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i-blueCulture



Innovative 3D Navigation system within Live Broadcast Underwater Image.



ΕΡΑνεΚ 2014-2020
OPERATIONAL PROGRAMME
COMPETITIVENESS
ENTREPRENEURSHIP
INNOVATION



Co-financed by Greece and the European Union



i-blueCulture system

The i-blueCulture system offers divers and non-divers the opportunity to dive virtually from a distance into wrecks and submerged sites within live broadcasted underwater images.

- Use of a portable device either on land (e.g. museum, a Knowledge Awareness Center) or at the sea surface (e.g. on a boat above the site).
- Low-cost surveillance system for underwater archaeological or historical sites.

Pilot Testing

At the modern shipwreck CHRISTOFOROS in Skopelos.

- Data collection for the photogrammetric documentation and creation of the 3D model of the wreck and the development of a methodology (October 10-18, 2022).
- System testing (September 26-29, 2023).

At the Byzantine shipwreck in Peristera, Alonissos.

- Testing of image relay and projection on the 3D model of the wreck in real time (October 18-27, 2023).
- Pilot testing of the i-blueCulture application on land and at sea within a georeferenced area (October 25-26, 2023).



Pilot Sites

- Three Byzantine shipwrecks (10th - 12th century AD) in the island of Peristera in Alonissos, with a cargo of 3000 - 4000 amphoras each at a depth of 45-55 meters.
- The cargo ship "CHRISTOFOROS" that sank in 1983 at 42 meters in Panormos bay in Skopelos.

Results

- An innovative system of virtual diving at shipwrecks and submerged sites in real-time streaming.
- Two digital navigation applications for portable devices that can be used both on land (e.g. at a museum, Knowledge Awareness Center) and at sea (e.g. on a boat above the site).
- A cost-effective methodology for three-dimensional (3D) digital reconstruction of underwater cultural heritage sites.
- A low-cost surveillance system for underwater cultural heritage sites.
- Awareness raising for the protection of Underwater Cultural Heritage with the development of a "dry" diving application for everyone, divers and non-divers, and dissemination activities.
- Three Byzantine and a modern shipwreck in Greece are now virtually accessible to the general public.

Parallel Activities

- Organization of online and in-vivo workshops, seminars and information events for the public.
- Dissemination at exhibitions and conferences in Greece and abroad.
- Organization of an educational seminar in Alonissos and pilot testing of the application.