

NAME OF THE PROJECT: TRIQUETRA: TOOLBOX FOR ASSESSING AND MINIGATING CLIMATE CHANGE RISKS AND NATURAL HAZARDS THREATENING CULTURAL HERITAGE

SHORT NAME: TRIQUETRA

PROGRAM: HORIZON-CL2-2022-HERITAGE-01

STARTED AT: 01/01/2023

DURATION: 36 MONTHS

ALL ABOUT THE PROJECT: <https://triquetra-project.eu/>



TRIQUETRA

Toolbox for assessing and mitigating Climate Change risks and natural hazards threatening cultural heritage

SUMMARY: The TRIQUETRA project aims at creating an evidence-based assessment platform that allows precise risk stratification, and also creates a database of available mitigation measures and strategies, acting as a Decision Support Tool towards efficient risk mitigation and site remediation. The overall approach of Triquetra is based in three distinct steps: (i) **Risk Identification**, (ii) **Risk Quantification** and (iii) **Risk Mitigation**. This “trifecta” approach (hence the name Triquetra) creates a framework of risk assessment and risk mitigation so as to tackle as many of these risks as possible, in the most efficient way available. A total of 21 organizations from 7 countries participate in the project, including 8 Universities and Research Organizations and 6 Cultural Heritage Authorities.

TRIQUETRA’s data collection will provide an insight to all the variables directly or indirectly connected to CC, comparing them with historical data. New innovative surveying techniques are utilized: **Hydrographic surveys, multi-beam sonars, UAVs with optical, multispectral & LiDAR sensors, underwater photogrammetry, laser spectroscopy**, novel simulation models and more.

By integrating all modules and technologies in TRIQUETRA, a **DSS** will be developed and validated in actual working conditions in 8 different pilot sites across Europe, spanning a wide range of archaeological periods, CH typology, structures and materials. The DSS will enable stakeholders and decision makers to make the most educated decisions related to risk mitigation and remediation of endangered CH sites. In addition, TRIQUETRA will develop a set of novel **nanotechnology** based coatings for preserving CH sites, without compromising their authenticity. TRIQUETRA will put together a Knowledge Base platform, comprising all existing methods and techniques for remediating such CH sites, while also developing novel CH protection technologies, going beyond state of the art.

GSH – Geosystems Hellas is responsible for the Data Management Plan of the project, which is the key element of good data management, ensuring availability of high-quality, timely and reliable data. The DMP target is to standardize the steps for the handling of research data during & after the end of the project ensuring that the resulting data is findable, discoverable, openly accessible, interoperable, with proper metadata, while also having provisions for data security. GSH is also responsible for the development of the **Knowledge Base platform**, an electronic repository and associated authoring approval serving with advanced search tools. It will include information on the CC, geological, historical, and site-specific data, risks & mitigation measures for CH sites etc., based on the verified data, geographical identification and results obtained from the outputs of the project. Moreover, GSH is responsible for the creation of a mitigation selection & optimization module, as well as the communication, dissemination, training and exploitation of the results.

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CONSORTIUM:

