D1.6 Technical progress report 4

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HISTORY OF CHANGES			
Version	Date	Author	Comments
0.1	09/12/2024	Valentina Bachi	First draft
0.2	23/12/2024	Panayiotis Panayiotou (CUT), Ignacio Lamata Martinez (EGI), Helena Noguè (CRDI), Antonella Fresa (Photoconsortium)	Review and additional content
1.0	30/12/2024	Antonella Fresa, Valentina Bachi	Final version

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EXECUTIVE SUMMARY

This deliverable illustrates the progress in the various areas of the EUreka3D project at the completion of M24.

All the activities were successfully performed, with respective deliverables and milestones achieved. EUreka3D proved to be a successful project with excellent collaboration between partners, that generated outstanding results for the benefit of the entire Cultural Heritage sector and for the enrichment of the common European data space for cultural heritage.

In summary:

- a valuable capacity building effort about high quality 3D digitization, that generated publications of learning resources, onsite and online events, and dissemination in conferences and events also pertaining to neighbour sectors like research, education and tourism;
- a sustainable suite of services and tools that cover the entire workflow of Cultural Heritage Institutions (CHIs) in production, management, curation and sharing of 3D cultural collections (the EUreka3D Data Hub, fully integrated in Europeana);
- high quality 3D and 2D collections published in Europeana in the highest tiers for content and metadata;
- editorials, blogs and communication channels which will be maintained also beyond the end of the funding period
- a comprehensive reflection on various areas of impact that include behavioural changes in the workflows of CHIs for adoption of digitisation standards and recommendations, for the use of new resources and tools, for the new knowledged accessed; plus reflections on economic impacts of these changes, on environmental impacts of the digital transformation, and other impact and sustainability stories collected in the project.

All this work and the outcomes constitute the basis for the continuation project EUreka3D-XR and for more ambitious actions in the context of making EUreka3D a competence center for 3D digitisation.

Fig. 1 Plenary meeting of the project, Girona 12 December 2024

This deliverable is composed of the following chapters:

1. Introduction
2. Overview of the progress
3. Details on Work Packages and Activities
4. Conclusions and next steps.

1. INTRODUCTION

According to the project's Grant Agreement, this document *D1.6 Technical progress report 4* is the fourth and final instance of progress report with detail of the activities, data added or updated, updated risk assessments, the progress towards the project objectives in percentages, highlighting and justifying possible deviations from the original plan.

In accordance with the provision of the Grant Agreement, the periodic reports are submitted following the templates published on the EU Funding & Tenders Portal. On this basis, the deliverable D1.6 is composed by the content provided on the EC Portal (Part A of the Technical Report) and by this document that contains the narrative parts of the Technical Report (Part B). The Financial Report is expected to be submitted to EC after the end of the Action in the EU Funding and Tenders Portal

ROLE OF THIS DELIVERABLE IN THE PROJECT

This document provides an incremental overview of the progress achieved at Month 24 and the status of execution of the work plan, including details on the progress of each WP and task, and information about achieved milestones and deliverables.

It is complementary to the *D1.7 Final Integration report* that describes the work done to integrate the outcomes of the EUreka3D project into the common European data space for cultural heritage, including a detailed report of delivered outcomes, and their compliance with the data space frameworks. Other relevant deliverables that provide insights of the final outcomes of the project are the *D2.1 Digitization Report,* the *D2.2 Report on Training Programme*; *D2.3 Aggregation Report*, *D3.2 The EUreka3D AAI architecture*, *D3.3 Final report on the EUreka3D services and resource hub: design and implementation*, and finally the *D4.2 Impact Assessment Report*.

2. OVERVIEW OF THE PROGRESS, BASED ON THE TECHNICAL REPORT TEMPLATE (PART B CHAPTER 1)

Summary of work performed and achievements, results and impacts

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Work performed and main achievements

Short summary of progress towards the project objectives. Highlight significant activities and achievements. Provide clear and measureable details.

Analyse the outcome of the project (so far) and its (actual and expected) impact (on target groups, change, innovation etc.), including a description of the European dimension and added value. For the Final Report, include the conclusions of the action.

Report on objectives not fully achieved or not on schedule.

⚠️ *Do not simply cut and paste the project summary (filled in online on the Summary for Publication screen). Contrary to the summary, this section is for reporting to the EU and will not be published.*

SHORT SUMMARY OF WORK PERFORMED

EUreka3D is aimed at fostering **innovative approaches to support the digital transformation of the cultural heritage sector, with a specific focus on 3D**. Its work is in line with the EC Recommendation 2021/1970 of 10 November 2021 on a common European data space for cultural heritage, that demands Member States and cultural institutions make an urgent effort to digitise heritage in 3D, and make it available online for reuse.

However, cultural heritage institutions face various challenges concerning the creation, storage, visualisation and preservation of 3D models of cultural heritage, which are significantly more complex than 2D collections. EUreka3D has worked to provide support, capacity building and some solutions to these challenges, by developing and testing a **pilot e-infrastructure for 3D cultural collections** including various useful features that institutions can use in managing their 3D assets and related information, and **by producing training resources** and a capacity building programme of **onsite and online events**.

The **EUreka3D collections published in Europeana** consist of 328 high-quality 3D models from content partners and additional 22 models from content providers who are not beneficiary in the project, plus 5.519 high-quality 2D cultural heritage objects. The collections and the stories of the project were showcased in a **variety of editorials and dissemination materials** in Europeana and in the project's website and blog on Digitalmeetsculture magazine, also serving to boost the visibility of Europeana and the common European data space for cultural heritage.

Thanks to this effort, to the tools developed and the knowledge collected and shared in the project, EUreka3D is well positioned as a center of competence in 3D digitization, management and sharing, thus paving the way for future activities in supporting CHIs in their digitization journey.

MAIN ACHIEVEMENTS AND OUTCOMES PER WP

WP1 - Project management and coordination

In person and online meetings were regularly organized for monitoring the progress and reviewing the status and plans for the various tasks. Two informal progress meetings with the PO were held in June 2023 and in January 2024, to present the progress of the project. Informal reporting to monitor partners' expenditure were also requested by the coordinator.

All the project deliverables and project milestones were timely achieved.

In the final plenary meeting of the project, organized in Girona on 12/12/2024, the participation of the PO was especially focused at informing partners about methods and obligations about the final reporting (from January 2025) and about the final review, set on 18/2/2025.

WP2 - Capacity building for CH digital transformation and 3D digitisation

The capacity building programme was especially aimed at disseminating recommendations on high quality digitization in 3D on the basis of the VIGIE 2020/654 Study on Quality of 3D digitization of tangible heritage and at sharing knowledge in the CH professional community about key themes such as formats, standards, authenticity and fake media, also sharing good practices and real life experiences of digitization of cultural collections and showcasing resources and tools to support high quality 2D and 3D digitization and collections' reuse.

The programme realized by the project comprises various actions, reported in more details in the *D2.2 Report on training programme*:

- **Production of learning and training resources, openly accessible in the project's website, YouTube and on the Zenodo channel.** Outstanding examples are the **3D Digitisation Guidelines: Step to success** (a guide to help CHIs implement the VIGIE 2020/654 Study, available online and in printed form); the **content providers case studies**, written to share the stories, challenges and lessons learnt by the 4 partner CHIs in the digitization, management and sharing of high-quality cultural collections, and the **recordings of all online webinars** produced by the project. An **open book** was also published online following the major coordination events organized by CUT (Paradata Metadata and Data in Cultural heritage and Euromed workshop), the printed version is expected in 2025.

- **Onsite and online events.** Outstanding examples of this are the participation in **EGI 2024 conference in Lecce** with technical workshop on AAI (+80 attendees) and presentation in data spaces session (+40 participants) and in a booth (+100 interactions); **hands-on training to CH professionals and students** in Malta, Nancy, and Girona; and of course the series of the "**Transforming Heritage**" webinars organized with ICA the International Council on Archives, with a global outreach of 698 participants (330 first series in 2023 and 368 second series in 2024) from all over the world including but not limited to Nepal, Indonesia, Philippines, Mozambique, Lebanon, South Africa, US, Japan, Mexico, Guatemala, Brazil, Chile).

- **Cooperation and cross collaborations with stakeholder organizations in cultural heritage and other sectors such as research, education and tourism, also via participation in relevant events.** As outstanding examples, the Image and Research conference in November 2024 expressly addressed to professionals in the AV sector, and the participation in European Heritage Hub Forum in Bucharest.

