

Enabling Cultural Heritage European Strategy ECHOES EU CLUSTER

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FACTS ON ART

Cultural heritage is a strategic resource for a sustainable Europe

If properly managed, it can:

- enhance **social inclusion and cohesion**,
- encourage **intercultural dialogue**,
- improve the quality of the immediate **living environment**,
 - and stimulate **tourism**.
- **Effective strategies to ensure the long-term** conservation of irreplaceable cultural heritage resources are therefore necessary



FACTS ON ART

- ✓ The European CH is of exceptional economic importance for the tourism industry, generating an estimated European annual revenue of **€335 billion (2014), and about 10 million jobs.**
- ✓ Tourism indirectly generates **more than 12% of the EU's GDP** and provides about **14% of the labor force** (EU business 2016).
- ✓ The market for conservation is estimated at **ca. €5 billion per year**, and could increase by a significant factor in next years due to the wider use of nanomaterials. **The art market directly support some 2.8 million jobs.**
- ✓ The market for art was **about 90 billion euro in 2016** (auctions and fairs).
- ✓ Cultural Heritage is a “multiethnic” field that comprises different disciplines spanning from hard sciences, humanistic and social disciplines, the digital “reality”.
 - ✓ ALL ARE NECESSARY TO ACHIEVE



FACTS ON ART

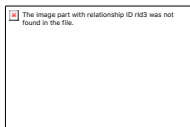
The best way to realize these benefits is **to increase the access to cultural heritage**. However, **access is possible** only if the **original artefacts** are properly conserved, which is **NOT** an **EASY TASK**

An example: **MODERN and CONTEMPORARY ART ONLY**

Museums	Modern/contemporary Works of art
MOMA	150,000
Musée d'art moderne de la ville de Paris	10,000
Centre G.Pompidou -Le Beaubourg	100,000
MAV/VAL - Musée d'Art Contemporain du Val-de-Marne	2,000
Tate	ca. 1,000 on display
Museo Nacional Centro de Arte Reina Sofía	10,000
Peggy Guggenheim Collection - Venice	ca. 500
Rijks Museum of Amsterdam	30,000

Huge # of artifacts: cannot be conserved with conventional technologies
NEED FOR NEW FAST AND SAFE METHODS

A NEW SCIENTIFIC FRAMEWORK IS NECESSARY



FACTS ON ART - NANORESTART

MORE THAN 19.000.000 ESTIMATED PEOPLE REACHED OVER THE WORLD
as general public, civil society and policy makers through:

- **EXHIBITIONS** ("From Kandinsky to Pollock. The Art of the Guggenheim Collections")
- **TV AND RADIO INTERVIEWS** (BBC Radio 4, BBC World Service, SVT - Swedish National TV, Radio 24, CHINA TIME NEWS, ANSA EUROPE, ABC TV news (USA), etc..)
- **WORKSHOPS AND TRAININGS** (Pratt Institute - USA, Universidad de Costa Rica, UFRGS – Brazil, Cuzco University -Perù, The Solomon Guggenheim Collection – USA, Centro Conservazione e Restauro La Venaria Reale – ITALY, Universidad Militar Nueva Granada – Colombia etc...)



What is conservation?

ICOM-CC resolution adopted at the 15th Triennial Conference held in New Delhi in September 2008

Conservation - all measures and actions aimed at safeguarding tangible cultural heritage while ensuring its accessibility to present and future generations.

Accessibility means the possibility to access and enjoy not only the conceptual value of the artwork (i.e. by using ICT technologies such as 3D reconstruction) but also the ACTUAL OBJECT

ART: natural aging, degradation

WORKS OF ART DEGRADE



Beato Angelico wall paintings, Florence



Templo Mayor (Mexico City)

What's being done?

a comparison with medicine..

Although the **conservation of cultural heritage** involves a different code of ethics, it can be **compared to medicine**, where **artefacts** are analogous to **patients** and **conservators** are similar to **doctors**.

Diagnosis, treatment and prevention are relevant to the conservation of artefacts: SCIENCE is contributing to such activities.

What's being done?

a comparison with medicine..

