



D1.5 Technical progress report 3

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EXECUTIVE SUMMARY

This deliverable illustrates the progress in the various areas of the EUreka3D project at the completion of M18. It is noteworthy to mention that the project is overdelivering against the planning, an acceleration due to the occurrence of the high-level TwinIt! event in Brussels, where the project was invited to take part by the Europeana Foundation.

In the light of showcasing at the TwinIt! event, which took place on 14th May 2024, a complete overview of the workflow and tasks related to the development of the EUreka3D Data Hub (WP3) was demonstrated. In particular, the PID assignment procedure, the metadata input form and the embedding of the viewer for correct visualisation of 3D models in the Europeana website were completed on time for the TwinIt! event. Also, the finalisation of the high quality 3D model of the Lambousa boat (WP2), was completed earlier than planned, and the record was aggregated to Europeana to contribute to the TwinIt! online collection in Europeana. The Lambousa boat is the only 3D item offered in the TwinIt! campaign by a data space supporting project, in addition to the records provided by the Members States. In this light, EUreka3D is very proud to have been the only DEP project that demonstrated its 3D content at the important event, at the Berlaymont Building with the presence of EU Ministries of Culture.



Fig. 1 The high quality 3D model of the Lambousa boat by CUT presented by Vasiliki Kassianidou, Deputy Minister of Culture of Cyprus at the TwinIt! event, 14/5/2024

In parallel with the participation in the TwinIt! demonstration, during the period under examination (M12-M18) the project continued with the implementation of its work plan as planned in the Grant Agreement.

The capacity building programme delivered a number of events and progressed with the planning of those foreseen in the coming months:

- “Paradata Metadata and Data” webinar organised by CUT in two parts, also deriving an open access scientific book, with expected publication in the Fall 2024:
 - o Part I on 8/4/2024
 - o Part II on 17/5/2024
- Presentation at the XV Jornada d’Estudi i Debat “New heritages, new feudalisms: the servitudes of digital documentation” organised by the Professional Association of Archives and Document Management of Catalonia in Barcelona on 15 May 2024
- Coordination meeting with associate project Erasmus+ ARTEST, to exchange knowledge about 3D digitization in the educational sector, with representatives from five EU members state institutions and five universities from Mongolia, 29 May 2024
- Advanced public demonstration event “Preserving Values through #MemoryTwins”, to showcase the latest progress of the EUreka3D Data Hub, hybrid event at the presence of all local stakeholders and the owner of Lambousa boat (the Municipality of Limassol), 29 May 2024
- Planning for n. 3 webinars in the Fall 2024, in collaboration with ICA International Council on Archives
- Planning for a paper presentation in the context of I&R Image and Research Conference (Girona, 20-23 November 2024)
- Planning for a dedicated capacity building workshop in the context of Euromed 2024 (2-4 December 2024)
- Planning for a capacity building workshop to complement the programme of the EUreka3D final conference in Girona (13 December 2024).

A part of the completed 3D models and associated metadata and paradata have already been uploaded in the EUreka3D Data Hub, for initiating the process of aggregation and preparation for publication in Europeana (due MS7 31/10/2024).

Communication and dissemination activities continue to promote the EUreka3D project and its events, and support the growth of the EUreka3D network of stakeholders and followers (over 400 subscribers to the project newsletter and over 500 followers on social media). The publication of EUreka3D editorials in Europeana is progressing towards the expected targets, reaching nearly 5,700 views on europeana.eu and pro.europeana.eu (June 2024).

Work is ongoing regarding the expected link of the project with side sectors such as tourism and education. The project was presented at conferences related to cultural and tourism such as the INCULTUM final event and the seminar Arxius i Turisme, and reflections about how 3D digitization supports tourism and location promotion were topic for Europeana blogs like the ones about the Fikardou Village, and Bibracte. As for the educational sector, besides establishing a collaboration agreement with Erasmus+ project ARTEST, experiments are being made with educational games and resources derived from the Lambousa boat 3D model, embedded in a dedicated platform. The project also plans to provide content in Historiana, the platform dedicated to sharing online resources for reuse in educational contexts: currently, one source collection was created in Historiana about the collection of paper moulds by partner Museo della Carta.