Fig. 2. The three main training and learning resources produced in EUreka3D: Digitization Guidelines, Final Booklet, and Springer open access publication

Regarding the digitization and aggregation of cultural collections, the EUreka3D content providers committed to digitise and publish in Europeana a varied range of different cultural heritage objects, as described in details in the

D2.3 Digitisation and aggregation report:

- CUT: n. 3 high-quality models of Cypriot heritage: (a) the Byzantine monument the Church of the Holy Cross (Timios Stavros) in Pelendri village (UNESCO WH site), (b) the Chrysorrogiatissa Monastery in Paphos district (a monument under risk), and (c) the oldest fishing trawler of Cyprus, called "Lambousa", (also submitted to Europeana's TwinIt! campaign in May 2024). In addition, CUT aggregated 2 models of Cypriot heritage from associated partner Medelhavsmuseet
- CRDI: n. 50 objects of pre-cinema and equipment. In addition, an existing collection of n. 99 3D digitised daguerreotypes have been uploaded into the EUreka3D Data Hub for testing purposes.
- BIBRACTE: n. 261 records, including museum objects, cultural and everyday life artefacts, and typological 3D models of ceramic tableware; and additional 243 records of the archaeological site (composed of 3D and 2D formats).
- MUSEO DELLA CARTA: n. 2 ancient paper moulds digitised in 3D with photogrammetry. In addition, a selection of 5.286 documents (images and texts) from the Museum's archives were published on europeana.eu.
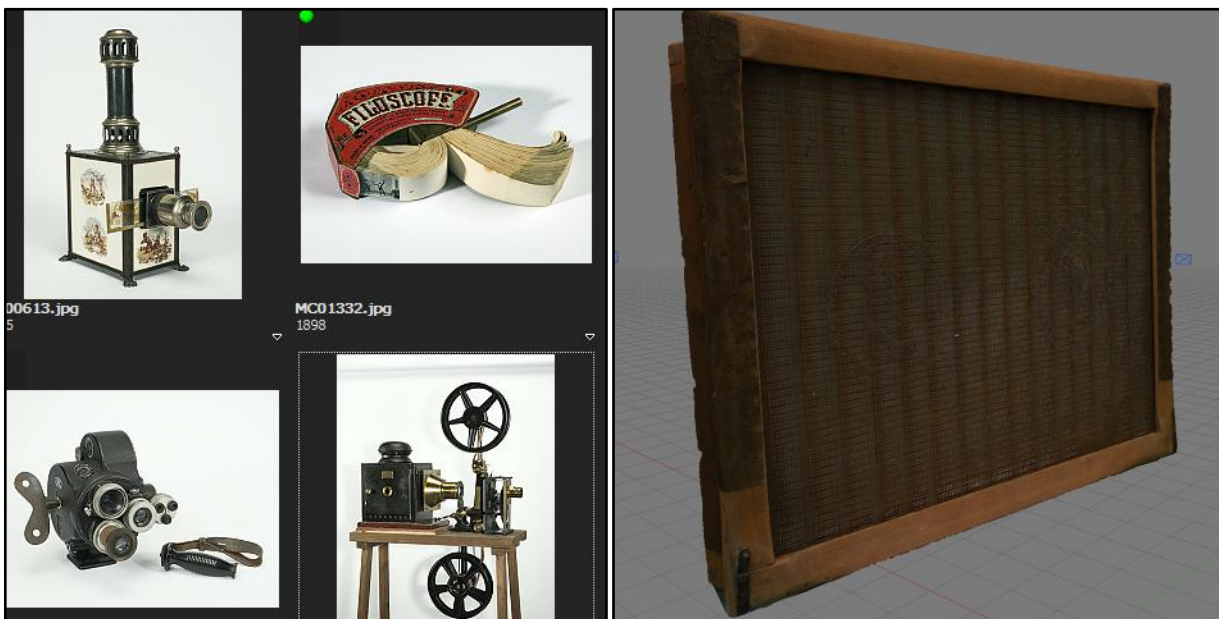

Fig. 3 Objects digitized in 3D by project partners

The high quality 3D digitisation of selected objects is widely described in the *D2.1 Digitisation report and pilot's best practice* delivered in August 2024, which captures the outcomes of the digitisation action done in the project, with details of the digitisation quality level provided. The work of the content providers then continued with metadata and paradata preparation to accompany the 3D models. Quality and compliance checks were made on the aggregated datasets by Photoconsortium and the Europeana Foundation to ensure that the records comply with the EPF, specifically the contractual requirements of minimum tier 2 (content) and tier A (metadata).

While for the 2D collections foreseen in the project (Museo della Carta and Bibracte) the existing MINT mapping tool operated by partner Photoconsortium was used to convert the source metadata of the content provider to the Europeana Data Model (EDM), the collections composed of 3D models, most of them digitised in the course of the project, were aggregated via the EUreka3D Data Hub, that in the course of the project evolved to become a self-standing tool for the creation of datasets with the EDM. As indicated in the *D1.7 Final Integration Report*, "All content ingested through EUreka3D is Content tier 4, and metadata Tier B+. All content ingested through EUreka3D is CC BY-SA or more openly licensed."

As part of WP2, the project created an expert group in 2023, composed of expert members who provided valuable feedback and insights on the project's progress and quality. Additionally, Photoconsortium representatives remain active participants in the data space 3D Working Group, contributing to the revision of EDM to better incorporate information related to 3D models. They also actively participated in the revision and update of 'Europeana Publishing Guidelines on 3D' and in the upcoming tasks in 2025 of defining criteria and case studies for the integration of datasets, services and tools in the data space for cultural heritage "marketplace", providing the exemplary case of EUreka3D as a data space supporting project.

WP3 – Digital infrastructure and integration of services and tools

The EUreka3D infrastructure is a cloud solution that offers storage and tools to cultural institutions for 3D files management (including data, metadata and paradata), and for the delivery of 3D heritage collections to users, also providing interoperability with Europeana. This infrastructure was designed, tested, used and assessed in a pilot where 4 partner CHIs participated with their contents, and various associated partners contributed to.
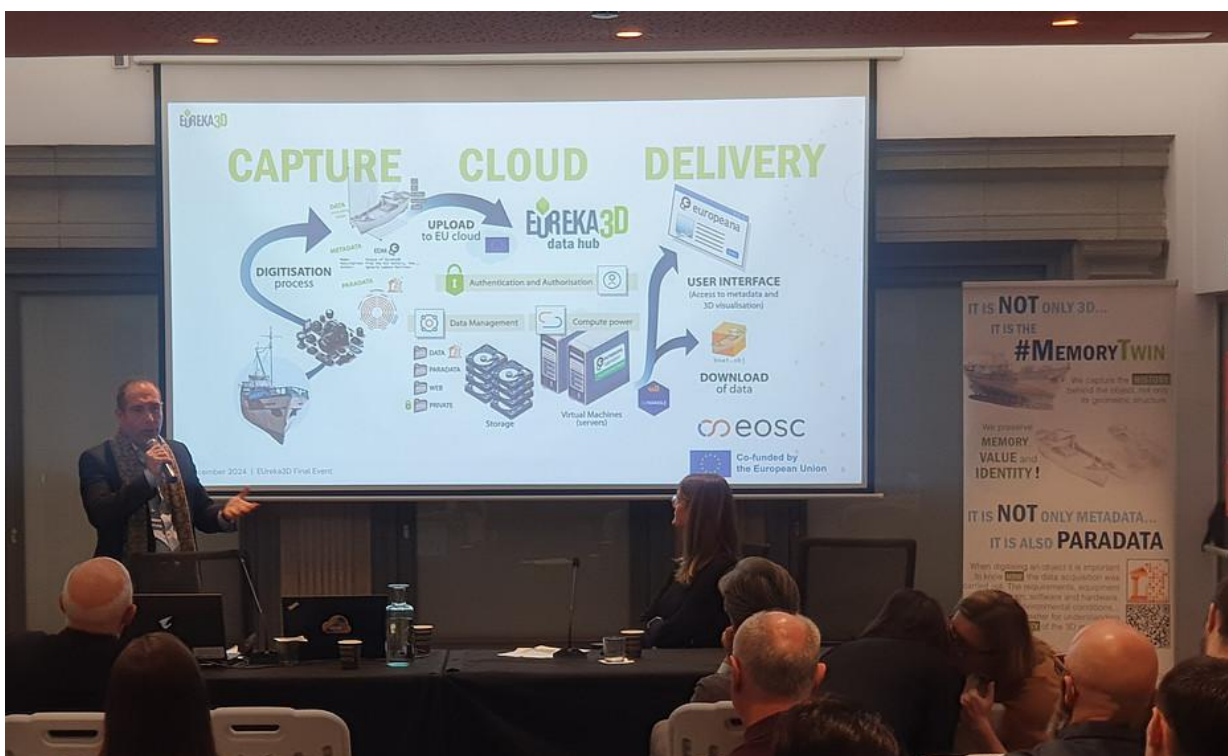

fig. 5 EUreka3D workflow

All the features of the EUreka3D infrastructure are described in *D3.2 The EUreka3D AAI architecture*, and *D3.3 Final report on the EUreka3D services and resource hub: design and implementation*.

In a nutshell, the services of the EUreka3D pilot includes various features, such as:

- Secure authentication and authorisation mechanisms, to protect 3D objects from manipulation or unauthorised access;
- Storage of models in original formats (often with very large file sizes) in the EUreka3D cloud, and conversion/visualisation features that enable the object to be displayed online;
- Metadata and paradata management, compatible with the Europeana Data Model;
- Interoperability with established tools and Europeana procedures;
- Allocation of PIDs to support long term accessibility of collections
- Aggregation and harvesting functionality to provide the individual object or datasets to Europeana for publication.

