



JPI CH Joint Call CONSERVATION, PROTECTION & USE

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Conservation, Protection and Use

LAUNCH DATE: 2019
FUNDING AWARDED: €5.9M
FUNDED PROJECTS: 10
PARTNERS INVOLVED: 40

FUNDING INSTITUTIONS & PARTNERS

National Academy of Science (NASB), Belarus; Research Promotion Foundation (RIF), Cyprus; Ministry of Education, Youth and Sports (MEYS), Czech Republic; Agence Nationale de la Recherche (ANR), France; Ministry of Education, Universities and Research (MIUR), Italy; Ministry of Education and Science of the Republic of Latvia (IZM), Latvia; The Netherlands Organisation for Scientific Research (NWO), Netherlands; The Research Council of Norway (RCN), Norway; Ministry of Culture and National Heritage (MKiDN), Poland; Fundação para a Ciência e a Tecnologia (FCT), Portugal; State Research Agency (AEI), Spain; Arts and Humanities Research Council (AHRC), United Kingdom.

This call for proposals, titled “Conservation, Protection and Use,” has been launched to foster the development of new, research-based frameworks that address the complex and interwoven changes impacting cultural heritage. These transformations, affecting both the physical and social environments, are altering how society experiences, appropriates, and values its heritage. Consequently, this initiative seeks to fund excellent research projects that are collaborative, transnational, interdisciplinary, and innovative, with the overarching goal of creating a sustainable framework for the access, management, interpretation, and protection of cultural heritage. The call emphasizes that cultural heritage is a complex field requiring productive collaborations that integrate and capitalize on existing knowledge from a variety of disciplines, thereby moving towards truly holistic studies on its preservation and transmission.

A key requirement of this call is an implementation-orientated approach. Applicants were strongly encouraged to include not only researchers from diverse fields—even those rarely associated with heritage studies—but also a wide range of stakeholders and end-users. This includes cultural organizations, public authorities, community groups, and policy-makers, ensuring that research outcomes are practical, relevant, and effectively communicated beyond academic circles. The funded projects were expected to lead to the development of

best practices and knowledge-based strategies for both day-to-day management and the protection of cultural heritage during times of man-made or natural disasters. While the principal focus is on tangible heritage, including archaeological, movable, built, and landscape forms, the call explicitly recognizes the inseparable role that intangible and digital heritage play in contemporary, diverse societies.

Ultimately, the projects supported through this call were hoped to achieve a comprehensive view of heritage, encompassing its breadth across different types and settings, a multidisciplinary approach, and considerations of temporal and spatial scales. The outcomes ranged from new methodologies, materials, and tools to the novel application of existing ones for the study, conservation, and sustainable use of cultural heritage. Guiding this research, the call is structured around four essential topics that address our understanding of change and how to manage it:

1. Analysing and modelling change
2. Sustainable protection and enhancement of values
3. Management of cultural heritage at risk
4. Layered conservation

Learn more at <https://www.heritageresearch-hub.eu/call/conservation-protection-and-use-joint-call/>

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EHEM: Enhancement of Heritage Experiences in the Middle AgesTime

DURATION: 2020-09-01 - 2023-09-01

BUDGET: €405K

SUBJECT AREAS

Archaeology, Conservation, Digital Heritage, Digitization, Heritage Management, History, Intangible Heritage, Monuments - Sites, Museums, Paintings - Painted surfaces, Restoration, Tangible Heritage, Technologies - Scientific processes, Tourism

“Bringing medieval art to life through digital reconstruction and timeless innovation.”

INTRODUCTION

EHEM aims to digitally reconstruct medieval architectural heritage with mural paintings, showing how these monuments appeared at different moments in time. By combining historical, artistic, and technical knowledge, the project enhances understanding of their evolution and significance. It serves researchers, restorers, and heritage professionals while enriching visitor experiences. Focused on Santa Maria Antiqua, Sant Quirze de Pedret, and the Enkleistra of Saint Neophytos, EHEM records architectural changes, painting materials, restorations, uses, and lighting—preserving each layer of their history and how they were perceived across centuries.

