



Press Release

Digital Time Travel: Two Heritage Projects Selected for the 3DBigDataSpace Outreach Synergy Call

[18 March 2026, Vienna (AT)] The Time Machine Organisation (TMO), acting as the coordinator for the European Union co-funded 3DBigDataSpace project, has selected two innovative heritage initiatives to receive €10,000 subcontracts each to develop engaging applications for public outreach. The 3DBigDataSpace project is designed to prototype long-term, Europe-wide storage for 3D cultural heritage assets, enhancing how this content is found and reused through 4D applications and augmented reality. These two winning projects were chosen for their ability to design innovative applications that use the 3DBigDataSpace tools to engage a broad public audience.

The Golden Bond: Unfolding the Kapulukaya Hoard

The project "The Golden Bond: Unfolding the Kapulukaya Hoard" focuses on the Kapulukaya Solidus Hoard, which consists of 21 Roman gold coins and the terracotta vessel in which they were discovered. To bridge the gap between static museum displays and deep historical understanding, the team uses the PCSS Viewer to present 3D coin models that visitors can manipulate via touch gestures to inspect fine surface details. The 4D Viewer further enriches the experience by tracing the historical route of the coins between Antioch and Ancyra on an interactive map. Additionally, Room XR provides a mobile augmented reality experience, allowing visitors to scan a QR code and project a unique solidus directly into their own surroundings. By employing a concept termed "semantic storytelling origami," the project uses spatial computing to unfold dense historical information from a single coin.



*Soon at your fingertips: the Kapulukaya Solidus Hoard.
Credit: Erimtan Archaeology and Arts Museum Archive*

"Winning this Call allows us to transform the Kapulukaya Hoard from static objects behind glass into dynamic, interactive narratives. I am thrilled to lead a project where 3D visualisation and digital storytelling not only advance museum experiences but also empower visitors and students to actively decode the hidden stories of our past." (Sinem Aslan, Project Coordinator, Associate Professor of Computer Science at the Department of Historical Studies "Federico Chabod" at the University of Milan/IT)



The Ruppendorf Time Machine: Exploring Centuries of Local History

In the Eastern Ore Mountains, the moated castle of Ruppendorf serves as the central site for a project aimed at preserving over 60 years of local chronicle work before it is irretrievably lost. The initiative builds upon the extensive voluntary research of the AG Ortschronik Ruppendorf, whose members have collected and documented deeds, maps, photographs, drawings, and oral histories related to the village and its castle for decades.

The application uses the PCSS Viewer for detailed 3D visualisations and the 4D Browser for spatio-temporal navigation. Visitors will be able to explore a sequence of historical time slices covering the period from approximately 1500 to 2024, based on current 3D reconstructions of the castle complex.

The year 1349, the first documented mention of the castle, is presented within the application as a historical source but does not yet form its own reconstructed 3D model. As research progresses, earlier reconstruction phases may be integrated in future iterations.

A key feature is the digital opening of the castle tower's hidden interior, which has been inaccessible for decades, through 360° panoramas and 3D reconstructions. The project prioritizes scientific transparency by visually distinguishing between original masonry and interpreted reconstructions, while also assigning "evidence grades" to every reconstructed element. On-site visitors can access the "Digital Museum Ruppendorf" by scanning a QR code on a weatherproof panel to begin a gamified "Explorer Mode" or a deep-dive "Time Machine Mode".

The project is led by Mario Hehne, Project Lead, Co-founder of Apus Systems, Chair of the Local Advisory Council of Ruppendorf, and Head of the AG Ortschronik Ruppendorf, whose long-term commitment to documenting the village's history laid the foundation for the digital initiative.

"The 3DBigDataSpace gives us the tools to make exactly that possible. The fact that a European platform enables an 700-inhabitant village in the Eastern Ore Mountains to make 900 years of history accessible via a QR code shows that digital cultural heritage is not a matter of village size." (Fabian Naumann, Co-founder & Technical Lead, Apus Systems/AT)



The remains of the moated castle of Ruppendorf today. Credit: Mario Hehne



Strengthening the common European Data Space for Cultural Heritage

Beyond public engagement, these projects serve as vital contributors to the broader common European data space for cultural heritage by establishing high standards for digital preservation and metadata. The project “The Golden Bond: Unfolding the Kapulukaya Hoard” integrates enriched historical interpretations with 3D models to support future scholarly analysis and archaeological training. Similarly, the Ruppendorf project ensures long-term impact by archiving its 3D assets and metadata in open academic repositories, while utilizing a complex data infrastructure for historical relationship analysis. By harmonizing fragmented historical data into the 3DBigDataSpace ecosystem, both initiatives provide scalable models for how museums and small municipalities alike can ensure their cultural assets remain findable, accessible, and relevant within a unified digital framework.

About 3DBigDataSpace

Launched in February 2025 and funded by the Digital Europe Programme, 3DBigDataSpace aggregates over 50,000 high-quality 3D cultural heritage models into the Common European Data Space for Cultural Heritage. By combining interoperable storage with AI-powered enrichment, the project improves discoverability, metadata, and usability of 3D content, enabling immersive VR, AR, and 4D experiences. Pilot applications in museums, heritage sites, and educational programmes showcase its real-world impact, while training initiatives equip stakeholders across Europe to engage with and expand access to digital cultural heritage.

Website: <https://3dbigdataspace.eu/>

Website: <https://timemachine.eu>

Contact:

- Kerstin Muff (Communication): kerstin.muff@timemachine.eu
- Sander Münster (Project Coordinator): sander.muenster@uni-jena.de

For more information on the projects progress:

- Moated Castle of Ruppendorf: [Wasserburg Ruppendorf — 3D Time Machine](#)
- The Golden Bond: Unfolding the Kapulukaya Hoard: [The Golden Bond | Unfolding the Kapulukaya Hoard](#)