



Report on the Spanish Presidency Europeana conference

17 October 2023

Accelerating 3D in the common European data space for cultural heritage

Join the Spanish Presidency Europeana conference

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Executive summary

Spain held the presidency of the Council of the EU in the second half of 2023. A major focus of the Spanish Presidency's priorities in the area of culture was to advance a common understanding of culture and cultural heritage as a global public good, a core principle shared by the Europeana Initiative. Under the Spanish Presidency in September 2023, the EU Ministers of Culture adopted the '[Cáceres Declaration](#)'. The declaration is a commitment of the 27 Member States to ensure that, 'culture is henceforth considered an essential public good, and a global public good at the highest political level'.

The 2021 [European Commission Recommendation on a common European data space for cultural heritage](#) encourages EU Member States to step-up digitisation efforts, with a special focus on 3D, and make more content available through Europeana.eu and the data space. To support these goals, the Europeana Initiative and the European Commission launched the [Twin it! 3D for Europe's culture campaign](#) in June 2023, under the auspices of the Swedish and Spanish Presidencies, and culminating during the Belgian Presidency.

It is in this context that the Spanish Presidency Europeana Conference [Accelerating 3D in the common European data space for cultural heritage: Building Capacity for 3D](#) was held on 17 October 2023, in Pamplona and online.

Spain has been a founding member, close partner and supporter of the Europeana Initiative since 2008. This hybrid conference was made possible thanks to the Spanish Ministry of Culture and Sport and the hospitality of the Government of Navarra, under the auspices of the Spanish Presidency.

The event involved 320 participants, of which 245 attended online and 75 participated in Pamplona. It brought together policymakers from European ministries of culture, the [CEDCHE Expert Group](#), Twin it! campaign national contact points, delegates from the Spanish Ministry and Spanish cultural heritage institutions, representatives of the European Commission, experts in 3D and cultural heritage professionals from Spanish and European institutions. The event provided a forum for exchanging knowledge, experiences, and opportunities for collaboration, and received a satisfaction rate of 87% from participants.

Building on the reflections at the [Swedish Presidency Europeana conference](#) in April 2023, the Spanish Presidency conference featured keynote speeches, panel discussions, workshops, and interactive experiences.

In line with the objectives of the [European Year of Skills \(EYS\) 2023](#), it engaged digital cultural heritage professionals and institutions to learn about 3D digitisation skills and workflows and processes. It aimed to stimulate a holistic discussion on 3D capacity building for the cultural heritage sector promoting collaboration among key actors and stakeholders. The event highlighted some of the best practices for utilising 3D technologies to advance preservation, access and reuse of cultural heritage. Some of the aspects and considerations essential for building capacity of institutions and professionals for 3D digitisation under discussion were:

- Technological infrastructure:
 - Hardware requirements (e.g., scanners, cameras, computers)
 - Software tools for 3D modelling, rendering, and data management
 - Network infrastructure for data storage and sharing
- Training and skills development:
 - On 3D scanning and modelling techniques
 - In metadata creation
 - On licensing and rights statements for 3D models
- Financial resources:
 - Funding for equipments, training and digitisation projects
 - Engagement with policymakers to promote supportive legislation and funding initiatives
- Quality and standards:
 - Establishing purpose-oriented quality requirements
 - Continuous monitoring and evaluation of digitisation workflows for improvement
- Long-term strategies:
 - Development of strategies for 3D digitisation and long-term preservation of 3D digital assets
 - Strategies to future-proof 3D digital content: sustainability and longevity of 3D data
 - Development of institutional policies on 3D digitisation, access, and reuse
- Collaborations and partnerships:
 - With 3D expert and technology companies
 - With other cultural heritage institutions for knowledge sharing and resource pooling
 - At European level through the Europeana Initiative and the data space
- Legal considerations surrounding 3D digitised content
 - Copyright and intellectual property rights issues
 - Advocacy for open access to 3D cultural heritage data

- User engagement, education, tourism and research
 - Development of educational materials and interactive resources in 3D for public engagement
 - 3D content for schools and education communities
 - Integration of 3D digital content into exhibitions and educational programs
 - Engagement with cultural tourism initiatives and researchers

The reflections by the speakers and participants contributed to a greater awareness of the collective efforts that are needed to build 3D capabilities and to advance the targets for 3D content in the data space for cultural heritage.