The project continues to focus on impact assessment, which includes gathering feedback from a wide range of stakeholders, and reflecting on the transformations that Cultural Heritage Institutions shall undergo for adapting to the new knowledge and workflows connected with 3D digitization and sharing.

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 *D1.5 Technical progress report 3* is the third 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 D1.5 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 not part of D1.5 and is expected to be submitted to EC at the end of the Action.

This document provides an overview of the progress achieved at Month 18 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.

ROLE OF THIS DELIVERABLE IN THE PROJECT

This deliverable summarises the activities performed in the project towards the expected objectives. It serves as a recap of the work done in the various work packages for future reference in the coming months, given the majority of project's deliverables of year 2 are due in the final period of the project. It contains reflection on the impact of the project's activities towards the various stakeholders.

This deliverable D1.5 is the verification mean for Milestone 3 that is timely achieved.

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

Summary of work performed and achievements, results and impacts

Work performed and main achievements

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

PROGRESS TOWARDS THE PROJECT OBJECTIVES

The project is reaching its 18th month with valuable results in the different work packages. Main achievements in the period under examination (M12-M18) include:

Management and coordination (WP1): the progress monitoring is on track, with regular project and WP meetings to review status and plans for the various tasks. An overall review for the status of expenditure at each partner was performed in January 2024 with no major deviations noticed. An informal progress meeting with the PO was held 19th January 2024, to present the progress of the project.

The second plenary meeting was organised as a hybrid event in Limassol and online on 30th May 2024. **3D digitization and capacity building (WP2):**

Digitization is completed by all partners, and work is ongoing to render and produce the 3D models together with accompanying metadata and paradata. Some of the contents have been uploaded in the Eureka3D data hub in preparation for aggregation and further mapping for Europeana ingestion. The digitization work of the content providers in the project is completed and the expected targets for new contents to be aggregated in Europeana are being met according to the table indicated in the amended Grant Agreement p. 34 and reported below:

Europeana aggregation	New contents published in Europeana website	<p>N. 3 HBIM LOD4 models from CUT</p> <p>N. 50 3D models of items from CRDI's collections</p> <p>N. 250 photogrammetric ground models, from Bibracte</p> <p>N. 250 economic (coins), cultural and everyday life artefacts from Bibracte</p> <p>N. 2 3D models of filigree paper moulds from Museum of Paper</p> <p>c 5,000 documents from Museum of Paper</p>	WP2
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Fig. 2: Targets of digitization per provider, to be aggregated and published in Europeana

In particular, the partners digitised the following objects:

CUT: n. 3 high quality models of Cypriot heritage have been digitised and prepared for aggregation to Europeana: (a) the Holy Cross / Timios Stavros in Pelendri village (UNESCO WH site), (b) the Chrysoroyiatissa Monastery in Pafos district (a monument under risk) and (c) the oldest fishing trawler of Cyprus, called “Lambousa”, which has also been contributed as part of the TwinIt! campaign. In addition to these 3 models, a selection of artefacts of Cypriot heritage, digitised in 3D in cooperation with the Museum of Mediterranean and Near Eastern Antiquities in Stockholm, Sweden, will be uploaded in the EUreka3D Data Hub for aggregation to Europeana.

CRDI: n. 50 objects of pre-cinema and equipment digitised, the corresponding 3D models are being prepared for upload in the EUreka3D Data Hub.

BIBRACTE: n. 250 3D records ready for uploading in the Data Hub, including museal objects and typological 3D models of ceramic tableware from Bibracte Museum, plus 200 photogrammetric terrain models of the archaeological site also ready. Additional 50 terrain models are in the process of being prepared and documented.