CONSORTIUM

ES University of Barcelona (Coord.)

IT Università degli Studi della Tuscia

IT Università degli Studi di RomaTre

CY CYENS – Centre of Excellence (Cyprus)

IMPACTS & RESULTS

- Digitally reproduces the complete lifecycle of medieval buildings, including fragile mural paintings.
- Ensures preservation and exhaustive knowledge of painted heritage's complex biography.
- Provides essential tools for future research and conservation interventions.
- Uses a collaborative platform for documentation, sharing, and semantic enrichment.
- Engages restorers, curators, and art historians through advanced digital tools.
- Allows development of VR/AR experiences for dissemination.
- Facilitates accessibility through web-based storytelling.
- Encourages creation of educational and entertainment applications for younger audiences.
- Supports open-source exploitation to foster cultural innovation.
- Enhances understanding of medieval art through cross-disciplinary collaboration and technological innovation.
- Promotes the integration of digital heritage into broader cultural and educational initiatives.

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Learn more at heritageresearch-hub.eu/project/ehem

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SHIELD: Safeguard Heritage In Endangered Looted Districts

DURATION: 2020-11-1 - 2022-10-31

BUDGET: €565K

SUBJECT AREAS

AI, Archaeology, Conservation, Preventive conservation, Tangible Heritage

“Protecting archaeological heritage with AI-patrolled drones to stop looting in real time.”

INTRODUCTION

The SHIELD project responds to the ongoing loss of archaeological heritage caused by looters and illegal excavations, both in conflict zones and in European areas where oversight is limited by resources, funding, or technology. Its aim is to design and build an AI-enabled Unmanned Aerial System (UAS) that can autonomously patrol heritage sites, day and night, using imaging techniques, live data streaming, decentralized onboard processing, machine learning, and flight data management. Deployed from a ground station or helipad, the system will take off, patrol, stream data, land, recharge, and standby. Its goals are real-time identification of looting, long-term monitoring, and providing a deterrent strategy against heritage crime.

CONSORTIUM

CY The Cyprus Institute (Coord.)

IT Fondazione Bruno Kessler

PT INESC TEC

IMPACTS & RESULTS

- Control of drone operations will be guaranteed remotely by trained personnel even if fleet size increases.
- Routine patrolling tasks will be delegated to SHIELD, freeing human resources.
- When SHIELD identifies a threat, an alarm is triggered and field patrols deployed.
- SHIELD is expected to optimize human effort, increasing the value of this asset.
- Stakeholders will achieve strategic goals and better use of available funds.
- Long-term, the project will drastically improve economic and non-economic resource optimization by local authorities and governments.
- It contributes significantly to responsiveness and effectiveness of public authorities against illicit excavations.
- Provides a tool for Departments of Antiquities and Police Corps to integrate into heritage protection policies and strategies.
- Acts as a deterrence strategy: looters, uncertain of being observed, may refrain from criminal actions.
- Supports the development of thematic policies for heritage protection, tailored to targeted threats.

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Learn more at heritageresearch-hub.eu/project/shield

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CURBATHERI: Curating Sustainable URBAn Transformations through HERItage

DURATION: 2020-07-01 - 2022-12-31

BUDGET: €740K

SUBJECT AREAS

Archaeology, Built Heritage, Digital Heritage, Tangible Heritage

“Embracing historic change to build inclusive, future-ready cities through shared heritage.”

INTRODUCTION

Cities evolve constantly, layering eras of architecture, ruins, relics and memories that over time become heritage worth preserving. Fragmented heritage often loses its voice in urban planning because stakeholders struggle to decide what should be protected. CURBATHERI sees historical transformation itself as a heritage value to be sustained. Its main goal is to develop a management toolbox that treats the deep history of a place—including its visible and invisible layers—as a resource. Working in comparable cities in Norway, the UK, Italy and Spain, it uses both online and offline participatory approaches and digital heritage modelling. The toolbox helps stakeholders understand heritage values, prioritize planning solutions, and negotiate what heritage to integrate into future urban plans.