As part of the WP3, discussions and work were done to ensure the integration of EUreka3D services and 3D datasets in the European Open Science Cloud (EOSC), in consideration of the current redesign landscape that is ongoing for EOSC. It particular, the project has defined a list of services and research products available for publication in EOSC and analysed the ongoing developments of EOSC with the new EOSC Federation of Nodes, also establishing collaborations with the EOSC Beyond project, to ensure compatibility with a future integration of EUreka3D services and datasets into EOSC once this will be made possible by EOSC redesign.

WP4 - Communication, dissemination and impact assessment

Actions from the dissemination plan are implemented, with regular updates of the **project's website, social media, newsletter**. Regular meetings of the editorial and communication board took place to monitor the project and plan actions. Extensive use of **e-zine Digitalmeetsculture** allowed to boost the visibility of the project and of Europeana and the data space, thanks to a dedicated showcase and publication of media outlets and blogs (to-date, 78 news items).

Dissemination at Europeana's and other **third party's events** was performed throughout the whole duration of the project by all partners. Worth mentioning in this final period of the project is our presence at the Europeana Aggregators Forum, the European Heritage Hub event in Bucharest, the Europeana Projects Week, and Image and Research Conference in Girona.

Editorials and publications include various **multilingual blogs on Europeana website, on Pro, and galleries**. Source collections are also published in **Historiana**, as open access digital resources available for teachers and students. Please refer to the following section "Communication, dissemination and visibility of funding" for details and stats.

The **EUreka3D Final Booklet** was realized as online and printed publication (200 copies), including all the stories from the project, and in particular the 4 case studies produced by the content providers, illustrating the challenges, lessons learnt and success of their innovation journey in EUreka3D, for others to take inspiration from. Also the **3D Digitisation Guidelines: Steps to Success**, guidelines to implement the VIGIE 2020/654 was produced as a booklet available online and in printed form.

The **EUreka3D Final Conference** took place in Girona on 13 December 2024. The event consisted of a hybrid public conference by project partners and invited contributors, and a public onsite workshop mainly focused on experiences related to 3D digitisation of cultural heritage objects and sites. The workshop was intended for local cultural heritage and museum professionals.

The event focused on sharing the project outcomes to cultural heritage professionals, digital culture professionals and researchers, and 3D digitisation and service providers. The main topics were the methodology for 3D digitisation, the EUreka3D Data Hub –through a demonstration of its operation-, authenticity and standardisation for 3D, and the project's four use cases. The conference included a dedicated session to impact and sustainability of EUreka3D.

During the final conference and the following weeks, an **onsite exhibition** with posters and screens displayed the four 3D digitisation cases (CUT, Bibracte, CRDI and Museo della Carta) and the main project's outcomes. The EUreka3D Final Booklet and 3D Digitisation Guidelines was distributed to partners and in-person attendees.

The recording of the Final Conference has been published and promoted as a training resource through the project channels.

Fig. 6 EUreka3D Final Conference

In terms of impact assessment, findings of the reflections and measurements, which took place throughout the project duration with dedicated discussions, are presented in the *D4.2 Impact Assessment Report*.

In summary, EUreka3D aimed to deliver 5 high-impact outcomes:

- capacity building programme to CH professionals in EU and beyond, also disseminating the VIGIE Study
- a pilot for 3D digitisation, management and sharing, in line with high-quality requirements that foster reuse
- services and tools based on cloud (named EUreka3D Data Hub) that CHIs can use to host, manage, visualize and share their collections, also in a collaborative way with other organizations in the EUreka3D community
- high quality new contents and compelling stories shared in the Europeana
- training resources, case studies and other learning and additional elements provided via Europeana in the data space for cultural heritage, for others to learn and replicate the experiences.

As a concrete indicator of the impact of the project, it is noteworthy to mention that, next to the beneficiaries who are partners in the project, various external organisations joined as associate partners, because they were interested in using the EUreka3D Data Hub for their collections.

In some cases, the 3D collections were finalized and published in Europeana:

- RAMS Regionaal Archeologisch Museum a/d Schelde (Belgium): 16 models of archaeological artefacts
- INSPAI Centre de la Imatge Diputació de Girona (Spain): 5 models of heritage photo and video cameras
- Giravolt project from Generalitat of Catalunya (Spain): 1 model of a bench from the church of Saint Climents in Taull
- As mentioned earlier, Medelhavsmuseet Museum of Mediterranean and Near Eastern Antiquities (Sweden): 2 models of Cypriot heritage from the museum's collection, aggregated by CUT as intermediate provider.

Reflections on the economic impact of high quality digitisation and documentation were discussed, understanding how estimates cannot be stated in terms of a fixed cost per 3D model that can be applied to all cases, but instead the costs can vary significantly, based on the complexity of the project; also the cost of creating high quality metadata and paradata is very variable depending on CHIs workflows and available resources. Also, it is important to acknowledge that while it is relatively affordable to simply digitize in 3D small museal objects in controlled

environments, which is the most frequent case for 3D digitization in the GLAMs sector, there is a very vast and challenging effort that needs to be taken into account when the aim is making such 3D models available online, known to communities, and visible for reuse. While the EC Recommendation invites all the sector to join the effort of 3D digitisation, there are still barriers to overcome for a variety of smaller CHIs who may not have enough financial, technical or staff capacity.

In terms of the economic impact of using the EUreka3D Data Hub, the reflection on costs and revenues was based on the assumption that, while the EUreka3D Data Hub is an integrated solution expressly dedicated to the needs of CHIs, thus resulting in a competitive advantage on other existing platforms and services, it is necessary to consider the price that CHIs are willing to spend for similar services. The case of Sketchfab is exemplary, as this platform was widely used by CHIs and is currently undergoing important changes that impact on CHIs, who soon will possibly need to migrate to other solutions. In this light, first reflections on the pay-per-use solution to sustain EUreka3D Data Hub indicate that a basic level of service can be offered at the same price of Sketchfab's entry profile, thus offering at the same cost a service that is more advanced and specific to CHIs. More details and reflections on EUreka3D Data Hub sustainability and future are provided in the D3.3 and summarized in D4.2.

About impact, please also refer to the next section of this document, for more insights, and to the already mentioned D4.2 Impact Assessment Report.
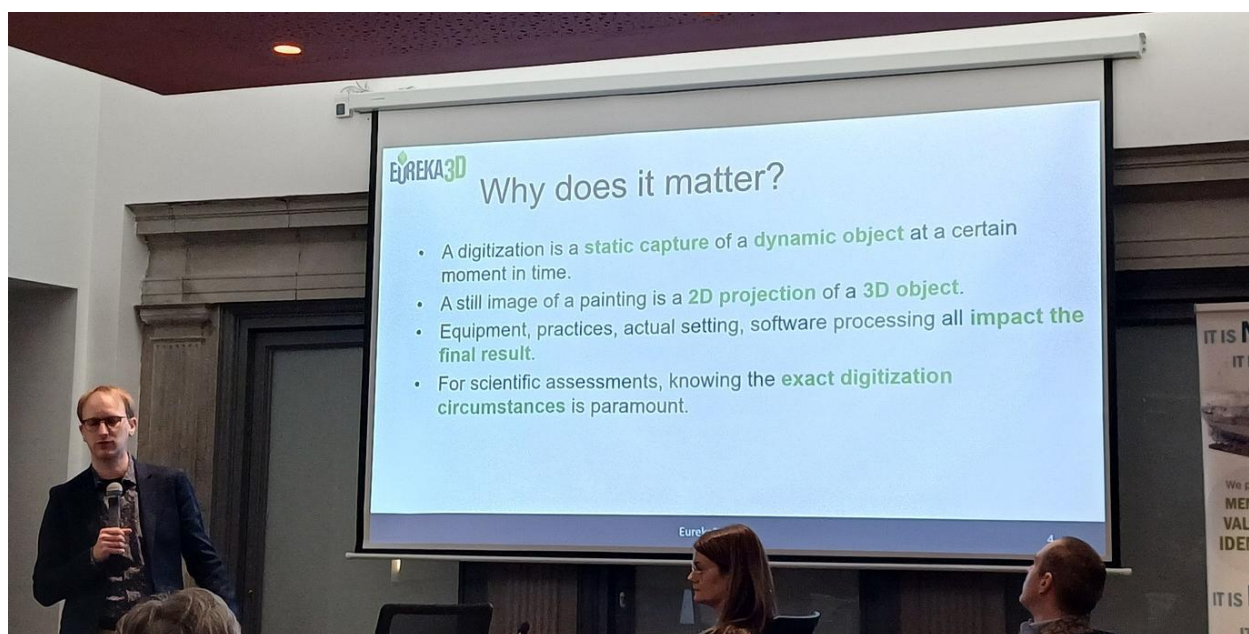

Fig. 7 the importance of high-quality 3D digitisation and documentation

CONCLUSIONS OF THE ACTION

EUreka3D proved to be a challenging but highly successful project. Challenges linked to the timeframe (24 months is a limited time for creating a fully functional e-infrastructure) and to the unexpected complexities in the integration of a viewer to showcase 3D models online were overcome by finding solutions that made use of existing building blocks. The final technical outcome is EUreka3D Data Hub, a self-standing platform that acts as a direct entry-gate to the common European data space for cultural heritage (i.e. covering the entire workflow from storage of 3D digitization files to metadata and paradata treatment to sharing in Europeana). The indication from stakeholder communities shows how this solution is welcomed by CHIs, especially those who either haven't found a way yet to showcase their 3D collections, or those who relied on Sketchfab and need to migrate to other platforms.

