

# Materials-based solutions for protection or preservation of European cultural heritage

Specific challenge: Europe has significant cultural diversity together with exceptional ancient architecture, built environment and artefact collections. However time, exposure and environmental changes present significant threats to this cultural heritage (which is one of the assets on which the tourism-related industry relies).

Scope: Projects should develop one or more functional materials or highly innovative techniques in the restoration and preventive conservation of works of art. These new techniques may be based on a more in-depth knowledge of the degradation mechanisms in the materials used in previous conservation actions. They will ensure long term protection and security of cultural heritage, taking into account environmental and human risk factors. An environmental impact assessment of the new materials is to be included, to ensure development of sustainable and compatible materials and methods. A multidisciplinary approach should allow the development of practicable methodologies. Activities should focus on innovative and long lasting solutions in the conservation of cultural assets with historical and/or artistic value.

Proof of concept in terms of product and/or process must be delivered within the project, excluding commercially usable prototypes but demonstrating scalability towards industrial needs. Dedicated multiscale modelling, tailored (e.g. interface) characterisation, standardisation and/or the production of (certified) reference materials may also be covered in projects.

For this topic, proposals should include an outline of the initial exploitation and business plans, which will be developed further in the proposed project.

Wherever possible, proposers could actively seek synergies, including possibilities for funding, with relevant national / regional research and innovation programmes and/or cumulative funding with European Structural and Investment Funds in

connection with smart specialisation strategies. For this purpose the tools provided by the Smart Specialization Platform, Eye@RIS3 may be useful[1]. The initial exploitation and business plans will address such synergies and/or additional funding. Exploitation plans, outline financial arrangements and any follow-up will be developed further during the project. The results of these activities as well as the envisaged further activities in this respect should be described in the final report of the project.

Activities expected to focus on Technology Readiness Level 5-7. A significant participation of SMEs with R&D capacities is encouraged.

*The Commission considers that proposals requesting a contribution from the EU between EUR 4 and 8 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.*

Expected impact:

Practical and affordable solutions in terms of cost and/or complexity of operation by those who will use the materials and techniques developed;

Contribution to achieving EU policies, in line with the Lisbon Treaty recommendation to take actions on a global scale to ensure that Europe's cultural heritage is conserved, safeguarded and enhanced (Article 3).

[1] <http://s3platform.jrc.ec.europa.eu> ; the relevant Managing Authorities can be found at [http://ec.europa.eu/regional\\_policy/indexes/in\\_your\\_country\\_en.cfm](http://ec.europa.eu/regional_policy/indexes/in_your_country_en.cfm) 

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