

Towards a more efficient Cultural Heritage Risk Management

There is a growing consciousness, in the European context, of the need to promote new safeguard strategies in the domain of cultural heritage aiming to minimize the impact of climate change and natural hazards it is increasingly exposed to.

STORM Project **Safeguarding Cultural Heritage through Technical and Organizational Resources Management** intends to develop an integrated approach for a better management of the risks that endanger cultural heritage, through the creation of tools and instruments designed to assist in decision making during crisis or natural catastrophes, along the distinct phases of prevention/mitigation, preparedness, response and recovery.

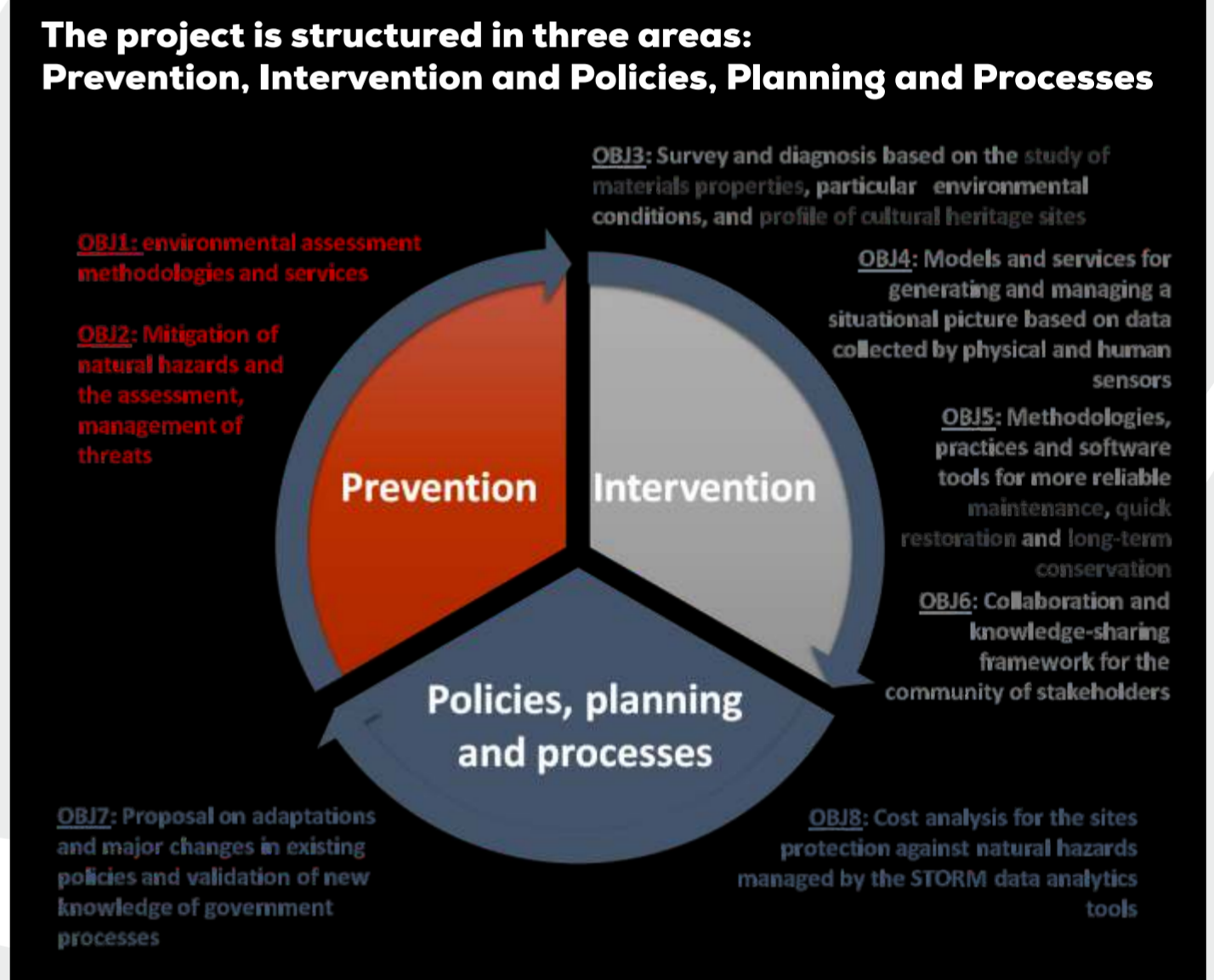


Five sites covering a varied range of building materials, chronologies, artefacts and risk scenarios have been selected for pilot testing.

STORM integrates **20 partners from seven different countries** (Germany, Austria, Italy, Greece, Portugal, United Kingdom and Turkey) and an international organization (ICCROM). It is composed by a multidisciplinary team, with specialists in the fields of archaeology, conservation-restoration, civil protection, meteorology, cultural management, electronic engineering.

The STORM methodology is based in a previous assessment of the current situation in what relates to legislation and to procedures and technologies for the management of risks affecting materials, structures and buildings. It aims to identify the needs, evaluate methods and models and develop adequate tools for better conservation and restoration of cultural assets. A useful and innovative knowledge management framework, allowing for the implementation of integrated response strategies for the safeguard of cultural heritage, will be available at the end of the project.

A community platform for the sharing of data and knowledge will also be developed regarding risk disaster management for cultural heritage.



Technologies

Non-invasive, non-destructive and sustainable tools will be developed in order to survey and monitor cultural heritage assets, aiming for risk prevention and mitigation:

Detection Technologies	Threats
Temperature and humidity sensors	Temperature, humidity and fire
Digital photogrammetry	Erosion
RPAS (Remotely Piloted Aircraft Systems)	Humidity, erosion and temperature
WASN (wireless acoustic sensor network)	Fire, flooding and biological contamination
LIDAR sensors (Light Detection and Ranging)	Erosion, air pollution and biological contamination
IF sensors	Biological contamination diseases and pests
InSAR (Interferometric synthetic aperture radar)	Erosion, seismic events and flooding
Human sensors (crowdsensing and crowdsourcing)	Flooding, temperature, humidity, fire, seismic events, erosion, air pollution and biological contamination

Legislation and procedures

An evaluation of norms and guidelines and the perfecting of technological instruments will be made in order to propose more effective models destined to streamline cultural heritage preparedness, response and recovery capacities, enhancing its resilience and mitigating its vulnerability to risk factors.

As a final contribution, it is expected to cause impact at the level of the relationship between the public and private decision-makers or the citizens and cultural heritage, giving priority, in the European context, to the risk-preparedness and management processes.

Often, therefore, disaster risks constitute the most urgent priority that heritage managers should address

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