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Understanding, preserving & communicating cultural heritage: the impact of 3D and the cloud on digital cultural tourism

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Culture and cultural tourism

Culture and cultural heritage have a primary role to **strengthen relationships and cohesion between European communities**, building on similarities and differences, and promoting common roots and values.

Cultural tourism together with cultural heritage offer a vehicle for **promoting territories**, generating benefits for local destinations to share about their history and culture.

Cultural tourism is also a **valuable economic driver** for local communities and local territories that are able to offer visibility to their cultural and tourism assets, attracting an **interested, respectful and competent tourist.**

Both sectors, the cultural heritage and the tourism, are undergoing a **major process of digital transformation**, which enhances the already evident links between the two.

Unprecedented **opportunities brought by technologies**, such as digitisation, AI, 3D, and XR bring cultural heritage sites back to life, virtual museums and XR scenarios offer visitors the possibility of seeing art works in context and experiencing objects and sites inaccessible to the public.





Innovation to produce new services

Digital transformation means to bring **innovations in the models of service delivery**, in the forms of **direct interactions** with users/customers, in the proliferation of **smart products** that enable real-time monitoring and updating of collections and sites, in the creation of **new services** that transform the relationship with stakeholders.

Innovations in the preservation and sharing of cultural heritage are crucial to the development of the tourism sector and to ensure competitiveness in tourist destinations, and it is important to develop and implement **effective policies and strategies**:

- To support the development of digital marketing and promotion tools
- To support the development, use and reuse of digital content and information resources

Culture, tourism, ICT and their mutual interactions and applications offer a tremendous potential for cultural heritage, largely affecting the way cultural products are produced, assessed, consumed, managed, and promoted for tourists.





Maximise impact of heritage digitisation

The European Commission highlights that the momentum is now to preserve our culture and cultural heritage and bring it to this digital decade.

Various investments and initiatives are in place.

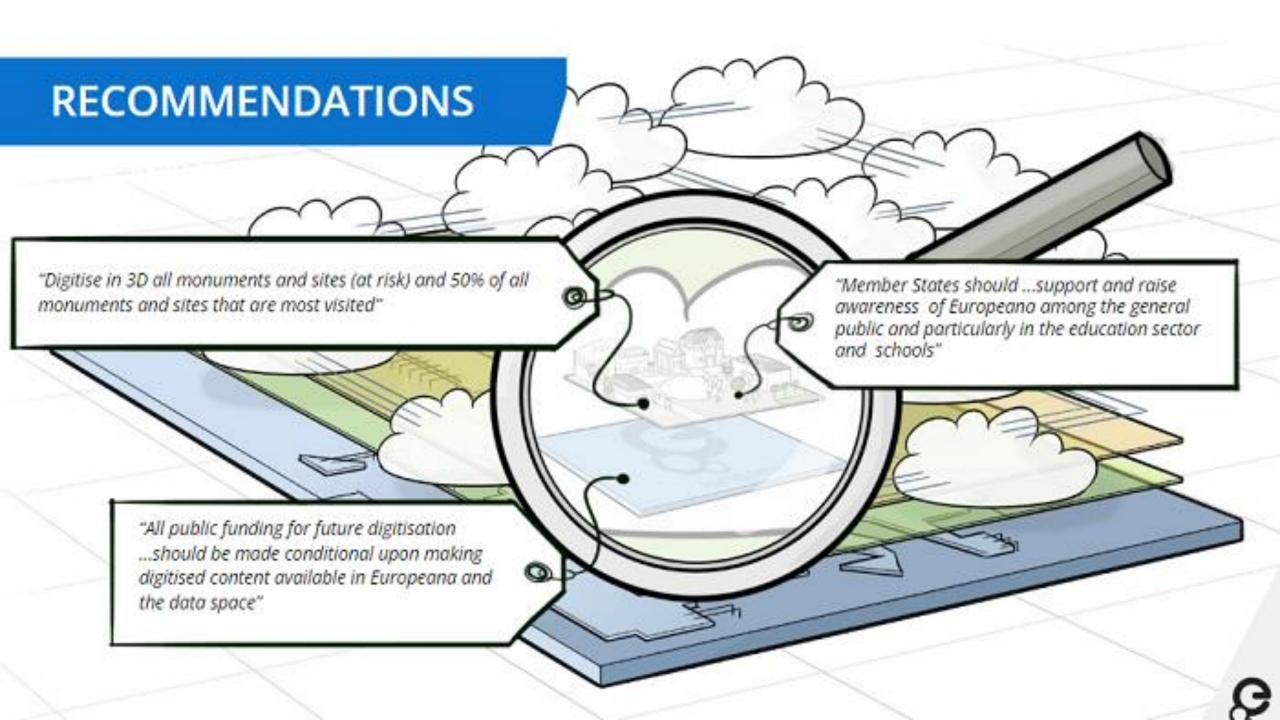
November 2021: the **Recommendation on a common European data space for cultural heritage** (2021/1970), which encourages Member States to put in place appropriate frameworks to enhance the recovery and transformation of the cultural heritage sector and to support CHIs in becoming more empowered and more resilient in the future, with a **focus on 3D digitization**.