Around this core of technical work, big efforts were dedicated in EUreka3D to building capacity and sharing knowledge in the CHI community about high quality 3D digitization and holistic documentation of heritage objects and sites. The EUreka3D project promotes the concept of the Memory Twin, advanced from the idea of Digital Twin. In fact it is certainly important to capture the geometry of the object for different reuse purposes, and share it to the reuse communities, with high resolution files available to professionals and also via visualization tools engaging users

online. In addition to this, the innovation of the Memory Twin lies in complementing the digital twin with holistic information that bring to the users the stories of the digitization, by collecting the paradata in a scientific manner; and the stories of the objects, by reusing it in applications and editorials accessible to interested users.

The effort in capacity building was delivered via a programme of events and training/learning resources, openly accessible and maintained via the project website and other dissemination channels.

As a proof of concept of the EUreka3D methodologies and tools, four content providers and a number of associate partners delivered to Europeana 328 high-quality 3D models from partners, 22 from associated partners, and 5.519 high-quality 2D cultural heritage objects, presenting rich metadata to document varied heritage collections and stories, also showcased and reused in compelling editorials. At the time of writing, EUreka3D collections amount to 30% of the reusable content published in Europeana.

The work of EUreka3D, analysed via both qualitative and quantitative feedback to understand its impact, will be carried forward and expanded in the context of the continuation project EUreka3D-XR, starting February 2025, and paves the way to the actual establishment of a centre of competence on 3D digitization, management and sharing.

Implementation plan and efficient use of resources

Implementation plan

Report on underlinechanges to the implementation plan (if any).

The project's implementation plan did not manifest deviations, with all expected outcomes and results provided as foreseen in the GA.

The number of external stakeholders and CHIs who wanted, and in some cases managed, to test the EUreka3D workflows for publication of 3D collections in Europeana, had a prominent impact in the development and implementation of the EUreka3D Data Hub, both in term of iterative development and improvements of the platform, and of support provided to these stakeholders by EGI and by Photoconsortium as accredited aggregator to Europeana.

Unexpected complexities such as that of visualization on the internet of different formats of 3D models (3D viewer) and that of making the VIGIE 2020/654 Study really accessible and understandable to the different CHIs led to additional work that was not foreseen at the beginning.

The need to adapt to the current scenario of changes in EOSC European Open Science Cloud slightly impacted on T3.4, forcing us to reorganize our work on onboarding the services of EUreka3D in EOSC. The D3.3 includes a detailed description of the activities which were done during the project, which also led to the establishment of a Memorandum of Understanding with project EOSC Beyond, aimed at creating a structured framework for a long-term collaboration between the parties, which also include EUreka3D-XR continuation project. Leveraging the advanced tools and capabilities offered by EOSC Beyond, the collaboration will pilot and facilitate the interoperability of EUreka3D (and future EUreka3D-XR) with EOSC infrastructure, ensuring alignment with European Data Spaces and fostering innovation. Please refer to the section "Sustainability, long-term impact and continuation" for more details about this collaboration.

Finally, overperformance shows in both the outreach of the capacity building and knowledge transfer programme and in the creation of Europeana editorials, in terms of more blogs, more pro blogs and more galleries than planned.

Also the Communication and Dissemination KPIs are overachieved.

Extract from relevant deliverables are provided in the tables below.

From D2.2 Report on Training Programme:

	online participants	onsite participants
Webinars and hybrid events	1.489	147
Onsite and hands-on training	-	628
Participation in conferences	approximate number of attendees of conferences, exposed to EUreka3D training programme and learning resources: nearly 4.300	

From D4.2 Impact Assessment Report:

| KPI according to the GA	Performance
200 newsletters receivers	573 newsletters receivers - *Data collected on 10/12/2024*
300 followers on social media	748 followers on social media - *Data collected on 10/12/2024*
20,000 page visits during project's lifetime	20,275 website pages visits (M6-M24) + 8,847 visits to Europeana editorials + project's blog on Digitalmeetsculture.net *Data stats collected on 10/12/2024*
Editorials: · min. n. 4 Europeana blogs about the collections of the four content providers; · min. n. 3 Pro blogs on high-quality 3D digitisation, capacity building and new services and tools; · min. n. 10 Europeana galleries; · min. n. 24 blogs, published monthly on project's blog and other dissemination channels	All editorials published in Europeana during the project are collected in this dedicated page: https://www.europeana.eu/it/eureka3d n. 6 Europeana blogs in different languages n. 6 Pro blogs published and two additional, ready to publish n. 14 Europeana galleries n. 80 newsitems published on Digitalmeetsculture project's blog and disseminated in partners' websites, social media, newsletter and others. n. 5 source collections in Historiana, on Photoconsortium partner page
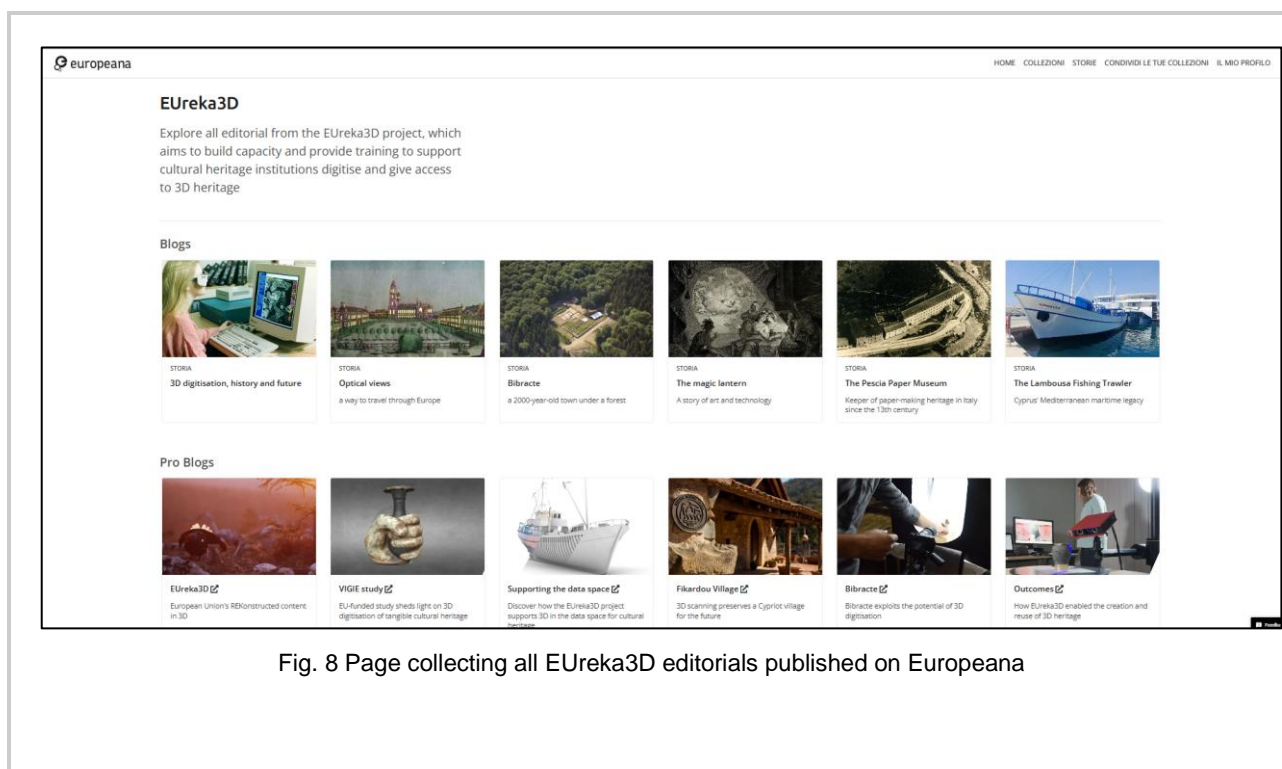
Fig. 8 Page collecting all EUreka3D editorials published on Europeana

Project management, quality assurance and monitoring and evaluation strategy

Report on changes to the overall project management concept, quality assurance and monitoring and evaluation strategy (if any).

No changes occurred in the management strategy, quality assurance and in project and expenditure monitoring.

On the occasion of the project final plenary in Girona on 12/12/2024, the PO delivered an enlightening presentation about the reporting due after the end of the project period, also clarifying how to calculate personnel costs according to DEP rules, and helping shed light on the slightly blurred distinctions between the categories of Other Costs and Subcontracting. For example, cases of specific technical services originally considered in GA as category Other Costs, such as digitisation services, are more appropriately to be claimed as Subcontracts (cfr. in the case of Museo della Carta). Services that instead support the project as a whole, such as services for the dissemination effort, instead pertain to the category Other Costs (cfr. in the case of Photoconsortium).

