PARTNERS

DETAILS

PROJECT TITLE: Active & intelligent PAckaging material and display cases as a tool for preventive conservation of Cultural HEritage

ACRONYM: APACHE

STARTING DATE: 01 January 2019

DURATION: 42 months

TOPIC: NMBP-33-2018 | Innovative and affordable solutions for the preventive conservation of cultural heritage (IA)

EU CONTRIBUTION: 6,837,732.75 euro

PROJECT NUMBER: 814496

CONTACTS

PROJECT COORDINATOR

CSGI | Consorzio Interuniversitario per lo Sviluppo dei Sistemi a Grande Interfase (Firenze, Italy)

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MORE INFO:

www.apacheproject.eu

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Active & intelligent PAckaging material and display cases as a tool for preventive conservation of Cultural HEritage

APACHE aim is to find a solution to the long-term preservation questions raised by billions of objects collected in museum, library and archive storages by developing:

- multi-scale modelling to predict Cultural Heritage degradation;
- new generation of active and intelligent storage crates, archive boxes and display cases to improve storage and exhibition;
- collaborative decision-making tools for preventive maintenance.

OBJECTIVES

1. Preventive Conservation

Degradation of movable tangible Cultural Heritage can be significantly increased by disadvantageous and unstable climate conditions, light, and pollution. Preventive Conservation purpose is to avoid and minimize future degradation and loss of Cultural Heritage.

APACHE project will:

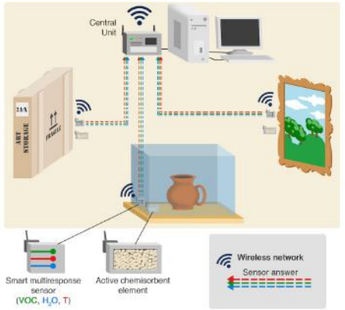
- consider the interdisciplinarity of preventive conservation that refers to material science, conservation, chemistry, system science, biology, engineering and management;
- acknowledge and adopt international standard and recommendations for environmental conditions for collection;
- answer questions regarding both environmental and economic impacts of the innovative solutions.

2. Research and development

APACHE will develop a range of materials based on multi-scale modelling and a new generation of active and intelligent enclosures to support the long term preservation of Cultural Heritage. The project will also take into account the application feasibility of such materials as well as the reduction of material costs.

The new tools and materials developed will focus on:

- multi-scale materials modelling to predict degradation of art-related materials;
- sensors and wireless sensors technologies to provide a smart, user friendly and low cost system to detect un unsuitable microclimate;
- pollution absorbents as well as temperature and humidity regulators to compensate their fluctuations;
- software tool for decision-makers to visualize the effect of a decision on the longevity of the stored object.



3. Dissemination

The goal of dissemination and communication activities is to effectively disseminate information as well as to raise the awareness about the outcomes of the project and the developments that have been achieved within APACHE and to get useful feedbacks from stakeholders.

This consistent approach will be based on:

- design of a project website combined with other social media tools;
- high quality written or oral publications containing the best scientific achievements;
- development of a network among cultural heritage institutions, associations and universities on European level and beyond;
- organization of trainings, workshops, seminars and conferences consisting of theoretical and practical issues.

EXPECTED IMPACTS

Practical and affordable tools/solutions in terms of cost and/or complexity of operation

Improved Cultural Heritage degradation predictions and modelling-based decision-making

Clear prospect for quantified socio-economic gains from the proposed solutions

Effective market uptake across Europe of the proposed solutions

Contribution to sustainable open repositories

Increasing citizens' awareness of Preventive Conservation