CONSORTIUM

NO Norwegian Institute for Cultural Heritage Research (Coord.)

IT University of Florence

ES University of Barcelona

GB University College London

GB University of Stirling

IMPACTS & RESULTS

- Develops a management toolbox linking urban planning with dynamic heritage values and historical transformations
- Promotes people-centred participatory approaches for sustainable urban transformation
- Assesses community involvement and decision-making processes in heritage-led urban changes
- Tests innovative online and offline participatory methods to engage stakeholders
- Uses digital visualisation technologies to represent diverse community heritage values
- Encourages dialogue between local managers, communities, and policymakers to reduce conflicts
- Provides guidance for integrating co-design and co-production into heritage policies
- Supports context-sensitive, transparent, and predictable urban planning outcomes
- Strengthens social inclusion and awareness of shared heritage in urban environments
- Facilitates knowledge sharing among cities and cultural heritage professionals
- Stimulates reflection on choices regarding which heritage to conserve, transform, or integrate
- Helps prioritize heritage values for sustainable planning decisions

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Learn more at heritageresearch-hub.eu/project/curbatheri

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WOODPDLAKE: Archaeological Wooden Pile-Dwelling in Mediterranean European Lakes: Strategies for their Exploitation, Monitoring and Conservation

DURATION: 2020-11-01 - 2024-01-31

BUDGET: €831K

SUBJECT AREAS

Archaeology, Changing environments, Climate Change, Community involvement, Conservation, Cultural Landscapes, Ecology, Heritage Management, Materials, Mediation - Education, Methods - Procedures, Monitoring, Natural Heritage, Preventive conservation, Restoration, Sustainability, Tangible Heritage, Threats, Underwater heritage

“Preserving submerged wooden heritage: safeguarding Mediterranean pile-dwellings from climate change”

INTRODUCTION

WOODPDLAKE investigates the conservation of wooden pile-dwelling (WPD) sites in Mediterranean volcanic and karstic lakes, such as Lake Banyoles (Spain), Lake Bolsena, and Lake Mezzano (Italy). These submerged archaeological structures offer invaluable insights into past landscapes and human activities. However, their preservation is threatened by climate change and anthropogenic pressures. The project employs an interdisciplinary approach, integrating environmental analyses—like water quality and biological studies—with assessments of wood degradation. Utilizing advanced techniques such as dendrochronology, isotopic analysis, and various spectroscopic methods, WOODPDLAKE aims to develop strategies for the exploitation, monitoring, and conservation of these unique heritage sites.

CONSORTIUM

IT University of Tuscia (Coord.)

ES Autonomous University of Barcelona

FR ARC-Nucléart, CEA Grenoble

IT Istituto Centrale per il Restauro

IMPACTS & RESULTS

- The project studies the impact of environmental and climatic factors on the preservation of submerged wooden archaeological structures.
- It integrates environmental monitoring, water quality, and biological analyses with archaeological research to provide a comprehensive understanding of wood degradation processes.
- Advanced techniques, including dendrochronology, isotopic analysis, and spectroscopy, are applied to assess deterioration and inform conservation priorities.
- The project develops strategies for the sustainable exploitation, monitoring, and conservation of pile-dwelling sites.
- Results provide actionable guidance for heritage authorities, conservators, and researchers to manage submerged sites effectively.
- It strengthens interdisciplinary collaboration between archaeologists, conservators, and environmental scientists.
- The project contributes to the protection of cultural landscapes and informs future land management for conservation of heritage.
- It raises awareness of the vulnerability of submerged heritage to climate change in lake ecosystem.

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Learn more at heritageresearch-hub.eu/project/woodpdlake

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F-ATLAS: Franciscan Landscapes: The Observance between Italy, Spain and Portugal

DURATION: 2020-11-01 - 2023-10-31

BUDGET: €831K

SUBJECT AREAS

Archives, Book History, Built Heritage, Conservation, Cultural Landscapes, Digitization, Ethnology, Heritage Management, Heritage values - Identity, History, ICT tools, Materials, Methods - Procedures, Monitoring, Monuments Sites, Objects, Rural Heritage, Tangible Heritage, Technologies - Scientific processes, Urban Heritage

“Mapping and preserving the dispersed legacy of the Franciscan Observance across Europe.”

