AI for 3D Digital Twins in Cultural Heritage

Second Stakeholder Forum under the Apply AI Strategy

Co-organised by the European Commission (DG CONNECT) and 3D-4CH
Date: 9 December 2026, 10:00–13:00 CET, Online

10:00 – 10:10 | Opening Session

Advancing AI for 3D Digital Heritage: from the first forum to the next steps

Speakers:

- **Rehana Schwinninger Ladak**, Head of Unit, DG CNECT Unit G2 – Interactive Technologies, Digital for Culture and Education
- **Marco Medici**, Project Coordinator, 3D-4CH

The opening session will recall the main outcomes of the first Stakeholder Forum held on 23 March 2026 and frame this second edition within the Apply AI Strategy and the action supporting the uptake and scaling of AI technologies for highly realistic and accurate 3D digitisation of cultural sites and artefacts. The Commission will update on policy priorities and expected impact, followed by a positioning of 3D-4CH within this framework.

10:10 – 10:55 | Session 1

AI to support 3D digitisation: from advanced 3D capturing to generative models

AI techniques can accelerate or improve 3D surveying and data processing, enhancing legacy models and scaling up digitisation pipelines. Given the recent advances in the field, we consider neural rendering representation methods, such as Gaussian Splatting, generative AI approaches, from one or more images, as well as AI-driven completion of missing or damaged parts. Speakers are invited to discuss experiences on how these methods compare with traditional 3D documentation in terms of accuracy, reliability and transparency, and where they can complement conventional surveys.
Three 10-minute presentations, each followed by 5 minutes of Q&A. Moderator: TBC

10:55 – 11:40 | Session 2

From geometry to meaning: AI for enriching and understanding 3D heritage

AI methods can automatically complement 3D geometries with structured, searchable knowledge: this includes 3D segmentation and classification of elements and materials, damage and condition mapping, automatic generation of metadata and paradata and links between 3D models, ontologies and knowledge graphs. This allows to create enriched 3D data findable and reusable in the common European data space for cultural heritage. Contributions are sought on supervised and unsupervised methods, multimodal and vision-language models to describe or query 3D assets, annotated training datasets and expert-in-the-loop validation.
Three 10-minute presentations, each followed by 5 minutes of Q&A. Moderator: TBC

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11:40 – 11:50 | Short Break

11:50 – 12:35 | Session 3

AI for data visualisation, interpretation, narrative creation and reuse

AI approaches are becoming very valuable for analysing, visualising or interpreting cultural heritage data and scenes, supporting decision-making in conservation and site management, and enabling the reuse of 3D data and the creation of new narratives for education, tourism and the creative industries. Presentations could report experience in conversational guides, generative storytelling, immersive and XR experiences, and predictive models for monitoring. Particular attention goes to keeping AI-generated interpretation distinguishable from documented evidence.
Three 10-minute presentations, each followed by 5 minutes of Q&A. Moderator: TBC

12:35 – 12:50 | Open Discussion

What does it take for an efficient and reliable deployment?

Moderated discussion with speakers and audience on the shared needs that emerged across the three sessions, such as data, skills, standards and infrastructure, and on the input the community can give to 3D-4CH and to the European Commission.

12:50 – 13:00 | Closing Remarks

Building the next wave of AI-driven 3D Digital Heritage

Speakers:

- **Rehana Schwinninger Ladak**, Head of Unit, DG CNECT Unit G2 – Interactive Technologies, Digital for Culture and Education
- **Marco Medici**, Project Coordinator, 3D-4CH
- **Elisa Mariarosaria Farella,** WP leader, 3D-4CH

Joint reflections on coordination across projects, ecosystem building and pathways toward scaling AI-enabled 3D methods for digital heritage across Europe's cultural heritage sector, including the next steps after this second forum.

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