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Impacts of Technology on Cultural Heritage

Session

INNOVATION IN SUSTAINABLE RESTORATION OF CULTURAL HERITAGE BUILDINGS

Chairpersons:

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Description and Motivation:

Today, sustainable and resource-efficient innovative solutions are available to improve the energy performance of cultural heritage buildings. Research in new materials and technological solutions in prevention, monitoring, management, maintenance, renovation and optimization of cultural heritage buildings aim towards reducing the carbon footprint and improving the energy performance of historic buildings. Through innovative, sustainable, and cost-effective restoration materials and practices, energy harvesting technologies, ICT tools and socially innovative approaches, embarrassing environmental and social sustainability, strive towards the net zero-carbon buildings EU targets for 2030 and 2050.

This session organizers invites researchers and experts to share research, outcomes, programs and solutions in several countries, climates and scales: from material, to building, to neighborhood, to city-scale.
Contributions should include in their considerations: 1) the full-service life of the buildings, from restoration, operation, monitoring and maintenance 2) the

energy performance in terms of retrofitting materials and solutions optimized according to the buildings' unique structural, architectural, functional and materials characteristics, and 3) the environmental, urban and social context, and future climate change scenarios that may affect the building and its performance.

Proposed solutions might be applied on building parts - structure, external envelope and transparent parts, but also address wider social, scientific and technological processes.

We particularly encourage the presentation of ICT tools that facilitate complex decision making, the engagement of a diversity of stakeholders in the renovation process, and the combination of engineering with social aspects.

Target Audience:

We aim to address researchers and professionals from a wide range of different fields related to the restoration of cultural heritage buildings. From material engineers to historians, from net zero and passive house experts to user behavior analysts, from architects to ICT tools developers, from climate modelling scientists to storytellers.

The goal is not to report on highly specialized innovations but to understand the target of sustainable restoration of cultural heritage buildings to its full complexity, and develop effective strategies and coalitions across professional sectors and scientific disciplines.

More specifically, the organizers of this session are partners of the SINCERE project, https://sincere-project.eu/, and will explicitly invite actors from the EU Horizon Europe ecosystem creating bridges between more technology-oriented projects like those under the Built4People topic with projects and more community-oriented projects linked to the New European Bauhaus initiative.

Keywords:

Sustainable restoration, low-emission cultural heritage, complex decision making, storytelling

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