**The ARTEMIS Project Revolutionizes the Future of Cultural Heritage Conservation with Reactive Digital Twins**

[Florence, January 2025] – With €12 million in funding from the European Union, the ARTEMIS project officially commenced on January 1, 2025, with the ambitious goal of revolutionizing the preservation, restoration, and safeguarding of cultural heritage. By leveraging innovative Reactive Digital Twin technology, ARTEMIS aims to provide dynamic and predictive tools to address the challenges of a constantly evolving world.

The project introduces a groundbreaking approach to the concept of Digital Twins, moving beyond traditional static 3D models to create so-called Reactive Heritage Digital Twins (RHDT). These advanced systems will enable the simulation and prediction of real-world impacts—such as climate change, natural disasters, or human interventions—on cultural assets. With these capabilities, ARTEMIS seeks to implement proactive strategies to mitigate risks and optimize conservation efforts.

By integrating data from sensors, environmental models, and simulation software, the project will establish a one-of-a-kind digital laboratory designed to meet the most complex needs of heritage conservation. With real-time data collection, ARTEMIS will help identify and prevent damage before it occurs, effectively protecting invaluable artifacts and historic sites. The insights generated will be instrumental in assisting policymakers and conservation stakeholders to optimize resource allocation and prioritize urgent restoration efforts.

*"With ARTEMIS, we are not merely preserving the past; we are creating the tools to navigate the future of cultural heritage,"* said Luca Pezzati, the project coordinator.

ARTEMIS's innovative Reactive Digital Twin framework promises to transform how we approach conservation and engage with cultural heritage. The project also aims to strengthen the bond between people and heritage by offering innovative and immersive experiences.

Through ARTEMIS, the scientific community will gain access to advanced digital platforms to explore, experiment, and innovate in the field of heritage conservation. The project builds upon the success of key EU-funded initiatives such as 4CH, which is developing a Competence Center for Cultural Heritage Conservation, and ARIADNE, a research infrastructure aggregating millions of archaeological datasets. By integrating immersive technologies like AR/VR and the Internet of Cultural Things (IoCT), ARTEMIS will not only deepen engagement with heritage but also drive research and innovation. Collaborations with leading European initiatives, such as DestinE (Digital Twin of the Earth) and the European Cooperative Cloud for Cultural Heritage (ECCCH), will ensure the project’s central role in the innovation landscape.

**About ARTEMIS**  
ARTEMIS is a transdisciplinary project led by the National Institute of Optics of the Italian National Research Council (CNR), supported by three European research infrastructure initiatives—4CH, ARIADNE, and DARIAH—and developed in collaboration with 18 European partners with diverse backgrounds and expertise. The project leverages decades of research and cutting-edge technology to create a dynamic, future-proof framework for the conservation and enhancement of cultural heritage. ARTEMIS is more than a project: it is a bold step toward safeguarding our shared history, which is increasingly at risk due to environmental and human factors.

For further information, visit <http://www.artemis-project.eu/> or contact the ARTEMIS project coordinator:

Luca Pezzati  
National Institute of Optics, CNR Florence  
luca.pezzati@cnr.it  
+39 055 23081