- ✓ Diagnosis (i.e. diagnostics)
- ✓ Prevention (i.e. preventive conservation) and
- ✓ Treatment (i.e. remedial conservation)

are the main tools available to transfer to future generation our patrimony

The treatment is **(therapy)** the final action and the drugs used are **new smart materials and methods** coming from **groundbreaking technologies**

EU INITIATIVES

The European projects in the framework of the 7th and H2020 research programmes

NANORESTART, NANOFORART, INNOVACONCRETE, NANOCATHEDRAL, MEMOSINE, HEROMAT, NANOMATCH

generated new **groundbreaking materials and methods** (so far more than 50 new materials, 36 from CSGI) based on **nanoscience** for the conservation of our HERITAGE

BEATO ANGELICO WALL PAINTINGS, FLORENCE



PIERO DELLA FRANCESCA (AREZZO (1987 – 1991))





ADVANCED CHEMICAL HYDROGEL FOR WATER SENSITIVE CLEANING 2016-18



THE PEGGY (GUGGENHEIM) FAMILY GELS and TATE FAMILY GELS

GIORGIO DECHIRICO



PABLO PICASSO



JACKSON
POLLOCK



Horizon 2020
European Union Funding
for Research & Innovation

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PICASSO ATELIER



*Although Member States of the European Union are responsible for preserving cultural heritage, **the Union also has the obligation towards its citizens to ensure that Europe's heritage is safeguarded and enhanced***

(Innovation in Cultural Heritage Research For an integrated European Research Policy, 2018)

The European cluster **ECHOES** has been recently launched to strengthen and make sustainable the new CH developments



ECH OES

Enabling Cultural Heritage European Strategy



Horizon 2020
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SCOPE

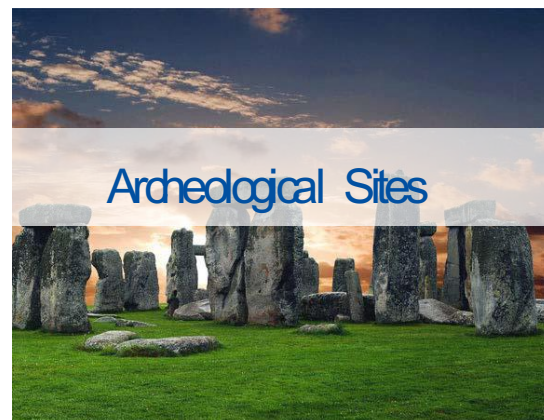
The mission of ECHOES is the enhancement of all actions addressed to the
conservation and valorisation
of **Cultural Heritage** in **all its forms**
and **materials**



Horizon 2020
European Union Funding
for Research & Innovation







WHO CAN CONTRIBUTE TO ECHOES?

- Universities
- Research centers
- Small & Medium Enterprises
- Conservators
- Public Institutions
- Industrial Manufacturers
- Museums
- Art Collectors
- Media
- Handcrafts
- Conservation centres
- International Bodies

WHY ECHOES?

ECHOES will be a solid and concrete platform where the scientific community can gather, share and exploit the results achieved within EU funded projects on conservation of Cultural Heritage.

ECHOES will create a network between scientists, Cultural Heritage operators and even common citizens.

ECHOES will help EU in planning strategies for the preservation and the valorisation of Cultural Heritage.



THE GOVERNANCE

Cluster Coordination

Coordination Chair: Prof. Piero Baglioni UNIFI, CSGI Director

Technical Secretary: Isella Vicini, Patrizia Zitelli

Coordination Council: 1 representative for each WG

European Union Representative: René Martins



THE GOVERNANCE

Working Group Leader (and vice) elected by participants to the WG

Industrial Advisory Board representing stakeholders in the industrial community

Conservation Advisory Board representing stakeholders in the conservation community (museums, policy-makers, national and international organizations)

Management Board constituted by the coordinator and the WGLs and one representative from IAB and CAB

MAIN THEMES

The work of the ECHOES cluster will be articulated in several activities, which cover all the strategical objectives about conservation and valorisation of tangible Cultural Heritage.

- Development of best practice and protocols about new materials and methods proposed by the scientific community to end users
- Establishment of stable connections with other clusters (e.g. EMMC, NANOSAFETY, EMCC) and integration of SSH (Social Science & Humanities) activities in new projects
- Creation of a European repository, which collects all open-access information about the results obtained within EU-funded projects on conservation of Cultural Heritage



ECHOES

- Creation of an open forum to citizens for discussion, problem-solving and presentation of case-studies
- Development of tools for citizens to actively monitor the degradation of Cultural Heritage, for instance through web social platform, according to the new concept of "Citizen conservation science"
- Support of EU policy development in the field of tourism and industry related to conservation and valorisation of Cultural Heritage
- New "ad hoc" materials for the needs of contemporary artists





WORKING GROUPS

WG 1 – MATERIALS

WG 2 – CONSERVATION

WG 3 – MUSEUMS, MONUMENTS, SITES AND ART COLLECTORS

WG 4 – MARKET PLACE

WG 5 – CONTINUING EDUCATION

WG 6 - POLICY





ECH OES

WORKING GROUPS

WG 1 Materials (universities, research centers, industries)

➤ it focuses on the establishment of a **network of stakeholders in the field of development of materials for the CH conservation**. It intends to intensify the collaboration between academic institutions and industry in Europe and to facilitate the link between providers and users.