MUSEO DELLA CARTA: n. 2 ancient paper moulds digitised in 3D with photogrammetry, the corresponding 3D models are uploaded in the Data Hub. Metadata are also available in EDM format and photogrammetry paradata also available (as MS Excel file). In addition, a bulk of over 5,000 documents is in the process of being prepared for export and aggregation to Europeana. A test 2D collection, composed of images of paper moulds and visual arts oeuvres, was aggregated and published in Europeana in February 2024.

As part of the capacity building programme, in the period under examination an important webinar in two parts was realised by partner CUT: “**Paradata, Metadata and Data for 3D acquisition in cultural heritage**”. Part 1 was held on 8/4/2024, and Part 2 on 17/5/2024. The webinars were announced with a Call for Papers, in order to derive an open access publication, and the response was overwhelming with 52 abstracts submitted and over 832 registered participants from 83 countries. Recordings of the two parts are available and openly accessible.

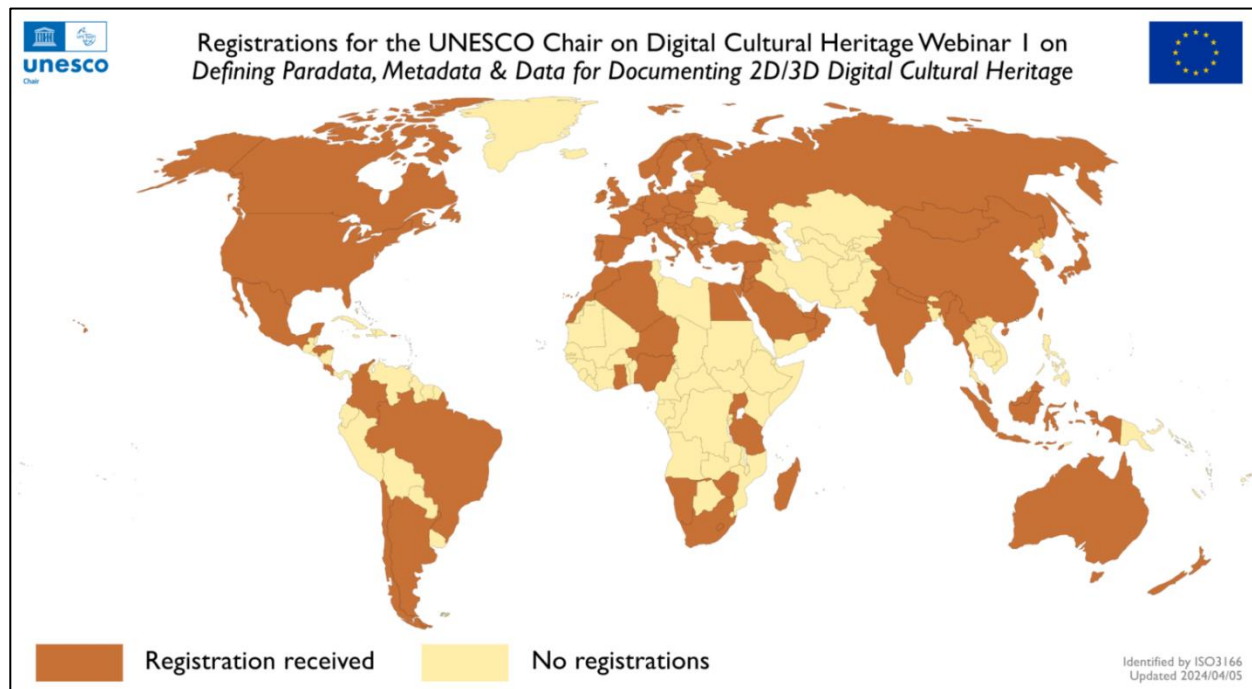


Fig. 3: Geographic distribution of registrants to “Paradata, Metadata and Data for 3D acquisition in cultural heritage”

