

Valorization of Territory of Ancient Mine for Tourism

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SUMMARY

Exploring and surveying artificial mines is one of the last working experience on topographic field I had test during last years.

In fact I was able to put in common 2 huge passion, Laser Scanning and Speleology, as a member of the board of directors of "Persephone Exploring Association", that is an Italian Speleological Association having principal purpose to explore promotes and coordinates geographic explorations and multidisciplinary studies of a speleological nature.

The speleology doesn't approach or explore only natural caves but also artificial one, as for example: mines, aqueducts, old cities and ancient structures.

In different missions I had test new approach and new methods of measurements inside caves or mines, to obtain higher accuracy and new results.

Thanks to help of speleologists' team for their experience and ability, which are necessary to explore these extreme areas, where is difficultly to walk in the deep darkness, having a safety progression carrying hardware and control right presence of oxygen in the atmosphere of the mine.

With main focus to develop tourism on the territory of ancient mine, we had decide to realize some test of survey and map mine.

Test was realized on "Miniera Torretta" that is a Bitumen mines, datable during of Roman Empire, which is located inside of the Italian National park "Majella".

Survey phases:

1st step has begun using “GPS” to map the track inside of the forest to arrive to the entrance.

2nd step used Terrestrial Laser Scanner to survey all external area with relative engine, and internal with old rail and carrels.

3rd step completed data acquired using Camera with special panoramic head to obtain coloured panorama and to realize virtual tour.

The results have been received: accurate and complete 3D model of the mine, new 2D drawing and the interactive virtual tour.

In the end we can confirm that new hardware as Laser Scanner or Panoramic Camera, could they be the future of Topographic survey in mine, because is able to catch more data information and also results are in quality and quantity better comparing with old methods.

The new results show some problems about structure and quality of materials which don't allow to receive precise data, and our team is trying to find a solution with different methods. In the conclusion we are sure in the possibility to make a new step in future direction.

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