Building on the outcomes of this meeting, the Europeana Initiative will continue to facilitate conversations and capacity building activities for 3D digitisation of cultural heritage, for example the [Twin it! Webinar series by 4CH](#).

When the Twin it! campaign comes to an end in June 2024, coinciding with the Belgian Presidency of the EU, a joint event by the European Commission and the Europeana Initiative will showcase the achievements of Twin it!. It's crucial to keep the momentum of the campaign going and to ensure the targets of the 2021 Commission's Recommendation are met. These targets are a collective ambition and responsibility which require commitment, determination and cooperation. All actors and stakeholders need to be motivated and invested and work collaboratively to meet the targets.

The Europeana Initiative continues to support the Member States to actively participate in the Twin it! campaign and build on the resulting experience and learnings. It also supports capacity building of heritage professionals and institutions in creating and making available purpose-oriented high-quality 3D data in the data space well beyond the campaign. The Europeana Initiative develops frameworks to support 3D digitisation and reviews the Europeana Publishing Framework, the Europeana Data Model, and the Europeana Licensing Framework to address the requirements and opportunities for 3D data aggregation in the data space.

Prelude: Context and background

The European Commission's 2021 Recommendation on a common European data space for cultural heritage sets ambitious 3D targets for Member States: *'By 2030, Member States should digitise in 3D all monuments and sites deemed cultural heritage at risk, and 50*

% of the most physically visited cultural and heritage monuments, buildings and sites'. It also encourages paying special attention to specific categories of heritage assets with low levels of digitisation.

The Europeana Initiative and its partners aim to facilitate a significant and sustained increase of high quality, accessible and usable 2D and 3D data in the common European data space for cultural heritage.

In order to fully leverage the possibilities offered by 3D technology, it is essential to enhance the expertise and skills of heritage professionals and institutions through holistic multidisciplinary training, sharing of best practices and stimulating collaboration.

The Twin it! campaign, which kicked off in June 2023, is raising awareness of opportunities offered by 3D technologies and supporting Member States to step up their 3D digitisation efforts and build 3D capabilities for their cultural heritage institutions. To advance the objectives of the European Commission Recommendation on 3D, Twin it! will collect and showcase emblematic and high-quality samples of Europe's cultural assets in 3D. Ultimately, the campaign aims to ignite a sustained movement surrounding 3D digitisation of cultural heritage in Europe. The campaign is supported by the Swedish, Spanish and Belgian presidencies of the Council of the EU.

Highlights from the conference

This report summarises the outcomes of the discussions from the conference.

The Spanish Presidency Europeana conference 'Accelerating 3D in the common European data space for cultural heritage: Building capacity for 3D' provided a forum for a much-needed discussion on 3D capacity building for the cultural heritage sector, hopefully inspiring new insights that can inform future conversations and policy direction.

Building on the discussions held at the Europeana conference under Sweden's presidency on 18 April 2023, the Spanish Presidency conference explored aspects of building the capacities of heritage professionals and institutions in creating and making available high-quality 3D data in the common European data space for cultural heritage and in the sector. The conference provided insights and inspiration about how to organise 3D projects and shape relevant discussions at national level, contributing to the ambitions of the Twin it! 3D for Europe's culture campaign.

In addition to the [programme](#) of the Spanish Presidency Europeana conference, onsite participants in Pamplona were able to attend two workshops on 3D. These were:

- [Seven steps for a 3D digitisation order - Giravolt's experience](#)
- [Built with Bits: Designing virtual spaces for social impact](#)

Key learnings and takeaways from the conference

- For the common European data space for cultural heritage to fulfil its ambitions around 3D targets, the continued support and commitment by EU Member, and concerted efforts at national level and among all actors are key.
- It is essential for all actors to:
 - Have greater understanding of the needs for 3D capacity building;
 - Get deeper insight into 3D workflows, from prioritisation and selection of heritage to digitise in 3D to sourcing, 3D modelling aggregation, access and storage.
- National strategies are crucial to reach the ambitious goals set by the European Commission Recommendation.
- Approach to 3D digitisation needs to be holistic, human centred and value based.
- The sector needs:
 - Guidelines on defining the priority areas for 3D digitisation in the Commission Recommendation: heritage at risk, most visited sites and monuments, and low level of digitisation;
 - Guidance on strategies for 3D workflows;
 - 3D capacity building guidelines;
 - Frameworks and standards on purpose-oriented quality of 3D content based on the intended use for the 3D model.
- Twin it! is only a stepping stone in the advancement towards the 3D objectives of the Commission Recommendation.
- Long-term strategy and planning for 3D digitisation is critical.
- What to digitise in 3D should take into consideration various criteria as part of an informed selection and decision process, among which:
 - Significance and Importance (intrinsic heritage values)
 - Purpose-oriented assessment
 - Condition, Vulnerability and Risk
 - Accessibility and Public Interest
 - Reuse: Educational, Research, Tourism or Other Value
 - Community Engagement and Inclusivity