In the light of fostering collaboration and extending the project’s outreach also beyond Europe, a cooperation agreement was established and a coordination meeting was organised on 29/5/2024 with [Erasmus+ project ARTEST](#); which includes the participation of EU universities and 5 Mongolian Universities (University of Catania, IT; University of Cologne, DE; University of the Peloponnese, GR; Conservatoire national des arts et métiers, musée des Arts et Métiers, FR; International Hellenic University, GR; Mongolian University of Science and Technology, MN; National University of Mongolia, MN; University of the Humanities, MN; Mongolian National University of Arts and Culture, MN; Otgontenger University, MN) interested in sharing knowledge about adopting digital methods of research and education and harmonising the development of both soft and digital skills during the study process.

Additionally, an hybrid event “**Preserving Values through #MemoryTwins**” was organised in Cyprus and online on 29/5/2024, to demonstrate the further developments of EUreka3D platform and process.

As part of the capacity building effort, the **3D Digitisation Guidelines: Step to success** to help CHIs implement the VIGIE 2020/654 Study was developed as a booklet, available online and in printed form. This is a step-by-step guide to support CHIs that are approaching 3D digitisation, to become aware of the implications that 3D is bringing to the CH sector. The guideline and more in general the resources produced by the project to support capacity building were also presented at the *New heritages, new feudalisms: the servitudes of digital documentation* annual conference by the Professional Association of Archives and Records Management of Catalonia, and at the [SECreTOUR](#) HE project on cultural tourism kick-off meeting in Slovakia.

An Advisory Board of experts was formed in 2023 and engaged with the project’s progress, to provide interesting feedback, advice and recommendations on the development of the project. Also, Photoconsortium representatives continue to be part of the Data Space 3D working group, collaborating on the revision of EDM in order to better accommodate information related to 3D models, and participating in the revision and update of Europeana Publishing Guidelines on 3D.

Cloud-based services and tools (WP3):

Due to the occurrence of the TwinIt! event in Brussels (14/05/2024), work to enable further development of the EUreka3D Data Hub was accelerated for the presentation of the results at the event, thus enabling various features of the workflow ahead of the original schedule, such as the PIDs assignment procedures, the EDM-based metadata input forms and the embedding of the EUreka3D viewer in Europeana Website. Successful tests have been done to integrate the development environments of both EUreka3D and Europeana. Additional work is ongoing to enable OAI-PMH interactions between the platform and the METIS system of Europeana in Production, to enable the harvesting and publication of the datasets. In other words, interoperability of the EUreka3D platform with Europeana is underway, and testing of the OAI-PMH protocol is progressing successfully.

As part of this WP, a task and a milestone are dedicated to the registration of EUreka3D services on EOSC. EOSC-Future project was an EC initiative to provide a federated and open multi-disciplinary environment for data reuse, tools and services for research, innovation and educational purposes. The outcome of Task 3.4 in EUreka3D, represented by the Milestone MS9 due by M22 (October 2024), would be to register in EOSC-Future the new service developed during the project, through onboarding and marketplace processes. Currently, EOSC-Future has ended and a major revision, due to a strategic request from the European Commission, is on the way. This includes stopping onboarding new services, integrated services from the EOSC-Future Catalogue, and the redefinition of integration guidelines, in the new “EOSC EU Node” project. The new processes implementation will last until around Autumn. It means that it is unfeasible that EUreka3D services will be able to integrate with EOSC EU Node, before the end of the project in December 2024. This occurrence is not under the control of the EUreka3D project. A contingency plan is currently being developed to provide an alternative solution for the delivery of T4.3, the details of which are given in the “Implementation plan” below. Regardless of the EOSC revision, services used in the EUreka3D project, such as EGI Check-in and the Infrastructure Manager and the Cloud Compute, will remain operating normally. EOSC redesign affects only services promotion, not its operation (EOSC acts as a gateway to access these services but it does not operate them).