➤ It also focuses on the **advanced instrumentation** for the characterization of the structural and dynamic properties of new materials. It intends to support the **development of "ad hoc" new analytical tools** and the continuous exchange of methods and information with investigators in the field of analytical chemistry and physics.

➤ **Collaborative projects and activities** will be established with international bodies in the field of CH conservation and valorisation (COM(2012)497). The cluster intends also to create connections with forthcoming and ongoing cluster (e.g EMMC, NANOSAFETY, EMCC) and to **improve the cooperation with Social Sciences and Humanities**



WORKING GROUPS

WG 2 CONSERVATION (public and private conservators)

- It is seeking to develop a **network of conservators**, both from the public and private sector in order to deepen discussion and **share knowledge** on the practice, theory and ethics of CH conservation
- It aims also to collect their needs and propose specific case studies **to find “ad hoc” solution.**
- It aims to stimulate **debates on validation protocols** for the novel materials and their best application



WORKING GROUPS

WG 3 MUSEUMS AND ART COLLECTORS

It intends to increase the cooperation across international boundaries **to foster and support CH professionals** in their work with the development of advanced conservation methods. This includes:

- debates on practices that concern the conservation of CH collections;
- joint work with higher learning institutions;
- identify deteriorated movable and/or immovable tangible heritage requiring conservation approaches that differ significantly to those used ordinarily.



ECHOES

WORKING GROUPS

WG 4 MARKET PLACE

- It intends to support the **introduction on the market of new materials and methodologies**, also through the creation of spin off companies and SMEs.
- It also intends to **provide a guidance to conservators and conservation institutions**. Key activities are:
 - to create an **European repository** which collects all open-access information and results obtained within EU-funded projects;
 - to provide **a database of materials, analytical tools and practices**;
 - to support the creation of **an information system for laboratories**;
 - to provide a background for **establishing and standardizing good practices in CH conservation**.



WORKING GROUPS

WG 5 CONTINUING EDUCATION

It intends to guarantee a continuing high-level training courses system on the **use of new materials and products in the conservation field** (e.g. workshops on the application of methodologies and the use of nanosystems) .



WORKING GROUPS

WG 6 POLICY

- WG6 foresees the **involvement of representatives** from European, national and regional agencies in order to stimulate debates and influence policies and practices
- It seeks to play a major role within the discussion and preparation for the **next (9th) Framework Programme** which will cover the period 2021 – 2027.



PROJECT MEMBERS



Objectives

NANORESTART develops **novel poly-functional nanomaterials for highly innovative restoration techniques** to address the conservation of a wide variety of materials mainly used by modern and contemporary artists.

Expected Results

Development of new tools and materials for conservation and evaluation of the environmental impact of the new technologies

www.nanorestart.eu



Objectives

NANO-CATHEDRAL develops **new nano-materials, technologies and procedures for the conservation of deteriorated stones in monumental buildings, cathedrals and high value contemporary architecture.**

Expected Results

Innovative materials, such as nano-particle based consolidants and proper polymer nano-composites based coatings will be developed.

www.nanocathedral.eu



CSGI



WarrantGroup®
GRUPPO TECNOINVESTIMENTI

PROJECT MEMBERS



Objectives

INNOVACONCRETE is an innovative and ambitious project that aims at **preserving concrete-based monuments, the most significant, tangible, cultural heritage in the 20th century.**

Expected Results

Developing advanced materials and techniques specifically designed **for concrete heritage preservation** and effective market uptake of the developed solution within 2-3 years from the end of the project.

www.innovaconcrete.eu



Objectives

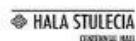
NEMOSINE aims to improve the traditional storage solutions, by developing an innovative smart package with the main goal of energy saving and extent **conservation time of cultural objects based on cellulose derivatives.**

Expected Results

Generation three different **packages with different functionalities and final cost**, depending on the technical protective/ preventive or curative purposes of cultural objects.



ALMOST 100 MEMBERS



ECHOES

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<http://www.echc.eu>

THANK YOU