Active & intelligent PAckaging materials and display cases as a tool for preventive conservation of Cultural Heritage

PROJECT DETAILS

PROJECT TITLE: Active & intelligent PAckaging materials and display cases as a tool for preventive conservation of Cultural Heritage.

ACRONYM: APACHE

GRANT AGREEMENT NUMBER: 814496

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

WEBSITE: www.apacheproject.eu

APACHE project:

European excellence centres and industries join forces to develop active and intelligent packaging materials and display cases as a tool for preventive conservation of Cultural Heritage

APACHE project – started in January 2019 and spanning a 42 months period – funded by the European Union under the Horizon 2020 programme with more than 6,8 million euro, brings together 26 partners from 10 different EU countries in addition to United States and Brazil.

APACHE aim is to find a solution to the problem of **preventive conservation and storage** for the billions of objects held in museums, developing a new generation of active and intelligent display cases, storage crates and archive boxes to improve exhibition, storage and transport conditions of museum collections, coupled with machine learning Internet of Things software and collaborative decision-making tools for preventive maintenance. The research will focus on the design and realization of these **active packaging and boxes solutions**, using innovative functional materials that have an active influence on, and interact with, the packed objects and intelligent packaging and display-cases/boxes tools, that give, for example, an additional function to the packaging.

At the end of the project, the partners will develop a **new generation of active and intelligent display cases and storage boxes** resulting in a total cost reduction of over 55% in a long-time perspective: the reduction of costs, that will involve also sensors, hardware and software, will be reached thanks to the development of a modelling-based decision-making tool to support preventive conservation decision making. Among the project's expected impacts, not less important, will be the knowledge gathered in an open repository of data about preventive conservation techniques, the cost effective use of Wireless Sensor Technology for the continuous monitoring of the environmental conditions with direct access to the measured data, the creation of new job opportunities and services as IoT managers to enhance the digital museum revolution; the project will have important impacts on tourism industry, maintaining Europe's standing as a leading destination and maximizing the industry's contribution to growth, employment and development of solutions with lower environmental impacts.

The Consortium is coordinated by the CSGI - Centre for Colloid and Surface Science (Firenze, Italy) and it is composed by **12 research centres and departments of European Universities**, actively involved in the development of new solutions and tools, their characterization, assessment, and use for practical purposes, **4 high-tech enterprises** that will deal with exploitation and industrialization and **6 important museums and collections** (Hungarian National Museum, National Museum of Slovenia, Peggy Guggenheim Collection Venice, Pompidou Centre, Fondazione Scienza e Tecnica, Italian Ministry for Cultural Heritage – Superintendency of Abruzzo SABAP) which will be active in promoting innovation and defining procedures and protocols for preventive conservation of cultural heritage. Moreover, the International Center for the Study of the Preservation and Restoration of Cultural Property an intergovernmental organization working in the service of its member states to promote the conservation of all forms of cultural heritage, is part of the consortium. The responsibility of Communication and Dissemination of the project results is in charge of Antonio Mirabile who will be supported by the beWarrant team, a Tinexta group company.

FOR MORE INFORMATION:

PROJECT COORDINATOR
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