INTRODUCTION

F-ATLAS is a European project developed within the JPI Cultural Heritage programme and coordinated by the University of Florence. The project studies the Italian-Spanish-Portuguese Franciscan Observance network to define an “Atlas” of documentation and knowledge for the conservation, protection, and promotion of this dispersed cultural heritage. These remote Franciscan sites, deeply intertwined with their surrounding landscapes, raise important questions about peripheral and abandoned areas. By combining traditional and innovative methods, F-ATLAS aims to assess the state of the Franciscan network and create an integrated digital framework to preserve, interpret, and valorise this shared European heritage.

CONSORTIUM

IT University of Florence (Coord.)

PT Instituto Universitário de Lisboa

ES University of Barcelona

PT Universidade Católica Portuguesa

IMPACTS & RESULTS

- Development of methodologies, protocols, and tools for the management and enhancement of cultural heritage in the digital era.
- Creation of a comprehensive digital “Atlas” documenting the Franciscan Observance network across Southern Europe.
- Integration of innovative ICT tools and traditional heritage methods for documentation and reuse.
- Design of hiking and cycling routes connecting Franciscan sites to promote sustainable tourism.
- Use of digital and virtual platforms to provide immersive cultural experiences for visitors.
- Contribution to revitalising peripheral and abandoned areas through cultural and landscape valorisation.
- Promotion of shared European identity through the rediscovery of Franciscan heritage.
- Strengthening collaboration between research institutions, cultural authorities, and local communities.
- Encouragement of active public participation and awareness of cultural landscapes.
- Support for future policy development on heritage conservation and sustainable reuse.

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Learn more at heritageresearch-hub.eu/project/f-atlas

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StAr: Development of Storage and Assessment Methods Suited for Organic Archaeological Artefacts

DURATION: 2020-04-01 - 2023-03-31

BUDGET: €877K

SUBJECT AREAS

Archaeology, Collections, Conservation, History, Materials, Methods - Procedures, Monitoring, Museums, Objects, Preventive conservation, Restoration, Tangible Heritage, Technologies - Scientific processes

“Improving care for wet archaeological wood and leather through better storage and assessment.”

INTRODUCTION

StAr addresses critical gaps in how we handle archaeological organic artefacts both before and after conservation. Many artefacts—especially wood and leather—are excavated in a waterlogged state, which must be preserved until treatment; drying too early or storing improperly can destroy scientific information. The project tests methods for long-duration storage of wet artefacts without compromising their integrity, using samples of wood and leather, and adapts specific monitoring protocols in real excavation settings (such as Biskupin, Poland). Post-treatment, it develops practical assessment protocols to measure degradation over time using advanced analytical techniques, enabling museums and storage facilities to better detect when things are going wrong and act more effectively.

CONSORTIUM

FR CEA-Grenoble (Coord.)

NO University of Oslo

IT University of Pisa

PL Poznan University of Life Sciences

IMPACTS & RESULTS

- Reinforces interdisciplinary collaboration among archaeologists, conservators, and conservation scientists to improve protective practices.
- Improves stabilization and storage methods for waterlogged organic artefacts in excavation contexts.
- Develops monitoring protocols to preserve scientific evidence in wet archaeological materials over months.
- Establishes assessment tools to evaluate degradation both before and after conservation treatment.
- Allows earlier identification of deterioration in museum and storage environments.
- Facilitates more cost-effective mitigation by enabling preventive action.
- Validates protocols using advanced analytical techniques for treated and untreated materials.
- Aligns field practices with real excavation and museum/storage conditions, enhancing relevance to practitioners.

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Learn more at heritageresearch-hub.eu/project/star

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PROCRAFT: PROtection and Conservation of Heritage AirCRAFT

DURATION: 2020-06-08 - 2023-06-07

BUDGET: €1298K

SUBJECT AREAS

Archaeology, Conservation, Heritage Management, History, Materials, Objects, Preventive conservation, Tangible Heritage, Technologies - Scientific processes

“Protecting WWII aircraft heritage with innovative conservation across Europe.”