Communication, dissemination and impact (WP4):

Actions from the dissemination plan and from the marketing plan to sustain the capacity building programme are implemented, with regular updates of the project’s website, blog, social media, newsletter. Dissemination at third party’s events continues with participation in conferences and other events, namely: Europeana Aggregators Forum, Data Spaces Symposium, TwinIt!, EVA Florence, EGI conference, other sectoral conferences including the INCULTUM final event on cultural tourism, the seminar *Arxius I Turisme*, the *Information Technologies in the socio-cultural sphere, education and economy* conference by Kyiv National University of Culture and Arts, the GEODPA 2024 conference, the CS3 2024 Conference at CERN in Geneva, the *Clean Oceans and Mapping our Seas* conference in Malta. New dissemination materials were either updated or produced ex novo including new flyer, banner, poster, a pair of roll ups, postcards and bags.

In addition, as mentioned before (WP2), the 3D Digitization Guidelines to implement the VIGIE 2020/654 Study on high quality digitization was produced as a booklet available online and in printed form. The booklet was distributed on the occasion of the TwinIt! Event in Brussels and promoted in several public events organised by the project and where partners were invited to participate as speakers.

Editorials and publications include various multilingual blogs on Europeana website, on Pro, and galleries. Regular meetings of the editorial and communication board.

The programme for the Final conference (Girona 12-13 December 2024) was discussed and will be announced shortly, while various meetings were dedicated to initiate the planning for the realisation and production of the final booklet.

In terms of impact assessment, collection of feedback from participants in our events continues, and a dedicated

meeting was held in early 2024 to reflect on the future vision about EUreka3D outcomes and sustainability. A dedicated discussion about the change pathways for CHIs stimulated by the project outcomes was held in the most recent plenary meeting in Limassol on 30/05/2024.

OUTCOMES ANALYSIS AND IMPACT

Looking at the various project activities and their outcomes on the target groups addressed by the project, it is possible to mention the following:

1 Communication and dissemination

Target: Cultural Heritage Institutions and professionals, technology and service providers, students and researchers, other groups (teachers and cultural educators, other users of cultural data).

The project deployed a wide range of outreach activities, also highlighting the outcomes being produced:

- New website section on [Outcomes](#) makes available various information and resources addressing stakeholders: the EUreka3D Data Hub, the new booklet on 3D Digitisation Guidelines and (under development) the information and lessons learnt from 3D Digitisation by project partners. In addition, all visual and dissemination materials are accessible in the webpage [Media section](#). Since June 2023 we have counted 9000+ views on the project's website.
- To complement the website, updates are regularly made on the [project's blog](#), about the project and its knowledge field.
- Participation in events: the project is presented at events in the CH field (Europeana events, Twin It! event in Brussels, Kyiv National University of Culture and Arts annual conference, others) but also in neighbour sectors like cultural tourism (INCULTUM, SECreTOUR, Arxius I Turism) and in professional/technical events (Data space symposium, GEODPA, CS3 Geneva 2024, Clean Oceans and Mapping our Seas).
- Links to education with collaboration with Erasmus+ ARTEST project and [one source collection published in Historiana](#) from Museo della Carta's collection of 2D records.

IMPACT: The main driver of impact for the EUreka3D project is Capacity Building and the knowledge transfer of information, learnt and gathered, within the project is already reaching a variety of key stakeholders, not only in the CH sector in Europe but also beyond (Ukraine, Switzerland, Mongolia). This includes users of 3D assets in EUreka3D's key stakeholder sectors of Education, Tourism, Research, Professionals, Public as well as stakeholders related to the digitisation, metadata, paradata, of 3D assets in the Cultural Heritage sector.

