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SESSION 4: NEW TECHNIQUES, MATERIALS AND DIGITAL METHODS APPLIED TO THE CONSERVATION & RESTORATION OF UNDERWATER CULTURAL HERITAGE

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Novel digital approaches to enable virtual accessibility to Underwater Cultural Heritage

Herein we present innovative initiatives based on cross-sectoral collaboration aiming to promote and protect Underwater Cultural Heritage (UCH) sites in the Mediterranean.

BCThubs, a recently started co-funded project, is establishing Blue Culture Technologies Excellence Hubs as durable structures fostering technological solutions and boosting regional capacities, to contribute sustainably to the protection, restoration, management and promotion of UCH. MeDryDive and Creamare, two EU co-funded projects, are proof-of-principle studies that, among other outputs, use Cultural and Creative Industries (CCI) applications to offer an alternative access to UCH, following the serious game approach and focusing on specific sites digitally replicated in a very realistic way. MeDryDive's "Dive in the Past" Serious Game received a great welcome, with ca. 100.000 downloads so far, while Creamare has introduced an open call to cultural institutions to include digital site models in a new and more engaging version of the serious game. The i-blueCulture research project is developing a 3D virtual diving and exploration system in a video-streaming format, which allows non-divers to dry-dive into selected UCH sites in the Greek archipelago, including byzantine and modern shipwrecks, at Alonissos and Skopelos islands, respectively. The system offers an immersive dry-dive experience to the public, whereas management bodies may remotely monitor UCH sites in real-time, even at greater depths. The i-blueCulture system offers multitextured context, allowing VR-based dry-dives, textured with live-streaming underwater video.

These alternative approaches promote UCH sites as tourist destinations by engaging users in a fun and educative way and raise their visibility, while supporting research and education and contributing to site preservation. It is an effective management strategy for UCH protection, aligning with sustainable tourism development goals for coastal areas and islands. By raising public awareness, UCH sites can be preserved for future generations.

Keywords: Underwater Cultural Heritage, protection, promotion, dry dive, serious games, 3D virtual exploration, BCThubs, MeDryDive, Creamare, i-blueCulture