INTRODUCTION

PROCRAFT (Protection and Conservation of Heritage AirCRAFT) addresses the growing recognition that WWII aircraft remnants across Europe are part of cultural heritage but face many conservation challenges. These aircraft remains—found on land and under water—are often composed of diverse materials, have complex histories, and legal statuses, yet are mainly cared for by volunteers or enthusiasts rather than through formal heritage conservation. The project connects all stakeholders—from recovery to exhibition—including scientists, museums, associations, conservators, and state representatives in France, Italy, and the Czech Republic. PROCRAFT develops new techniques for conservation↗restoration, smart protective coatings, preventive conservation in exposed or confined environments, and guidelines for non-professional actors engaging with aircraft heritage.

CONSORTIUM

FR GPLA — Arc'Antique (Coord.)

IT University of Ferrara

CZ Czech Technical University in Prague

FR CNRS, Toulouse

IT University of Bologna

IMPACTS & RESULTS

- The project links the full conservation chain—from recovery to exhibition—by connecting scientists, museums, associations, conservators, State representatives, and mediators.
- It creates innovative procedures for each key step in aircraft conservation: tailored restoration techniques, smart coatings, preventive conservation in confined environments, and guidelines for aluminium alloy treatment.
- It enhances and shares knowledge about WWII aircraft conservation, with emphasis on aluminium alloy components.
- It contributes to preserving aviation heritage remains across Europe.
- It promotes dissemination and presentation of aircraft heritage to the public through exhibitions and outreach.
- It involves citizens, students, volunteers and associations in the research process to foster public engagement.
- It supports capacity-building among non-professional actors by supplying guidelines and protocols.
- It fosters collaborative networks among research institutions, heritage stakeholders, and volunteer communities.

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Learn more at heritageresearch-hub.eu/project/procraft

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PHE: The Past Has Ears

DURATION: 2020-07-01 - 2023-06-31

BUDGET: €998K

SUBJECT AREAS

Digital Heritage, Digitization, Intangible Heritage, Methods - Procedures, Monuments - Sites, Museums, Technologies - Scientific processes

“Recreating and experiencing historic acoustics to give heritage sites a new voice.”

INTRODUCTION

PHE examines how the acoustic environment of heritage sites contributes to their significance – for example, ancient amphitheatres or Gothic cathedrals, where sound interacts with architecture and furnishings. The project seeks to document, research, and virtually reconstruct acoustics of heritage spaces in their current and altered states. Beyond reconstruction, PHE aims to make these environments accessible for researchers, heritage professionals, and the public. It develops tools and methodologies for measuring, modelling, and presenting historic soundscapes. Legal and heritage specialists ensure that the approaches developed are sustainable and viable for long-term use, and that digital acoustic reconstructions can be experienced both in situ and off-site.

CONSORTIUM

FR Sorbonne Université, CNRS (Coord.)

UK University of York

IT University of Parma

IMPACTS & RESULTS

- Results are tested with real heritage sites in collaboration with stakeholders and content creators
- Experiences are offered both in situ and off-site, allowing immersive first-person perceptual understanding
- Altered or deteriorated sites are acoustically reconstructed to allow access to sounds that no longer survive
- Real-time reconstructions enable participative experiences, such as concerts or events utilizing historical acoustic properties
- Methodology guidelines address both tangible and intangible acoustic heritage for legal viability and conservation policy
- Acoustic documentation helps preserve intangible heritage aspects that are often overlooked
- Virtual reconstructions open up opportunities for visitors, scholars, and the general public to explore heritage in new sensory dimensions

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Learn more at heritageresearch-hub.eu/project/phe

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IRIS: Inspiring Rural Heritage: Sustainable Practices to Protect and Conserve Upland Landscapes and Memories

DURATION: 2020-10-01 - 2023-09-30

BUDGET: €751K

SUBJECT AREAS

Community involvement, Conservation, Cultural Landscapes, History, Natural Heritage, Policies, Preventive conservation, Rural Heritage, Sustainable development, Threats

“Sustaining upland landscapes through heritage, tradition, and active community use.”