Minor deviations and shifts between categories may occur for beneficiaries in the final Financial Report, but it is envisaged that all of them are below the threshold of 25% of the original budget. The impact of inflation, especially in 2023[1], caused for some partners an increase of the personnel costs that also showcases on the actual average monthly rate, in comparison with the one considered in the budget, which was created at the time of the proposal in 2022.

The final project review is set on 18th February 2025 with participation of an external advisor.

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[1] https://commission.europa.eu/news/inflation-eu-will-fall-faster-and-economy-grow-more-slowly-new-forecast-says-2024-02-15_en

Cost effectiveness and financial management *(n/a for Lump Sum Grants)*

Inform about significant <u>budget overruns</u> or important <u>changes</u> in the financial management (if any).

Nothing to report in the period.

Critical risks and risk management strategy

Report on the <u>state of play</u> concerning the risks and risk mitigation measures (if any).

No risk manifested in the course of the project.

The new set-up of EOSC, which was mentioned in the previous report D1.5, has been monitored and a Memorandum was signed with the EOSC Beyond initiative, as described in the Implementation Plan above and in Chapter 3 within the description of the activities in Task 3.4.

Consortium cooperation and division of roles (if applicable)

Report on <u>changes</u> in the way the participants work together (Beneficiaries, Affiliated Entities, Associated Partners, etc.).

No changes happened in the cooperation and division of roles.

The role of Photoconsortium as coordinator extended beyond GA commitments both in WP3, to support the development of an operations and business plan for the EUreka3D Data Hub, and in WP4, to support the impact assessment and reporting, in facts the D4.2 Impact Assessment Report was mainly written by Photoconsortium, albeit including contributions from CRDI and all the partners.

Project teams and staff

Report and explain <u>deviations</u> from Annex 1 of the Grant Agreement regarding the organisation of staff or project teams. .

No deviations occur from the GA relating to project team and staff.

The collaboration between partners was excellent and friendly. The staff employed in the project by the partners included, as applicable, senior and PhD researchers, experienced project managers, administrative staff, and junior staff. The participation of women both as staff and in leading positions was remarkable, with both project coordinator and project manager at Photoconsortium being female, and WP4 manager at CRDI also female. Many of the staff in charge of communication and editorials at Photoconsortium, EGI, CUT, CRDI, Bibracte, and Europeana are female.

Consortium management and decision-making (if applicable)

Report on important <u>changes</u> in the management or decision-making mechanisms.

Nothing to report from Grant Agreement and Consortium Agreement provisions.

Impact

Impact

Report on <u>changes</u> in your impact analysis/strategy (if any) and the effects on the project/need for adaptations.

Please also describe any innovations or potential innovators emerging from the project with the potential to benefit other activities of the Digital Europe Programme.

No changes to be reported in the impact analysis and strategy.

The *D4.2 Impact Assessment Report* provides the details and findings of the impact analysis, measurements and reflections that were performed in the course of the project, supported with the impact Assessment Playbook and methodology by Europeana.

Extract from D4.2 is provided as a summary of the impact analysis and assessment:

"Three change pathways were identified that affect the main stakeholder groups (I.e. cultural heritage institutions engaging with 3D digitization):

- CP1: **Digitisation workflow** - i.e. how the implementation of VIGIE 2020/654 Study recommendation impacts the 3D digitisation process in a CHI. Creating a best practice methodology for consistent high quality 3D digitisation including metadata and paradata.
- CP2: **The Pilot action and EUreka3D Data Hub experience** - i.e. proof of concept of the data hub to store, display and integrate the 3D models, metadata and paradata created in the project: Creating a secure, affordable, EU cloud based platform, supporting the EU Data Space for Cultural Heritage and to enable CH professionals to enter and engage with the 3D transformation.
- CP3: **Capacity Building / Knowledge Transfer** - i.e. how the information created in the project is impacting all stakeholders who may be at any point in their journey with 3D digitisation or use. Building a valuable knowledge hub within and for the sustainability of the EUreka3D project. An important resource for all Stakeholders including CHIs and the Users of 3D models.

The change pathways were focusing on behavioural changes by the priority stakeholder groups, that happened because of the work done in the project. Challenges in adopting the best metrics to evaluate the impact were encountered, and can be summarized in:

- **Qualitative measurement about the 3D digitisation experience and the use of the EUreka3D Data Hub and workflow**: sourced from the experience of the 4 content providers who are beneficiary in the project and via testimonies of the advisory board and some associate partners. All this is reported in narrative form in the Final Booklet. Additionally, a survey was circulated in the SUmmer 2024 to stakeholders to collect information about the expectation in the reuse of high quality 3D models.
- **Quantitative measurement about global outreach of the capacity building programme**: sourced from events and post event data, and integrated with data about visitors of the collections and blogs published in Europeana.

The impact objectives of the project were successfully met, but it is also important to note that, although the project did not set out to create standards, it did build on some important work that, while it was not tasked as deliverables of the project, was deemed essential and impacted on the expected outcomes of the project:

- creating a simplification guide to the VIGIE Study 2020/654 on high quality 3D digitisation, to help CHIs understand what they have to take into account when starting a digitization project;

- performing a deep investigation into 3D Viewers as it was found that having a services platform to store and manage 3D assets is not complete without being able to also present the models on the internet in a way that users can visualize, also accepting the challenge of compromises, due to the variety of formats in 3D.

The work done in EUreka3D will be leveraged in the next DEP project EUreka3D-XR, building on existing methodologies and the EUreka3D Data Hub to improve and expand the tools and methods for sharing and reusing 3D collections, in the light of creating XR scenarios and exemplary success stories. This effort contributes to innovating the way CHIs leverage their investment on 3D digitization to easily create engaging and more modern presentations of their content to general users, online and onsite visitors and other stakeholders in neighbour domains such as education and tourism."

Communication, dissemination and visibility of funding

Report on the communication and dissemination activities undertaken (to whom, which format, how many, etc.) as foreseen in your Dissemination and communication plan. Please inform and justify any changes regarding dissemination and exploitation in comparison with the initial plan.

Describe how the visibility of EU funding was ensured.

If you described your project on your website(s) and/or social media accounts, please provide the links.

During the period M18-M24, tools and communication and dissemination activities published on D4.1 (dated 06/30/2023) have been implemented. The Final Conference took place successfully in Girona on 13th December 2024. During this time frame, monthly meetings of the Communication and Editorial Working Subgroup have taken place online and in-person (at the project plenary, on 12 December 2024).

Communication actions through the project's communications channels have been carried out as it follows:

- Website and project's blog have been regularly updated. It is worth to highlight some of the most relevant new webpages: a page about the four digitisation use cases that includes the use case chapters from the Final Booklet, a page about the Final Conference, as well as the updates on the Resources page. The Media section on the website collects all the visual materials created within the project context for promoting various activities.
- Publication of articles related to the project on the blog, hosted by DigitalMeetsCulture. These articles showcase more in depth content about project's events, collaborations and participation in capacity building activities.
- The project's newsletter is regularly sent, with an average of 1 newsletter per month until December 2024. The newsletter content is based on the communication needs and the promotion of ongoing project activities. On December 2024, the newsletter has reached 570+ subscribers, and an opening rate of 40-50%.
- Social media updates are in line with the project's activities and its related content, with 750+ followers including all the project's social media channels: Twitter, LinkedIn, Instagram , YouTube channel.
- The YouTube channel displays some videos specifically created for the project and other recordings from capacity building activities, in order to disseminate and collect the knowledge transmitted in these training activities. The last video productions are also uploaded on the channel: the final conference recording, the Transforming Heritage webinar series recordings, and the video about the four use cases also exhibited at CRDI during the final conference.
- The EUreka3D community on Zenodo is updated with project reports and publications.

The marketing plan for the EUreka3D capacity building programme aims to reach cultural heritage professionals and communities working with digital cultural heritage, as well as 3D digitisation professionals and service providers. In this light, communication activities have been developed to foster this programme as follows:

Transforming Heritage: Formats, authenticity and preservation, organized in collaboration with International Council on Archives (ICA):

- Website dissemination, social media posting, newsletter sending, and cross-dissemination actions with ICA

- Visual materials disseminated through different communication channels
- Video recordings of the webinars available

EUreka3D Final Conference, which represents a core communication activity, focused on sharing the project outcomes to cultural heritage institutions professionals and 3D digitisation and service providers, offering capacity building activities, and reaching a wide general audience:

- Website dissemination, social media posting, newsletter sending, and cross-dissemination actions in collaboration with project partners
- Visual materials disseminated through different communication channels
- Distribution of the project's Final Booklet and the 3D Digitisation Guidelines among attendees
- Exhibition with informative panels about the project and videos showcasing the four project's use cases at CRDI – Ajuntament de Girona headquarters, intended for partners and local audience
- Local promotion for CHI professionals (onsite conference and workshop): CRDI mailing, Catalonia Records Management Professional Association, Museum Managers Association of Catalonia, net of Girona museums, net of Catalan Art Museums, IWETEL, Bibcat, local educational sector (Archive and Cultural Management masters and degrees UB, UAB, UdG).

