

EU R&D Project



CAVE3: OPEN CAVE AND MUSEUM WORKSHOP IN PETRALONA

POLYTECH SA in cooperation with the CERTH Institute of Bio-Economy, the Ministry of Culture & Sports, the DRAXIS Environmental and the Polyptychon Cultural Services, will proceed with the implementation of the project "**Cave3 - Open Cave And Museum Workshop in Petralona**" after submitting the research proposal which was approved by the ESPA 2014-2020 "Research-Create-Innovate" business program.

PARTICIPANTS

1. **POLYTECH S.A.**
2. **CERTH Institute of Bio-Economy**
3. **Ministry of Culture & Sports - Ephorate of Palaeoanthropology - Speleology of Northern Greece**
4. **DRAXIS Environmental**
5. **Polyptychon Cultural Services**

PROPOSAL

The aim of the research proposal Cave3 is the exploitation of modern digital technologies and virtual reality for the development of innovative navigation mechanisms in both the Cave and the Museum in Petralona, with the specific purpose of the experiential and interactive experience of the visitor (including the disabled) with audio-enhanced copies. Modern 3D technologies (three-dimensional scanning and printing, as well as virtual reality) can turn the cave and museum visit into real entertainment and pedagogical means through the operation of demonstration workshops in the form of "open labs". The pilot operation of the demonstration facility is valuable to the general public (adults and schools) as well as to special scientists, given that the information will be "graded" in order to refer to them according to the degree they want to deepen.

More specifically, the following actions are proposed under the Cave 3 project:

- Performing three-dimensional scanning and filming of the entire Cave route, as well as areas outside the route (using terrestrial scanners and drones).
- Organization of the digital museum.
- Apart from the selected findings, all the findings will be scanned and filmed which it will be possible to be displayed additionally.
- Documentation and promotion of the most ancient human remains found in Greece.
- Virtual maintenance lab development.

OBJECTIVE

CAVE3 project is an innovative action that aims at exploiting the modern technological revolution and the potential of ICTs to document and display the exhibits of the museum as well as the cave itself as a monument of particular importance to Nature and Culture. The benefits of the project are briefly summarized as follows:

- Digitizing finds and routes within the cave through three-dimensional scanning technology.
- Documentation and highlighting of findings.
- Introduction of finds in virtual reality environments to maximize the "cultural experience" of visitors to the museum (introduction of exhibits in a digital environment to capture their location) and the cave (presentation of digital exhibits in their physical space).
- Creating a digital museum, friendly to persons with disabilities.
- Creation and pilot operation of open labs with classified information for target groups of visitors (students, general public, scientific community).
- Development of virtual maintenance workshop to educate and deepen the knowledge of scientists, as well as to educate and entertain students and the general public through serious games.
- Creating high-skilled human resources for diagnosing, preserving, documenting and displaying exhibits of particular cultural (and natural) interest.