- Technological Feasibility and Tech/Human/Financial Resources
- Interdisciplinary Collaboration
- Long-Term Preservation and Sustainability
- Legal and Ethical Considerations
- Diversity and Representation
- A step-by-step process to digitise a cultural heritage asset in 3D includes:
 - Establishing objectives and goals
 - Conducting an inventory
 - Consulting stakeholders
 - Defining selection criteria
 - Prioritising cultural heritage assets
 - Assessing technological feasibility
 - Ensuring diversity and representation
 - Developing a project plan
 - Implementing the digitisation process
 - Conducting quality assurance
 - Evaluating the impact and effectiveness
 - Iterating and refining
- Copyright and rights issues surrounding 3D digitisation to consider are:
 - Copyright ownership
 - Determining public domain status
 - Obtaining appropriate licences or permissions
 - Open access and Creative Commons
 - Risk management
 - Documentation and recordkeeping
- Working with a 3D technical partner requires careful and detailed planning:
 - Defining the objectives
 - Selecting a technical partner
 - Clear communication
 - Roles and responsibilities of parties
 - Assessment of the heritage asset
 - Agreeing on technical specifications
 - Addressing legal and ethical considerations and obligations in contracts
 - Collaborative project plan
 - Access to the asset, permissions or arrangements
 - Monitoring progress

Importance of long-term planning when setting strategy for 3D digitisation

The field of 3D digitisation and 3D technologies are rapidly evolving, with new technologies, software and techniques continually emerging. Long-term planning enables institutions to stay abreast of these developments and ensure the longevity and sustainability of their 3D digitised content. It also helps in identifying sustainable approaches that maximise the long-term benefits of digitisation while minimising costs. In essence, long-term planning provides institutions with a roadmap for effectively implementing and sustaining 3D digitisation efforts, ensuring that they achieve their goals efficiently in the rapidly evolving digital landscape.

Tools and services available to Member States for 3D processes

- [Enumerate Observatory](#) and [Europeana.eu Statistics Dashboard](#) to track progress
- Capacity building and training for cultural heritage institutions and professionals: [4CH Webinar Series](#), Twin it! Cafés
- The Europeana Network Association and other networks of professionals stimulating synergies, collaboration, and knowledge-sharing
- [Data space supporting projects](#) surrounding 3D
 - EUreka3D - European Union's REKOnstructed content in 3D
 - 5Dculture - Deploying and demonstrating a 3D cultural heritage space
- Future plans: [EU initiative on virtual worlds](#)
- Data space activities including 3D digitisation support, connecting 3D data to other cultural heritage content, reuse
- [Twin it! label](#)
- [Twin it! webinar series](#) in partnership with the 4CH-Project – Competence Centre for the Conservation of Cultural Heritage on 3D modelling technologies, processes and standards
- Twin it! Café series to provide hands-on support to Twin it! national contact points, Europeana national aggregators as well as domain aggregators and other colleagues involved in the Twin it! campaign. Twin it! Cafés will take place from January to March 2024 and will cover topics like [3D material ingestion](#) and [licensing and legal issues](#).
- 3D studies such as '[A unique study on 3D digitisation led by Cyprus University of Technology](#)' or the [Report on Basic principles and tips for 3D digitisation of cultural heritage](#) by the European Commission's Expert Group on Digital Cultural Heritage and Europeana.
- [Europeana Knowledge Base - resources on 3D](#)

Selection process: What to digitise in 3D

When deciding which type of cultural heritage from the three priority categories in European Commission Recommendation to digitise in 3D, several criteria should be considered. This will help to ensure that the digitisation efforts align with national, sectoral and institutional goals, priorities and resources. By considering such criteria, cultural heritage institutions can make informed decisions about the types of cultural heritage to prioritise for 3D digitisation, maximising the impact and benefits of efforts:

- *Significance and importance:* Prioritise cultural heritage assets that hold significant historical, artistic, cultural, or scientific value - to local communities, national identity, or global heritage.
- *Condition and vulnerability:* Prioritise assets that are at risk of deterioration, damage, or loss due to environmental factors, natural disasters, human activities, or war.
- *Accessibility and public interest:* Prioritise assets that are not easily accessible or visitable by the general public, allowing broader audiences to engage with and learn about them virtually.
- *Educational and research Value:* Prioritise assets that have the potential for reuse to contribute to academic research, scholarly inquiry, educational programs, or bring a narrative or story to the audience.
- *Community engagement and inclusion:* Involve stakeholders, local communities, and indigenous groups in the decision-making process. Prioritise cultural heritage assets that hold significance for diverse communities.
- *Technological feasibility and resources:* Assess the technological feasibility of digitising cultural heritage assets in 3D. Consider the availability of equipment, expertise, funding and infrastructure required for successful digitisation projects.
- *Interdisciplinary collaboration:* Prioritise assets that can benefit from multidisciplinary approaches and expertise, collaboration and partnerships between cultural heritage institutions, academic researchers, technology experts and other stakeholders.
- *Long-term preservation and sustainability:* Prioritise assets that can be effectively preserved, maintained and accessed over time, ensuring their longevity and accessibility for future generations.
- *Legal and ethical considerations:* Address legal and ethical considerations associated with digitising cultural heritage assets. Ensure compliance with intellectual property rights, copyright laws and cultural heritage regulations.
- *Diversity and representation:* Promote diversity and representation in digitisation efforts. Prioritise assets that reflect diverse cultural, ethnic, linguistic and

socio-economic backgrounds, fostering inclusivity and equity in cultural heritage preservation and interpretation.

A step-by-step process to digitise a cultural heritage asset in 3D

1. Establish objectives and goals of the 3D digitisation project to determine whether the purpose is for preservation, research, education, public engagement, or a combination of these factors.
2. Conduct an inventory of the cultural heritage assets to identify potential assets, assessing the significance, condition, accessibility and value of each asset.
3. Consult stakeholders to gather input and perspectives on the selection criteria and priorities.
4. Define clear and transparent selection criteria based on objectives, stakeholder input and best practices.
5. Prioritise cultural heritage assets based on the established selection criteria.
6. Assess technological feasibility of digitising selected assets in 3D: consider the complexity of objects, available equipment and expertise, budget constraints, time required for digitisation, weather and environmental conditions for monuments and heritage sites.
7. Ensure diversity and representation in the selection of cultural heritage assets from diverse cultural, ethnic, geographic and historical backgrounds.
8. Develop a detailed project plan outlining the scope, timeline, budget, resources, workflow for the 3D digitisation project, key milestones, roles, responsibilities, and deliverables to guide the implementation process.
9. Implement the digitisation process using appropriate 3D scanning techniques, software tools and best practices to capture desired-quality digital replicas of selected cultural heritage assets, or hiring a technical partner.
10. Conduct quality assurance checks to ensure the accuracy, completeness and integrity of digitised assets and document the digitisation process, metadata, and contextual information to facilitate future access, preservation, and research.
11. Evaluate the impact and effectiveness of the 3D digitisation project and solicit feedback from users, stakeholders and experts to identify strengths, weaknesses and areas for improvement.
12. Iterate and refine digitisation processes, strategies and priorities based on lessons learned and evolving needs.

Copyright and rights issues surrounding 3D digitisation

Navigating copyright and other legal questions in 3D digitisation of cultural heritage assets requires careful consideration of copyright protection and ownership, managing permissions, and evaluating other legal and ethical principles to ensure responsible access to cultural heritage resources. Some of these considerations include:

- Copyright ownership of the cultural heritage assets, and if necessary, obtaining appropriate licences or permissions from copyright holders;
- Determining public domain status;
- Moral rights and the need to attribute the work to the original creator and respect its integrity;
- Obtaining potential rights that arise in the creation of the model;
- Open access policies allowing for broad access and reuse;
- Implementing policies, procedures, and best practices to mitigate risks and ensure compliance with applicable laws and regulations;
- Documentation and recordkeeping of the rights status, permissions obtained, licensing agreements.