2 Data Hub and Pilot

Target: Project partners, CHI professionals, technology and service providers, users of cultural data

The progress of the technical work to enable the creation and dissemination of the EUreka3D Pilot e-infrastructure is delivering major outcomes, to be leveraged in the course of the project:

- Development of mechanisms in the EUreka3D Data hub user interface to facilitate the ingestion of EDM-compliant metadata.
- Development of different mechanisms in the graphical user interface of the EUreka3D Data hub to support the management of data, such as the creation of the structure of new projects and the assignment of access permissions to the different groups participating in EUreka3D.
- Collaboration with technology experts from CNRS Bordeaux, CNR-ISTI, University of Cologne for viewer and visualisation challenges.
- Collaboration with EUDAT to obtain PIDs to empower FAIR principles through their B2HANDLE service.
- Integration with the Testing Portal of Europeana based on different technologies (EDM metadata, oEmbed and OAI-PMH).
- Published a paper about the EUreka3D Data Hub for EVA Florence.
- Submitted application to EGI conference and Image & Research to present the Data Hub to professional stakeholders

IMPACT: The impact of the Pilot (EUreka3D Data Hub) to the workflow of the Content Partners within the project is being measured to assess the storage, data/metadata/paradata management, integration to Europeana, and sharing facilities which can help CHIs change the way they approach the management and sharing of 3D collections. The resulting advantages, already resulting, compared to current alternative platforms, predominantly US-based commercial services, are a secure cloud-based environment dedicated to Cultural Heritage which meets the needs of the entire workflow, from data digitisation, storage, publication/data sharing of higher quality 3D models with metadata and paradata, plus integration directly to Europeana. Further analysis of the costs involved are being made to ensure that the Pilot is a viable product that can affordably integrate into the common European data space for cultural heritage.

3 Capacity building and training

Target: Cultural Heritage Institutions and professionals, technology and service providers, students and researchers, other groups (teachers and cultural educators, other users of cultural data)

A variety of actions in the project aim at building professional and scientific capacity in the CH sector, including:

- Webinars addressing the CH and scientific community
- Collecting scientific papers from a wide community of researchers and projects in 3D digitization, to publish an Open access book
- Guidance and reflections on the importance of paradata for scientific preservation of 3D models,
- Creation of user-friendly Guidelines distilled from the comprehensive but complex VIGIE 2020/654 Study.
- Preparation of user manuals for users of the Data Hub (publication expected in September 2024)

IMPACT: Quantitative and Qualitative data is being collated from the Capacity Building webinars and workshops. This is providing valuable feedback regarding impact and the resulting resources from the project programme are being collated for the sustainability of EUreka3D, continuing the impact by engaging and educating stakeholders on important topics such as high quality 3D digitization for the purposes of use and reuse, the importance of associated metadata, paradata and documentation. This will help ensure that future 3D model creation for CH will meet a quality that is fit for purpose to fulfil the needs of the users.

4 Editorials

Target: Europeana users and community

The publication of editorials, also in different languages, in Europeana website and Europeana Pro is continuing, counting over 5.700 views. Details on the published editorials are provided in the next section.

In addition, news items about the project are regularly published in the project's blog and reported via Feed RSS in the project's website. Use of social media helps expand the outreach of the editorials.

IMPACT: The Editorials are a critical tool to assist with the knowledge transfer impact of the project. They are also a lasting legacy of the project to create a sustainable information resource for digitisation experts and users to learn about new collections and content providers' experiences in creating advanced digitization of heritage collections, new processes and workflows and new possibilities of reuse.

5 Contents produced via digitisation action and published in Europeana

Target: other CHIs, reuse communities

The collections digitised in the project are of the widest variety, spanning from museum objects, artefacts, outdoor monuments and sites. They offer an overview of the different types of heritage held by CHIs, and of the different challenges that CHIs may face with 3D digitization, including technical capacity, budget requirements and other constraints. They also showcase different requirements in the expected reuse of the 3D models, including professional reuse (by SSH researchers, architects, engineers and other categories) and educational/general reuse by education and cultural tourism communities and by general users and culture lovers.

