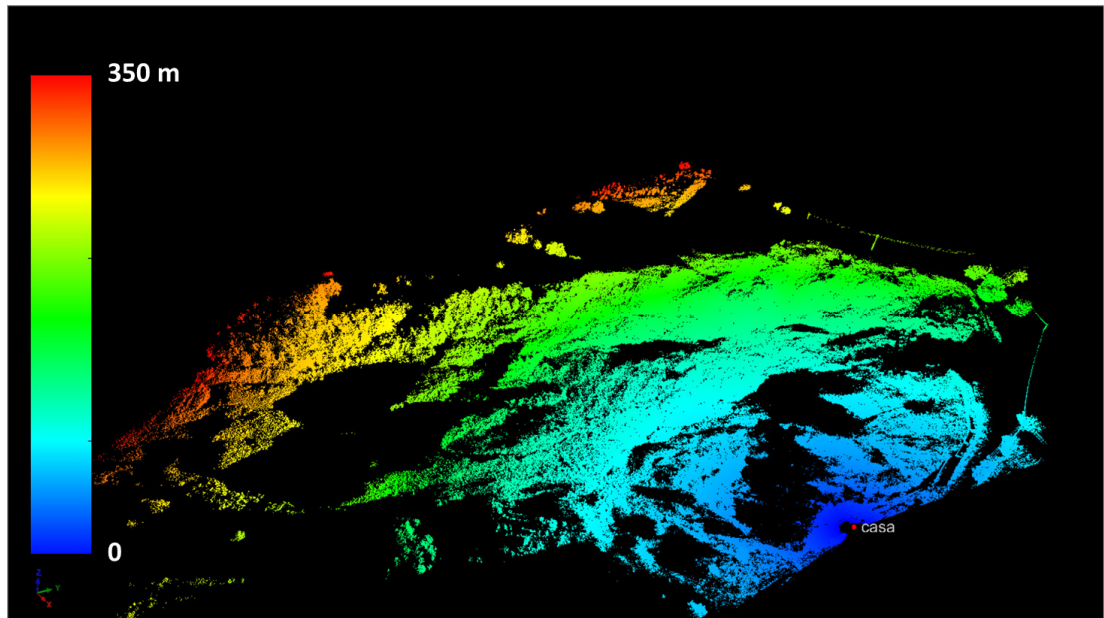


Figure 3. 3D Lidar model coloured by range.