The marketing plan for the EUreka3D has also promoted external events where EUreka3D project has been showcased through presentations, workshops, conferences, and distributed promotional materials. It is worth highlighting events such as *EGI DataHub Webinar*, *Supporting Communities Through Digital Cultural Tourism*, *EGI Conference 2024*, *EUreka3D at European Heritage Hub Forum in Bucharest*, *Image and Research Conference 2024*, *Heritage Horizons, the Europeana Project Week*, workshop *Paradata, Metadata, and Data in 3D Digital Documentation for Cultural Heritage* at EuroMed 2024, among others.

The online version of the publication *3D Digitisation Guidelines: Steps to Success* has been promoted during the mentioned project and external events, and the printed version has been distributed to attendees at the Image and Research Conference and EUreka3D Final Conference.

The EUreka3D Final Booklet has been finalized during the period M18-M24 and 200 copies have been printed. The printed version has been distributed to partners and Final Conference attendees, and the online version is disseminated through project channels (website, newsletter, social media). It will be also disseminated through other European networks and magazines and in future events of the Europeana/data space networks. The EUreka3D Final Booklet, as well as the 3D Digitisation Guidelines, have been shared and published on the European Heritage Hub Library thanks to an agreement on cross-dissemination actions with the European Heritage Hub.

The visibility of EU funding has been taken into account in communication actions. The EU emblem, GA number and Digital Europe Programme are visible in all communication tools and channels. On social media project's posting, Digital Europe Programme and HaDEA have been tagged whenever possible.

Europeana editorials:

To highlight the stories and narratives hidden in the 3D and 2D objects ingested throughout the EUreka3D project, partners wrote and published several pieces of editorials that were published on europeana.eu All editorials can be found on the dedicated EUreka3D page https://europeana.eu/eureka3d. With over 8800 unique visits to this editorial throughout the lifespan of the project, there is clear interest with the European public in the histories these 3D digitised models unlock.

Title	Type	Main contributing partner	Publication date	Languages	Total unique visits on 10/12/2024
History of 3D	Blog	Photoconsortium	09/08/2023	EN, ES, IT	1404
Optical Views	Blog	CRDI	25/10/2023	EN, ES, IT	614
Bibracte, a 2000-year-old town under a forest	Blog	Bibracte	11/01/2024	FR,EN	1655
Eureka3D project page	Pro	All	14/11/2022	EN	1280

VIGIE Study	Pro	CUT	14/04/2023	EN	684
Discover how the EUreka3D project supports 3D in the data space for cultural heritage	Pro	All	16/01/2023	EN	543
Famous monuments in 3D	Gallery	EF	01/09/2023	EN	204
3D archaeological treasures	Gallery	EF	01/09/2023	EN	181
3D Wonders	Gallery	EF	01/09/2023	EN	164
Bibracte	Gallery	Bibracte	11/01/24	EN, FR	163
Fikardou Village	Pro	CUT	28/05/24	EN	175
Bibracte Jozef Wilczek	Pro	Bibracte	11/06/24	EN	168
the Magic Lantern	Blog	CRDI	07/08/2024	EN, ES, IT	581
Pescia Museum	Blog	MdC	05/09/2024	EN, ES, IT	638
Lambousa	Blog	CUT	01/10/2024	EN	92
looting and trafficking	Gallery	Bibracte	15/07/2024	EN, FR	80
magic lanterns from Girona city museum	Gallery	Photocons	27/11/2024	EN	30
heritage cameras and heritage photographers	Gallery	Photocons	27/11/2024	EN	49
Flavours of Cyprus	Gallery	Photocons	27/11/2024	EN	52
Paper Moulds from MdC	Gallery	EF	10/10/2024	EN	36
modern art from MdC	Gallery	EF	10/10/2024	EN	54
Cameras, lanterns, and more pre-cinema 3D heritage from Girona	Gallery	Photocons	12/12/2024	EN	Published after stats collection
The Oppidum of Bibracte: A Thriving Economic Center	Gallery	Bibracte	12/12/2024	EN, FR	Published after stats collection
Daily Life of the Inhabitants of the Oppidum of Bibracte	Gallery	Bibracte	12/12/2024	EN, FR	Published after stats collection
Animals on the Oppidum of Bibracte	Gallery	Bibracte	12/12/2024	EN, FR	Published after stats collection
The Dishware of the Oppidum of Bibracte	Gallery	Bibracte	12/12/2024	EN, FR	Published after stats collection
Eureka3D wrap-up post	Pro	EF	12/12/2024	EN	Published after stats collection
Digital Media Authenticity	Pro	imec	18/12/2024	EN	Published after stats collection
TOTAL UNIQUE VISITS					**8847[2]**

In addition, some source collections were published by Photoconsortium on the Historiana platform, making collections and stories available for teachers and students.

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[2] Due to a data loss event at Europeana in mid-2024 some user data statistics over a period of 2 weeks have been lost. The true number of unique visits to europeana.eu links, including editorial for EUreka3D, is therefore likely (slightly) higher than what is being reported here.

As widely described in D4.2 Impact Assessment Report, which contains extensive reflections on sustainability and expected long term impacts, the legacy of EUreka3D lies heavily in the knowledge base that was created and disseminated via the project website and the blogs and pro-blogs published on Europeana (which will continue to serve as an information resource to CHIs leaving a lasting impact for the future), and in the EUreka3D suite of tools and services for CHIs that will be maintained and further developed in the light of creating a stable sustainability and business model.

KNOWLEDGE BASE AND PUBLICATIONS

In addition to the online resources (deliverables, presentations from events and recordings stored and preserved via the project communication channels like website, Youtube and a Zenodo community), the project produced 3 tangible guides in print and online: 3D Digitisation Guidelines: Steps to Success, a simplification of the VIGIE 2020/654 Study; EUreka3D: Good practices for the 3D digitisation of Cultural Heritage, the final booklet which summarised the project including in depth case studies with the content partners and their digitisation journeys; An Open Access book published by Springer-Nature 3D Research Challenges in Cultural Heritage V: Paradata, Metadata and Data in Digitisation.

This knowledge base and the experience matured in the project paved the way for partners to develop a 3D Competence Centre, to educate, train and advise best practice in addition to supplying knowledge and tools to assist with the 3D digital transformation , dissemination and use of 3D assets.

SUSTAINABILITY OF EUreka3D DATA HUB

A comprehensive presentation of the EUreka3D Data Hub services, tools, value proposition and cost/revenues profile was provided in D3.3. This is also an operational and business planning document, that includes analysis of target customers, value proposition, competitive advantages and reflections on a structure of the pay-per-use mechanisms that users of EUreka3D could be subject to, consisting in three levels of service, corresponding to three incremental plans with possibility to switch plans at any moment. The current system developed in the EOSC EU Node, based on a mechanism of virtual credits that the user can spend to acquire services and tools, could be used as an inspiration model for EUreka3D.

The project EUreka3D-XR, starting February 2025, will also take forward the work of EUreka3D by improving the current platform, and developing new tools aimed at the generation of XR and AR experiences with 3D and other online contents. The project will continue to engage stakeholder communities to share their knowledge and skills, giving access to datasets and transforming cultural contents (2D, 3D, video, texts, maps, stories) into innovative XR scenarios, thus resulting in more and better available digital cultural content for any type of re-use.

In terms of ownership and reuse of project's results, both the GA Grant Agreement and CA Consortium Agreement between beneficiaries specify general provisions, in particular:

● the concept that results are owned by the beneficiaries that generate them.
● additional considerations on exploitation, i.e. if exploitation is for non commercial activities and royalty-free basis, no consensus of the parties is needed, while in other cases, agreements must be made with the rest of the consortium.

Given the project's end determines the termination of both GA and CA conclude, a new agreement will be established between beneficiaries (and, later on, including the partners who came on board in EUreka3D-XR). A Joint Ownership Agreement is being drafted that contains:

● clear identification of the results which belong to the parties;
● commitment of each party to inform the other parties and discuss/agree in advance the cases where the joint results will be exploited.

MAINTENANCE OF THE COLLECTIONS AND ONLINE RESOURCES IN EUROPEANA

In terms of sustainability planning and continuation, it is appropriate to highlight the commitment of partner Europeana Foundation to maintenance of online resources:

- The editorials created in EUreka3D are collected in a dedicated page page on europeana.eu, which gathers all blogs, pro blogs and galleries published as the EUreka3D outputs.
- All editorials published on europeana.eu will stay available for as long as the europeana.eu platform is online, available and promoted for the foreseeable future, by the Europeana Foundation as part of its campaigns.
- Similarly, all objects aggregated as part of the EUreka3D project will stay available on europeana.eu for access, download and re-use. Data partners remain committed to guarantee collections availability also beyond the end of the funding period, albeit retaining the right to reingest or update their data after the end of the project.
- All dissemination and training materials published on pro.europeana.eu will stay available to the public until at least 3 years after the end of the project term. A foreseen migration of the content currently published on Europeana Pro to another platform (very likely the new data space website) will not impact on the commitment by Europeana Foundation to keeping the published materials available after the end of the project term.