IMPACT: Lessons learnt from the production of these 3D collections are a valuable resource and input for other CHIs to be inspired. Additionally, the publication and dissemination of these collections in the Europeana and Data Space environment improves visibility and access to the collections by a variety of stakeholders, including professionals, researchers, educators, students, local tourism communities and other general users.

Implementation plan and efficient use of resources

Implementation plan

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

The project's implementation plan remains unchanged, with expected outcomes and results to be provided as foreseen in the GA. The only change we foresee is linked to the EOSC current situation, as mentioned in the previous section "Work performed and main achievements". As indicated, EOSC is undergoing a major overhaul, which includes discontinuing for some time, new services onboarding and marketplace. The whole process will last until approximately Autumn affecting the project task 4.3 and corresponding MS9, by either delaying the availability of EOSC to register the EUreka3D services by the end of the project or, in case the services are registered late, reducing the expected impact

during this project timeframe.

The same obstacle is experienced by all the EOSC services providers that have used and planned to use the EOSC platform. The solution of the problem is not under the control of Eureka3D.

For this reason, as a contingency plan, the measures to address the situation are the following:

Eureka3D will continue using its original EOSC services normally (EGI Check-in for AAI, Infrastructure Manager for hardware allocation in the cloud and application deployment, and EGI Cloud Compute for server provisioning). The only part that is affected is the Eureka3D publication at the marketplace services in EOSC.

As the publication of services in EOSC is likely to be delayed, Eureka3D will invest the effort initially allocated for Task 3.4 to achieve some impact on the project, in particular:

By **improving the services offered** by the Eureka3D Data Hub with a new collaboration with the *Kompakkt Developer Consortium* of the University of Cologne, to analyse the adoption of their advanced 3D viewer in Eureka3D's data hub.

By **supporting other CHs** to add additional Cultural Heritage assets in the Eureka3D data hub, and therefore reaching other members of the Cultural Heritage community and enriching the catalogue of 3D CH objects in the platform.

The publication of Eureka3D services (currently in the final phases of development for delivery, according and in line to the Eureka3D implementation plan) in EOSC will happen as soon as it will be again made possible by EOSC; according to the schedule and instructions provided from EOSC EU Node Project, possibly also in the context of Eureka3D-XR project (expected start date 1/1/2025).

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 and in project and expenditure monitoring.

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

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

Nothing to report in the period.

Critical risks and risk management strategy

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

No specific issues are reported in the period under examination, as none of the risks occurred and no additional risks are envisaged. The consortium is aware of the major revision of EOSC as initiated by the EC, which will likely have an impact on T4.3. Details about the contingency plan and expected actions are provided in the above section "Implementation Plan". A careful monitoring of the EOSC situation is being performed, by EGI who reports any updates to the whole consortium for discussion.

Consortium cooperation and division of roles (if applicable)

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

Nothing to report in the period: the consortium cooperation and division of roles is effective and does not present any difficulty among the partners.

In addition to the work with content providers, a number of cooperation agreements are being established for fostering collaboration, cross-dissemination and other joint activities with stakeholder institutions and other projects, groups and sectors.

In addition to the collaborations already established in the previous periods, during the period under reporting the following new agreements have been established: the ARTEST Erasmus+, the new SECreTOUR HE on cultural tourism, and Mnemosyne Coordination and Support Action.

Further collaborations are established with institutions who are participating in testing or improving the EUreka3D platform, providing test content or additional feedback. This is the case of GENCAT with Giravolt, INSPAI, the Museum of Mediterranean and Near Eastern Antiquities (Sweden), and the University of Cologne for their viewer Kompakkt.

Finally, the Advisory Board of experts provided excellent commentary and positive advice related to the EUreka3D Data Hub. It is foreseen to engage them further while the development further progresses.

Project teams and staff

Report and explain deviations 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.

Consortium management and decision-making (if applicable)

Report on important changes in the management or decision-making mechanisms.

Nothing to report from Grant Agreement and Consortium Agreement provisions.