Working with a 3D technical partner

When collaborating with a 3D expert technical partner for the digitisation of a cultural heritage asset, several important considerations and steps should be taken to ensure a successful partnership and project execution:

1. Clearly defining the objectives of the digitisation project and ensuring alignment and understanding;
2. Choosing a technical partner with expertise and experience in 3D digitisation, particularly in the cultural heritage sector - includes technical capabilities, previous projects, reputation, and compatibility with project goals and values;
3. Establishing clear communication channels and lines of contact for regular communication on updates, concerns, decisions throughout the project lifecycle;
4. Defining clear roles and responsibilities of both parties;
5. Conducting a thorough assessment of the heritage asset to be digitised assessing its physical condition, dimensions, material properties and any special considerations;
6. Agreeing on technical specifications for the digitisation process, including scanning techniques, equipment requirements, resolution, file formats and data processing workflows;

7. Addressing legal and ethical considerations related to copyright, intellectual property rights, permissions and data privacy;
8. Collaboratively developing a detailed project plan outlining the scope, timeline, budget, milestones, deliverables and acceptance criteria accounting for potential challenges, risks and contingencies;
9. Providing the technical partner with access to the asset any necessary permissions or arrangements;
10. Monitoring the progress of the project and conducting regular quality assurance and addressing any issues or discrepancies promptly;
11. Collaborating with the technical partner on dissemination and preservation strategies for the digitised asset: how the 3D model will be shared, accessed, and preserved for future use.

By following these considerations and steps, institutions can effectively collaborate with a 3D expert technical partner to digitise cultural heritage assets, ensuring outcomes that meet project objectives and contribute to the preservation, accessibility and reuse of cultural heritage resources.

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List of speakers

- Valentine Charles, Data Services Director, Europeana Foundation
- Isabel Crespo, Business Development Coordinator, Education, Europeana Foundation
- Roberto Di Giulio, University of Ferrara, 4CH
- Kate Fernie, Operations Manager, CARARE
- Antonella Fresa, Vice President, Photoconsortium
- Maria Jose Galvez Salvador, Ministry of Culture and Sports, Director General of Books, Comic
- Lluís González Martín, Responsible for three-dimensional planimetry, Direcció General del Patrimoni Cultural de la Generalitat de Catalunya
- Laura Guindal, Deputy Director General of Library Coordination, Ministry of Culture and Sports Spain

- Marinos Ioannides, Responsible for the e-Preservation, Cyprus University of Technology
- Agata Krawczyk, Ministry of Culture and National Heritage Poland
- Ariadna Matas, Policy Advisor, Europeana Foundation
- Minister Miquel Octavi Iceta i Llorens, Minister of Culture and Sport, Spanish Ministry of Culture
- Zachos Polyviou, Coordinator of Digitisation Projects, Deputy Ministry of Culture, Republic of Cyprus
- Jelena Rubic, Head of Department Digitalisation of Cultural Heritage, Ministry of Culture and Media of the Republic of Croatia, eKultura.hr
- Elena Sanchez Nogales, Head of the Digital Innovation and Reuse Service, National Library of Spain
- Fulgencio Sanmartín, Policy Officer, European Commission
- Albert Sierra Reguera, New technologies, Catalan Cultural Heritage Agency
- Martin Ure, Project Manager Digitisation, Federal Ministry for Arts, Culture, the Civil Service and Sport, Austria
- Hans van der Linden, Policy advisor, Flemish Government. dept. of Culture, Youth and Media
- Yvo Volman, Director, European Commission
- Moderated by Jolan Wuyts, Collections Editor, Europeana Foundation

References

- [Europe's Digital Decade: digital targets for 2030](#)
- [European Commission's Recommendation 2021/1970 of 10 November 2021 on a common European data space for cultural heritage](#)
- [The Spanish Presidency programme](#)
- [The Cáceres Declaration](#)
- [CEDCHE Expert Group](#)
- [Programme of the Spanish Presidency Europeana conference](#)
- [Recording of the Spanish Presidency Europeana conference](#)
- [Recording of the Swedish Presidency Europeana conference](#)
- [Twin it! 3D for Europe's culture](#)
- [Twin it! label](#)
- [Data space supporting projects surrounding 3D](#)
- [A unique study on 3D digitisation led by Cyprus University of Technology](#)