MAINTENANCE OF EUreka3D ONLINE RESOURCES AND SUSTAINABILITY OF PROJECT'S COMMUNICATION CHANNELS

All the knowledge collected during EUreka3D will be open accessible to download and share from the project's website. In order to keep this legacy available the commitment of partners CRDI and Photoconsortium includes:

- Ensure web hosting and content maintenance
- Resources webpage needs to be maintained with new resources, also connected to EUreka3D-XR
- Maintenance of social media channels and newsletter management platform through the continuation project EUreka3D-XR
- Maintenance and continuous upgrade of the Zenodo resources
- Maintenance and reuse of the blog on Digitalmeetsculture magazine, continuing the publication of articles and news items.

NEXT STEPS IN RELATION WITH CONTINUATION PROJECT EUreka3D-XR

According to the Grant Agreement for EUreka3D-XR project, no new website will be produced: "EUreka3D-XR is also committed not to create additional websites to promote its activities online. We will rely on the new website of the Data Space (to be launched in February 2024) and on existing partners' websites, particularly Europeana Blog and Pro blog, to publish news and information about the project". In this light, we will leverage the communication needs of the new project as a form of continuation also of the online channels of EUreka3D:

- www.eureka3d-xr.eu: this already booked url will be redirected to a landing page under the www.eureka3d.eu homepage.
- The EUreka3D-XR webpage will be hosted under the umbrella of EUreka3D webpage, so as not to create a new website.
- The EUreka3D-XR subpage will include sections for capacity building, use cases and main project outcomes, among others.
- As for Social Media and Newsletter, the existing social media accounts of EUreka3D (X, Instagram, LinkedIn and YouTube) will be reused, renaming them, replacing the logo and continuing to address the existing followers. IN addition it is foreseen to reuse the existing management platform and newsletter subscription list (573 newsletters recipients), in accordance with the Data Protection rules, provided subscribers are informed with appropriate and clear information that also grants their right to sign out.

ADDITIONAL ACTIONS FORESEEN IN 2025 AND BEYOND

Participation in data space project: As additional elements of sustainability for EUreka3D outcomes in the Europeana environment, coordinator Photoconsortium takes part in various groups, task forces and activities of the data space project, including the commitment in 2025 to the following actions:

- Participation as an aggregator in the task about Policy for PIDs, as coordinated by EF
- Active participation in the Europeana 3D Working Group meetings and tasks

- Active participation in the Data Quality Committee meetings and tasks
- Participation in the task or the Europeana working group appointed to define criteria and use cases for integration of services and tools in the data space (aka "marketplace"), providing the case of the EUreka3D Data Hub: main scope is to use the EUreka3D case to help define general criteria and requirements for accepting enabling services to users of the data space, such as for example: readiness level, sustainability in time, existence of appropriate documentation/onboading procedures, etcetera…
- Active participation in the Capacity Building Working Group, wth the finalization of one course on 3D digitization on the Europeana Training Platform, derived from the 3D digitization guidelines.
- Participation in one or more Europeana Academy events organized by Europeana, presenting the course on 3D
- Participation as an aggregator in the tasks for use cases and requirements to support models for content reuse

Open access publication on paradata: derived from the very successful webinars on paratada, metadata and data in cultural heritage, that saw the submission of over 50 abstracts, an open access publication with Springer was produced by partner CUT, and will be widely promoted in the coming months and reused in the context of EUreka3D-XR.

MoU with EOSC Beyond: this MoU serves as a foundation for collaborative efforts aimed at driving forward technical interoperability, data sharing, and knowledge exchange to benefit diverse communities, including cultural institutions, research organizations, and other stakeholders. In particular, the collaboration includes:
- Testing and Piloting: Implement the testing of EUreka3D (and future EUreka3D-XR) datasets and services within the EOSC Beyond Sandbox environment as part of EOSC Beyond's piloting actions.
- Interoperability Initiatives: Facilitate the participation of EUreka3D (and future EUreka3D-XR) in EOSC Beyond tasks aimed at achieving interoperability between EOSC and European Data Spaces, with a particular focus on identifying and adopting suitable metadata schemas.
- Knowledge Sharing and Dissemination: Promote cross-dissemination and knowledge transfer to various communities, including cultural institutions, research bodies, and other stakeholders.

Museo della Carta: the work done by this beneficiary in EUreka3D has generated the realization of an exhibition opening in February 2024 at the premises of the museum, including the publication of a catalogue, showcasing all the stories that are linked to one of the paper moulds digitized in EUreka3D, and discovered or rediscovered during the research done on the cultural object chosen for the digitization. Although Museo della Carta is not a beneficiary of the EUreka3D-XR project, it is expected to continue the collaboration as a stakeholder in the course of the new project.

Follow-up to EU recommendations

Follow-up to EU recommendations

Highlight corrective actions taken as a result of EU monitoring activities (including follow-up to EU project reviews, if any). List each recommendation/comment and explain how they have been followed up.

Not applicable

3. Work packages, activities, resources and timing, based on the Technical Report template (Part B chapter 2)

<table>
<tr><td colspan="4">Work Package 1: Project management and coordination</td></tr>
<tr><td colspan="4">Activities

Report on the implementation status of the activities that were to be implemented during the reporting period and explain <u>deviations</u> from Annex 1 of the Grant Agreement. In case an activity was not implemented or a deliverable not produced, please explain why.</td></tr>
<tr>
<td>Task No
(continuous numbering linked to WP)</td>
<td>Task Name</td>
<td>Implemented?
(Yes/No/Partially)</td>
<td>Justification
(explain what was done and by whom; explain what was not done and why not; indicate how you intend to handle the situation and new timing; indicate if it was a one-off issue or how you intend to avoid similar issues in the future)</td>
</tr>
<tr>
<td>T1.1</td>
<td>Project management</td>
<td>YES</td>
<td>Since the beginning of the project a kick-off meeting (Pisa) and 4 plenaries (Rome, Brussels, Limassol, Girona) were organised. Regular progress monitoring happens via telcos and dedicated meetings. The internal communication platforms are up and running and in use by the consortium. Reporting guidelines are provided. Two informal progress meetings took place with the PO on 26/6/2023 and 19/1/2024. The PO attended the final plenary delivering a presentation about the expected reporting at the end of the project. The WP1 deliverables are timely submitted.</td>
</tr>
<tr>
<td>T1.2</td>
<td>Quality control and Data Management</td>
<td>YES</td>
<td>Nothing additional to report in the period. Activities relating to quality criteria of actions and project monitoring with alignment of WP and task progress are regularly performed. GDPR compliance and data management provisions are provided in the D1.1. A disclaimer and privacy policy information is provided in the project's website: https://eureka3d.eu/privacy-policy/ .</td>
</tr>
<tr>
<td>T1.3</td>
<td>Reporting on integration with Europeana CSP</td>
<td>YES</td>
<td>Work for integration and interoperability with Europeana/Data Space for Cultural heritage is successful. The integration reports are timely delivered at M6 and M24.</td>
</tr>
</table>

	operator		
Other issues *Mention and explain unexpected events and adjustments that had to be made. Explain impact on other tasks, available resources and planning/timing.*		The WP is successfully completed	

Milestones and deliverables (outputs/outcomes)

- D1.6 and D1.7 timely delivered and corresponding MS4 is achieved

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Work Package 2: Capacity building for CH digital transformation and 3D digitisation

Activities

Report on the implementation status of the activities that were to be implemented during the reporting period and explain <u>deviations</u> from Annex 1 of the Grant Agreement. In case an activity was not implemented or a deliverable not produced, please explain why.

Task No (continuous numbering linked to WP)	Task Name	Implemented? (Yes/No/Partially)	Justification (explain what was done and by whom; explain what was not done and why not; indicate how you intend to handle the situation and new timing; indicate if it was a one-off issue or how you intend to avoid similar issues in the future)
T2.1	Pilot with content providers	YES	Digitisation and post-digitization processing completed, the collections are published in the EUreka3D Data Hub. Guidance and quality checks were provided

				for the creation of models, metadata and paradata preparation, in compliance with the recommendations of the VIGIE Study 2020/654. The corresponding deliverable D2.1 Digitization Report is timely submitted.
T2.2	Training and capacity building	YES		The capacity building programme unfolded with production of training and learning resources, online and onsite events, collaboration with relevant stakeholders and demo and presentation at relevant events. The corresponding deliverable D2.2 Report on Training Programme is timely submitted.
T2.3	Aggregation in Europeana	YES		The collections are aggregated in Europeana via two routes: the 2D content via Photoconsortium MINT, while the 3D content is aggregated via the self standing aggregation route of the EUreka3D Data Hub. The corresponding deliverable D2.3 Aggregation report is timely submitted.

Other issues *Mention and explain unexpected events and adjustments that had to be made. Explain impact on other tasks, available resources and planning/timing.*	The WP is successfully completed

Milestones and deliverables (outputs/outcomes)

The deliverables due in the period (D2.1, D2.2, D2.3) were timely submitted and MS5 and 6 are achieved.

