

"HERACLES" & "STORM" TO SAFEGUARD CULTURAL HERITAGE SITES AGAINST CLIMATE CHANGES & NATURAL HAZARDS; Three Institutes of the Foundation for Research and Technology – Hellas (FORTH) have a leading role in the only two proposals that were approved by the European Union.

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The integrity of monuments, historical centers and archaeological landscapes is nowadays increasingly threatened by **the climatic change**, **the extreme meteorological phenomena and the natural hazards**. Any loss or deterioration of these exceptionally vulnerable Cultural Heritage monuments would have a negative impact on local and national level, due to their cultural importance as a historic source of information and due to their socio-economic value as symbols of identity.

In order to address these particular issues, the European Union announced a call on Disaster Resilience & Climate Change (H2020-DRS-11-2015) under its HORIZON 2020 framework programme for research and innovation with a specific topic on "Mitigating the impacts of climate change and natural hazards on Cultural Heritage sites, structures and artefacts". The topic attracted 42 applications from consortia of Research, Academic and Industrial partners, out of which only 2 projects were funded by EC; **HERACLES** ("HEritage Resilience Against CLimate Events on Site") and **STORM** ("Safeguarding Cultural Heritage, Technical and Organisational, Resources Management").

The Foundation for Research and Technology-Hellas (FO.R.T.H.) participates in both projects, with three (3) of its Institutes in collaboration with the Ephorate of Antiquities of Heraklion and Rethymnon, as well as the University of Crete. The Institute of Electronic Structure and Laser (IESL-FORTH) and the Institute of Applied and Computational Mathematics (IACM-FORTH) have an active role, together with the Ephorate of Antiquities of Heraklion and the Department of Chemistry of the University of Crete, at the project HERACLES. The project aims to assess the risks and design, validate and promote responsive systems and solutions for effective resilience of Cultural Heritage, including coastal assets, against climate change effects, with emphasis on the monuments of Heraklion (the Minoan Palace of Knossos and the Venetian Sea Fortress-Rocca a Mare or Kules) and the Italian city of Gubbio, in Umbria. The Institute for Mediterranean Studies (IMS-FORTH), in collaboration with the Ephorate of Antiquities of Rethymnon, participate in the project STORM which aims at studying the viable and effective safeguard, maintenance and conservation of cultural heritage monuments in six different archaeological sites, including the Rethymnon historic center.

Both projects are expected to provide functional and effective solutions to support all the actors involved in the management and preservation of a cultural heritage site (archaeologists, architects, restorers, site curators, geophysicists, meteorologists, ICT service providers, policy and decision makers and so on), reduce fragmentation in the sector of safeguarding and management of European cultural heritage and provide effective advice and input to restoration and adaptation policies of government organisations.

This remarkable presence of the research potential of Crete in the two projects that have been approved for funding, is a very important achievement which highlights the scientific excellence

and the competitive profile of the Cretan Research and Academic ecosystem, with emphasis on the Institutes of FORTH. Moreover, the funding of only these two projects indicates the unique importance of the Cretan Cultural Heritage assets as well as the high-level and responsible work performed by the two Ephorates of Antiquities of Heraklion and Rethymnon. All the Cretan partners form a strong consortium of highly validated research and academic institutions and managing authorities of monuments of unique Cultural Heritage value. Within the 36 months of this project, the Greek partners will bring 1.7M€ to Crete, a significant funding for the research, academic and Cultural Heritage community of the island.

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