

AUGMENTED REALITY AT MUSEO DEGLI ALPINI

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Thanks to technologies developed by FBK researchers, 3D models of several archaeological finds on Doss Trento can now be viewed by the public

Three-dimensional (3D) models of four Lombardic burials – believed to be among the most important from an archaeological point of view – are now visible to the public at the **National Historical Museum of the Italian Alpine Troopers on Doss Trento**.

Thanks to an **augmented reality** (AR) solution developed by researchers at **Fondazione Bruno Kessler**, visitors will be able to use QR codes located at the Museum and interact via their smartphone with the burials 3D reconstructions to virtually explore the finds as they were found by archaeologists.

The Longobard-era necropolis, with thirteen burials full of prestigious grave goods, had emerged during some recent expansion works at the Museum. The related archaeological investigation – coordinated by the Archaeological Heritage Office of the Department for Cultural Heritage of the Autonomous Province of Trento and carried out on-site by Cora Società Archeologica – was supported by a photogrammetric documentation work carried out by Fondazione Bruno Kessler's 3DOM Unit, headed by **Fabio Remondino** (<https://www.ufficiostampa.provincia.tn.it/Comunicati/Sul-Doss-Trento-una-necropoli-di-epoca-longobarda>).

“The collaboration – Remondino explained – is part of the research activities conducted by FBK's 3DOM unit dedicated to the development of innovative digital solutions for the enhancement, knowledge and promotion of cultural heritage.”

“3D survey and virtual reconstruction techniques – explains **Elisa Farella**, FBK researcher at the 3DOM research unit – have now revolutionized archaeological documentation. Digital replicas are an incredible repository of information for excavations and finds, useful to the many practitioners involved in the study and management of archaeological heritage. The development of AR applications in these contexts can foster wider accessibility to history and its traces, with rapid, visual communication for all generations”.

Augmented reality solutions – added **Simone Rigon**, FBK technologist at the 3DOM research unit – have also been developed in past projects funded by the Fondazione CARITRO such as JUDIT (to valorise the pile-dwelling site in Fiavé and in the Ledro lake area) and TOTEM (enhancement and augmented use of historical photos), as well as for virtual access to the [underground Tridentum](#) in the historic center of Trento”.

The Museo Nazionale Storico degli Alpini, directed by Giulio Lepore, also presents other multimedia installations useful to explore the various topics proposed in the Museum.

The National Historical Museum of the Alpini in Trento, the 3D Optical Metrology Unit (3DOM) at Fondazione Bruno Kessler, the Department for Cultural Heritage of Trento's province (Archaeological Heritage Office) and Cora Archaeological Society contributed to the current project for augmented reality and use of history-related 3D content through smartphones.

Some examples of 3DOM activities can be found here: <https://3dom.fbk.eu/projects/on-going/vrar-cultural-heritage>.

Further information:

<http://www.museonazionalealpini.it/index.php/it/>

<https://3dom.fbk.eu/>

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<https://magazine.fbk.eu/en/news/augmented-reality-at-museo-degli-alpini/>

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