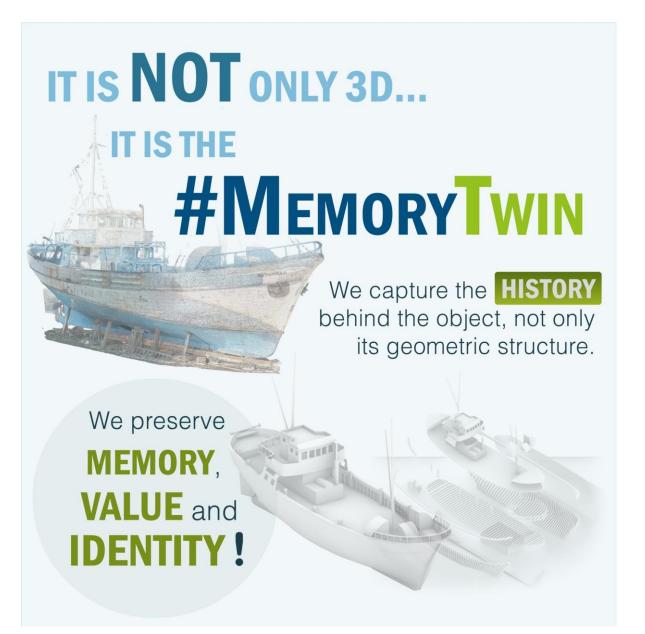
This effort is expected to lead to **innovate workflows** in digitization, reuse and digital preservation of heritage across the EU, and to **have spillover effects** in other key sectors of the European economy, such as tourism, education, research, and cultural and creative sectors.

2024-2025: the European Collaborative Cloud for Cultural Heritage

2022-2026: the Data Space for Cultural Heritage









Development of pilot **e-infrastructure for CHIs** to store, preserve, manage, share data, metadata and paradata generated in 3D digitization projects

Capacity building on high quality 3D digitization

Aggregation of content in the Data Space for Cultural Heritage

EUreka3D concludes on 31/12/2024 and is followed by the **EUreka3D-XR** continuation project, to explore reuse of 3D assets in XR scenarios.





DATA METADATA EDM & Name: Statue of Eureka3D Description: From the XII Century, the... Author: Ignacio Lamata Martinez







DIGITISATION process



Authentication and Authorisation







Data Management





Virtual Machines (servers)





statue.obj

3D Digitisation Guidelines: Steps to success

A guide based on the EU VIGIE Study on quality in 3D digitisation of tangible cultural heritage

DOWNLOAD IT













Promoting peripheral destinations

Digital infrastructures, digital tools and smart data management can enhance the accessibility and sustainability of remote and less-known cultural sites.

Research is ongoing on how to **collect and use cultural and tourism data** especially in remote areas, as well as on which **new infrastructure, services, tools and investments** can be leveraged to enhance the digital transformation and innovation of remote cultural sites and their attractiveness.

Demonstration and training programmes are needed to support stakeholders with:

- Sustainable business models and communities' participation
- Improving the ability to create and re-use online resources and tools
- Transforming heritage into stories to be narrated also on the digital platforms

Expected results:

- To activate local residents and communities in co-developing methods with cultural institutions
- To adapt these mechanisms to local contexts and to facilitate the spread of good practices





INCULTUM - Innovative Cultural Tourism in European Peripheries



May 2022 - April 2024

- Innovation action co-funded by the European Union under the Horizon 2020 Programme.
- 15 Partners
- 10 Pilots
- Cultural tourism organizations, local interest groups, communities, cultural and natural parks, municipalities, associations, universities, SMEs, data managers, developers, dissemination networks between EU cities, development and consulting groups.
- https://incultum.eu/





Ancient paths at Bibracte-Morvan

INCULTUM PILOT ON PARTICIPATORY APPROACHES

- Participatory inventory of the territory's heritage and its dense network of public tracks and paths
- INCULTUM
- Estimated at 12,000 km in the territory of the Regional Natural Park of Morvan
- Data source: official public maps + Participation of local communities

RESEARCH ON 3D DIGITIZATION

- Digitisation in 3D of ceramics and other museal objects
- Creation of theoretical 3D models of objects
- Terrain models of the archaeological site





SECreTOUR - Sustainable, Engaging and Creative Tourism as a driver for a better future in rural and remote areas

- Research and Innovation action co-funded by the European Union under the Horizon Europe Program
- 10 Partners
- 8 Pilots
- Experimenting the use of digital tools in cultural tourism, developing collaborative business models for cultural and creative tourism, promoting heritage community in rural and remote locations

https://secretourproject.eu/



March 2024 - February 2027











DIGITAL TOOLS FOR PROMOTION AND AWARENESS RAISING

- Social media
- Downloadable GIS/GPS data
- Virtual guided tours



RICHNESS IN CULTURE AND HERITAGE

- Tangible and intangible heritage of the historic nomadic Latin-speaking Vlach community, including their transhumance routes and seasonal pastoral settlements
- Archaeological, historical and natural sites
- Traditional villages
- Byzantine and post-Byzantine churches
- Military and industrial remains







A roadmap through technology and tourism

- **EUreka3D** is offering to cultural heritage institutions the platform for entering in the 3D world
- INCULTUM has started worked with peripheral destinations to experiment new forms
 of cultural tourism, where the use of the digital tools has demonstrated to be very
 useful
- **SECreTOUR** continues on the track of INCULTUM to research how innovation can generate a better future for cultural destinations in remote areas
- EUreka3D-XR will continue on the track of EUreka3D to deploy new tools and services to offer XR experiences to cultural visitors





Thank you for your attention! Antonella Fresa

https://eureka3d.eu/

https://incultum.eu/

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