

INNOVATION, RESEARCH, AND ADVANCED EDUCATION FOR THE PROTECTION OF CULTURAL HERITAGE IN THE WIDER MEDITERRANEAN REGION

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The tangible and intangible cultural heritage of the Mediterranean has always been an inexhaustible source of research for scholars across a wide range of disciplines, from the humanities to technical fields



Cultural exchanges among countries along the various shores of the *Mare Nostrum* are currently being stimulated and supported through both bilateral and multilateral agreements. These initiatives focus on interdisciplinary research with the aim of strengthening cultural diplomacy, allowing such scientific exchanges to be recognized as a form of “soft power.”

Among the most significant of these are the growing collaborations between universities and non-governmental organizations such as ICOMOS and ICCROM. These partnerships focus on archaeological, architectural, landscape, and environmental heritage, exploring restoration and conservation techniques and methodologies, also from a management perspective.

Innovation, research, and advanced education—as key components of capacity building—are essential drivers of social and cultural transformation. ICOMOS has long sought to contribute to this transformation through the

implementation and promotion of highly innovative projects across the globe. This is the guiding philosophy behind CHEDAR: A New Frontier for the Digitization and Reconstruction of Cultural Heritage. The project brings together research outputs and advanced educational initiatives in the field of digitization, assigning them a vital scientific role: enhancing collaboration among technical and scientific teams through the development and application of advanced digital technologies. The integration of innovations such as 3D digitization, artificial intelligence, and augmented reality is opening up new possibilities for documentation, risk management, and heritage reconstruction—particularly in areas vulnerable to anthropogenic and natural threats. This is especially relevant in the Mediterranean, as demonstrated by Italian initiatives related to the so-called “Mattei Plan.” Within this framework, CHEDAR—Cultural Heritage Digitization and Reconstruction—is positioned as an ambitious

project aiming to establish Italy as an international leader in the digitization and reconstruction of cultural heritage, with a strong emphasis on advanced research and specialized training.

The initiative, promoted by the University of Florence in collaboration with Italian and international academic and research institutions, envisions the creation of a Center for Research and Advanced Education—a scientific and technological hub that harmonizes tradition and innovation in conservation processes.

ICOMOS Italy, as a scientific and consultative body of UNESCO, recognizes in CHEDAR an extraordinary opportunity to reinforce the link between tradition and innovation, encouraging the integration of conservation expertise with the potential of emerging technologies.

DIGITIZATION AS A TOOL FOR KNOWLEDGE AND PROTECTION

A central pillar of the CHEDAR project is the use of digital technologies for documenting cultural heritage. 3D surveying, photogrammetry, and advanced modeling enable the creation of highly accurate digital twins—indispensable tools for diagnostic analysis, restoration planning, and the development of accessible digital archives.

In an era where climate change, conflict, and natural disasters increasingly threaten cultural assets, digitization becomes a crucial component in the protection and sustainable management of heritage.

CHEDAR aims to develop advanced digitization protocols, certified metadata standards, and interoperable models to ensure not

only the quality of acquired data but also its usability at an international level.

RECONSTRUCTION OF HERITAGE BETWEEN INNOVATION AND TRADITION

The reconstruction of heritage is another core focus of CHEDAR, combining state-of-the-art digital tools with traditional knowledge and methodologies.

Digital technologies support the development of accurate and historically informed reconstructions, whether physical or virtual, allowing for the respectful revitalization of sites damaged or at risk. These efforts serve not only technical purposes but also educational and cultural ones, offering communities renewed access to their own heritage.

CHEDAR's involvement in Expo 2025 Osaka, along with its alignment with Rome's bid for Expo 2030, represents a strategic opportunity to enhance Italy's global leadership in this field.

ADVANCED EDUCATION AND CULTURAL DIPLOMACY

Protecting cultural heritage requires not only advanced technologies but also a new generation of multidisciplinary professionals. CHEDAR includes the establishment of an Advanced Education Program designed to train specialists in digitization and heritage management, with a particular emphasis on

Mediterranean contexts. The project also carries significant value in terms of cultural diplomacy. Collaboration among academic institutions, research centers, and international organizations encourages the exchange of knowledge and best practices, helping to build a shared global model for heritage conservation.

TOWARDS A NEW PARADIGM FOR HERITAGE CONSERVATION

CHEDAR aims to redefine the relationship between cultural heritage and digital innovation, promoting a management model based on the synergy between scientific research, education, and technology transfer.

Digitization and conservation are no longer two separate processes, but two sides of the same coin, capable of transforming heritage protection into a lever for sustainable development and the construction of a shared memory among cultures.

ICOMOS Italy - the Italian National Committee of the International Council on Monuments and Sites - firmly supports this initiative, making available its scientific expertise and international network of specialists, also through its Scientific Committees, to contribute to the success of the project. Protecting the past means shaping the future: CHEDAR represents a decisive step in this direction.