INTRODUCTION

Europe's upland landscapes are a rich heritage shaped by nature and human culture over millennia, yet current land-use decisions often ignore their historic dimension. Local communities have long maintained upland traditions, but threats like depopulation, climate change, economic pressures, and loss of traditional skills put these cultures at risk. IRIS seeks to develop a “living heritage” approach so that conservation is socially and environmentally sustainable. The project researches in five countries (Spain, France, Italy, Montenegro, the UK), combining participatory methods, historical land-use study, working with local practitioners to embed local values and expertise, ensuring that rural traditions and cultural landscapes are protected through active use and policy tools.

CONSORTIUM

IT University of Genoa (Coord.)

UK University of Durham

ES University of Granada

FR Université Toulouse II Jean Jaurès (GEODE)

IMPACTS & RESULTS

- Demonstrates how historical processes and past land use practices support sustainable development and conservation of upland landscapes.
- Defines a “living heritage” model through which communities embed cultural values, skills, traditions and local expertise in landscape conservation.
- Supports collaboration among local institutions, landowners, practitioners, and communities to ensure diverse participation in protecting and using uplands.
- Provides tools for local and European policymakers to integrate historical rural places into decision-making through protection-through-use strategies.
- Creates a research framework advancing understanding of upland cultural heritage and its social, environmental and economic benefits.
- Communicates and disseminates results widely to ensure awareness and adoption of best practices throughout Europe and beyond.

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Learn more at heritageresearch-hub.eu/project/iris & <https://www.iris-jpi.eu/>

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CRYSTINART: Crystallization damage at the Interfaces of Artworks

DURATION: 2020-06-01 - 2023-05-31

BUDGET: €762K

SUBJECT AREAS

Archaeology, Built Heritage, Conservation, Materials, Methods - Procedures, Monuments - Sites, Museums, Objects, Paintings - Painted surfaces, Preventive conservation, Sculptures, Tangible Heritage, Technologies - Scientific processes, Threats

“Understanding and preventing crystallization damage at artwork material interfaces.”

INTRODUCTION

One of the most common deterioration problems affecting cultural heritage worldwide is crystallization damage caused by an interplay between salts, environmental changes and material properties. Especially porous materials are susceptible to salt crystallization. It threatens artworks such as sculptures, ceramics, frescoes, paintings, archaeological objects and buildings in museums as well as outdoor environments. Most of these artworks are made of an assembly of layered materials with different physicochemical properties. Additional layers of materials are sometimes added as conservation measures. The properties of all materials involved and the interfaces between these materials affect the artwork's susceptibility to deterioration. CRYSTINART aims at developing an integrated approach for modelling analysis of the decay of artworks due to salt crystallization in layered materials.

CONSORTIUM

NL University of Amsterdam (Coord.)

NL Eindhoven University of Technology

IT Università di Bologna

FR University of Pau and Pays de l'Adour

IMPACTS & RESULTS

- CRYSTINART addresses crystallization damage, one of the most common deterioration problems affecting cultural heritage worldwide.
- It studies how salts, environmental changes, and material properties interact to threaten artworks, especially porous materials.
- The project investigates damage to sculptures, ceramics, frescoes, paintings, archaeological objects, and buildings in both museum and outdoor contexts.
- It focuses on layered materials and the interfaces between them, where many questions remain unanswered regarding susceptibility to decay.
- CRYSTINART develops an integrated approach for modelling and analysing artwork decay caused by salt crystallization in layered materials.
- It combines experimental, theoretical, and numerical studies at the micro-scale to model interactions between salt crystallization and mechanical response.
- It translates micro-scale data to the macro-scale to predict damage scenarios for a broad range of artefact types.
- The project produces effective, user-friendly predictive tools to guide conservation strategies.

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Learn more at heritageresearch-hub.eu/project/crystinart

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