Work Package 3: Digital infrastructure and integration of services and tools

Activities

Report on the implementation status of the activities that were to be implemented during the reporting period and explain <u>deviations</u> from Annex 1 of the Grant Agreement. In case an activity was not implemented or a deliverable not produced, please explain why.

Task No (continuous numbering linked to WP)	Task Name	Implemented? (Yes/No/Partially)	Justification (explain what was done and by whom; explain what was not done and why not; indicate how you intend to handle the situation and new timing; indicate if it was a one-off issue or how you intend to avoid similar issues in the future)
T3.1	Analysis of technical requirements	YES	Different requirements have been collected by WP3 participants as the platform evolved and was developed and tested by the different users, especially Content Providers. These requirements have been implemented by WP3 participants to fulfil the needs of the users of the platform.
T3.2	Cloud Provisioning of the EUreka3D services and resource hub	YES	EUreka3D Data Hub has been developed to support user needs that are specific for the EUreka3D community in specific and the Cultural Heritage sector in general. These improvements include changes in the GUI to add EDM support for metadata, a new form to input metadata, changes in the OAI-PMH implementation to interact with Europeana and more. Enough storage has been allocated to store the project objects and the 3D models of external CHIs outside the consortium.
T3.3	Set-up the authentication and authorisation infrastructure for the project	YES	An AAI has been implemented and well defined to register new CHIs in the EUreka3D systems, based on groups. New groups have been created to enable a more specific assignment of access permissions, so that the data generated during EUreka3D can be controlled more efficiently. Simpler access mechanisms have been enabled in the GUI of the platform, so that Content Providers can easily understand how their data are shared and with whom.
T3.4	On-boarding of the EUreka3D service in EOSC	YES	Due to the EOSC a major redesign, this task has been slightly changed. Whereas the analysis of the requirements and technical criteria to contribute to the EOSC initiative was performed, the registration of the new service developed within the project framework in the EOSC Portal has not been possible, since the EOSC Portal was shut down in March 2024. To mitigate the impact of this situation and maximise the value provided to the CH by EUreka3D's contribution, two measures

				have been taken: The first one is a contribution agreement signed with the EOSC Beyond project, which will be continued during the coming project EUreka3D-XR. ESCO Beyond (2024-2027) is working to enrich EOSC Core capabilities and intends to provide a sandbox to test the integration with an EOSC Node. The second measure is to follow results from the ECHOES project (2024-2029), to determine future directions. It is reasonable to consider ECCCH as the main entry point for a EOSC node implementing a thematic ecosystem of application services in Cultural Heritage, and the developments from the ECHOES project are crucial for the task.
T3.5	Interoperability with Europeana CSP	YES		The integration with Europeana has been successfully completed in the Production environment. Content Providers can upload 3D models in EUreka3D, provide metadata in EDM format and instruct their publication in Europeana. EUreka3D models can be discovered and accessed from *europeana.eu*. An *oEmbed* endpoint (to instruct Europeana how to visualise the 3D models) and an *OAI-PMH* endpoint (to share metadata) have been used for the integration.
Other issues *Mention and explain unexpected events and adjustments that had to be made. Explain impact on other tasks, available resources and planning/timing.*		The WP is successfully completed.		
Milestones and deliverables (outputs/outcomes)				
The deliverables due in the period (D3.2, D3.3) were timely submitted. MS9 is achieved and in this light an agreement with EOSC Beyond has been established.				

Work Package 4: Communication, dissemination and impact assessment			
Activities *Report on the implementation status of the activities that were to be implemented during the reporting period and explain <u>deviations</u> from Annex 1 of the Grant Agreement. In case an activity was not implemented or a deliverable not produced, please explain why.*			
Task No (continuous numbering linked to WP)	Task Name	Implemented? (Yes/No/Partially)	Justification (explain what was done and by whom; explain what was not done and why not; indicate how you intend to handle the situation and new timing; indicate if it was a one-off issue or how you intend to avoid similar issues in the future)
T4.1	Dissemination and exploitation plan	YES	Tools and communication and dissemination activities foreseen on intermediate report M18 have been implemented during period M18-24. Communication channels are constantly updated namely website, blog, social media and newsletter, with an increasing number of followers/subscribers. The marketing plan has been deployed to foster the capacity building activities during this period, including the final conference as one of the main capacity building and communication core activities. Several visual materials have been disseminated aiming to feature the project's activities and outcomes (banners, flyers, postcard, roll-ups and poster, among others).
T4.2	Editorials and publications	YES	The foreseen editorials for period M18-24 have been published following the editorial calendar. Blogs on Europeana and Europeana Pro are mainly focused on partners' activity and collections, and at the same time, they are connected to the project's progress in 3D digitisation and the EUreka3D platform. Greater linguistic diversity in these publications is taken as an objective; therefore, blogs are translated into French, Spanish and Italian with partners' collaboration. The 3D objects aggregated to Europeana within the project's framework are embedded in the project's blogs. The project's blog is also regularly updated and reported via Feed RSS in the project's website.

T4.3	Final booklet and final conference of EUreka3D	YES	The Final Booklet has been finalized during the M18-M24 period: 200 copies have been printed, and the online version has been uploaded on the project's website and promoted through the project's communication channels. This publication collects the four case studies of the project's content providers, a chapter about the EUreka3D platform, as well as experiences by external collaborators and by a broad section of users. The final booklet has been distributed during the final conference in Girona on 13th December 2024. The event consisted of a hybrid public conference by project partners and invited contributors, and a public onsite workshop mainly focused on experiences related to 3D digitisation of cultural heritage objects and sites.
T4.4	Impact assessment	YES	The EUreka3D project followed the Europeana Impact Playbook and made efforts to measure the impact achieved on stakeholders and project partners, as well as the knowledge transfers to external stakeholders groups. The impact assessment report maps three identified impact areas: the digitisation workflow, the Pilot and the EUreka3D Data Hub, and the capacity Building programme and knowledge transfer. The impact assessment analysis includes reflections on the various areas of impact, measured by qualitative and quantitative data, and takes into account different perspectives on impact including economic, environmental and other stories of impact from the content partners.
Other issues *Mention and explain unexpected events and adjustments that had to be made. Explain impact on other tasks, available resources and planning/timing.*	The WP is successfully completed.		
Milestones and deliverables (outputs/outcomes)			
The deliverable due in the period (D4.2) was timely submitted. MS11 is achieved.			

Budget implementation — Use of resources (deviations) *(n/a for Lump Sum Grants) (n/a for Additional Prefinancing Report)*
Explain deviations from the budget planning (i.e. differences between actual and planned use of resources, especially for personnel).   *Include explanations on transfers of cost categories in the estimated budget (if applicable)*   */If needed, add explanations linked to the report on the use of resources filled in online. Ensure consistency with that report.*

Nothing to report in the period	
Other issues	Nothing to report in the period

Timetable

No changes from the Grant Agreement.

4. CONCLUSIONS AND NEXT STEPS

This document illustrates the progress of the EUreka3D project in period M19-M24. It constitutes Part B of the Technical Report. The Technical Report refers also to the information provided in the EC Portal, which constitutes the Part A of the report.

D1.6 Final Technical Report is timely delivered on M24 and the corresponding milestone 4 is timely achieved.

The project has achieved an excellent collaboration among partners that drove to a very proactive progress of the various activities, thus leading to project successful completion with all objectives mets and overperformance for all the KPIs and expected results. No risks materialised, and the scenario of change for the major reorganisation of the EOSC platform was taken into account also planning actions and contingency measures.

The EUreka3D action for digitization, storage and sharing of 3D cultural collections has achieved outstanding results, with very good feedback from external stakeholders that showed interest in testing and using the EUreka3D Data Hub. Operations and business planning for the resources and tools of EUreka3D Data Hub was developed and sets the foundations for transforming such resources into a concrete and stable solution for CHIs in Europe. The integration with Europeana and interoperability with the Data Space is finalised and allowed for ingestion and publication of the EUreka3D collections in europeana.eu.

The programme of training and capacity building excelled in all aspects: a rich production of online and printed resources complements the online and onsite events, reaching out to the communities of heritage professionals, GLAMs, researchers and scientists all over the world.

All communication and dissemination channels implemented in the project allowed to share news and disseminate the project outcomes, allowing EUreka3D stakeholders network and collaborations to grow. The work done to promote the project and its collections in Europeana overachieved the targets of editorials published by the project. The project website and project blog on Digitalmeetsculture are rich online resources collecting all the stories from the project and will be maintained and reused in the continuation project EUreka3D-XR. Additional channels to access the project outcomes are the YouTube, collecting all the events' recording and video produced in the project, and a Zenodo community openly accessible.

The impact of the project was tracked with qualitative and quantitative feedback, that also helped sustainability planning, but what is most important to understand, beyond the impact achieved in the project timeframe (which is very short), is the prospect impact and behavioural changes expected in the CH community after being exposed to new knowledge, learning resources, training and capacity building efforts. This is a volatile impact to measure, but is essential part of the process of digital transformation of the CH sector that the common European data space for cultural heritage and the EC recommendation of November 2021 foster.