Impact

Impact

Report on changes 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 methodology used in the EUreka3D project follows the Europeana Impact Playbook. The project proposal has been built around an impact plan with a dedicated analysis to measure the impacts of the stakeholders within the project partners and how this can translate to a wider impact via the knowledge transfers to pre-identified external stakeholders groups. From the initial project agreement we mapped the project impact areas and identified three key Change Pathways that the narratives of the Stakeholders:

- **Digitization workflow** (i.e. how the implementation of VIGIE 2020/654 Study recommendation impacts the 3D digitisation process)
- **The Pilot action and EUreka3D Data Hub experience** (i.e. proof of concept data hub, to store, display and integrate, the 3D models, metadata and paradata, created in the project)
- **Capacity Building / Knowledge Transfer** (i.e. how the information created in the project e.g. the resources, webinars, case studies, user feedback is impacting the external stakeholders who maybe be at any point in their journey with 3D digitisation or use)

These areas are the key drivers of the impact assessment analysis and the basis for planning the sustainability actions, also in the light of the expected new project EUreka3D-XR starting 1/1/2025.

More details for each are provided below:

Digitisation Workflow:

The content partners of the project were asked to follow the recommended standards, published in the VIGIE 2020/654 Study, to produce high quality 3D models, metadata and paradata, as described in the Description of Action. During this process it was noted that the VIGIE 2020/654 Study is a high level document that details a number of 3D digitisation scenarios that might not be relevant to all CHI projects, particularly those who 3D digitise movable objects in controlled environments. As a result, in this period, Eureka3D produced and published a *3D Digitisation Guidelines: Steps to Success* which directly refers to relevant sections of the VIGIE Study which impacts 3D digitisers by improving their decision making in relation to the quality of their output. These Guidelines Steps will form the basis of the Case Studies published in the Final Booklet and have been made publicly available as a sustainable and tangible knowledge resource produced in the project. Within the term of the project Eureka3D endeavours to discuss with external stakeholders the potential impact that the Study Guidelines might have on their 3D digitisation workflows.

The economic impact of digitising in 3D needs to be fully assessed before the project's end and will be included in the Case Studies for each content provider (a key part of the Final Booklet) and summarised in the Impact Assessment Report D4.2. The estimates cannot be stated in terms of a fixed cost per 3D model but instead can vary significantly, related to the complexity of the project, the measuring of which is the cornerstone of the VIGIE 2020/654 Study. More details about these important reflections are provided in the next section "Sustainability, long-term impact and continuation".

It must also be noted that in this pathway phase the Eureka3D project is committed to producing a number of high quality 3D digitisation models to be ingested/published and made available to users via Europeana. The ultimate project's deadline for this task is October 2024 and a full report about the collections made available for publication will be provided in the corresponding deliverable D2.3, which is preceded in August 2024 by a report on digitization and best practices D2.1). The impact of the availability of 3D assets is being assessed in the Knowledge Transfer pathway but the project has collated some feedback that are directly related to models produced in the project which will be published in the Final booklet.

Eureka3D Data Hub and Pilot action for 3D digitized collections:

The project is gathering experiential case studies from the content partners to assess the impact in relation to the proof of concept Pilot action and Eureka3D Data Hub. The assessment here is whether the Eureka3D Data Hub will impact the behaviour of CHIs to favour a dedicated a EU Cultural Heritage Data Hub, which is interoperable to Europeana, to store and publish their 3D Models, Metadata, Paradata, over the current systems which are predominantly Commercial US based services.

There is a positive indication, from the project's content partners, that the Eureka3D Data Hub does provide advantageous features, combined with ease of use, to recommend its feasibility to scale up the availability to external stakeholders.

To confirm this further, the project is seeking expanded feedback from external stakeholders, who expressed interest in the data hub within the Capacity Building activities and suggested that such a service would significantly help with the publication of their 3D assets.

Again, the economic impact of the Pilot action and Eureka3D Data Hub needs to be fully assessed before the D4.2 deliverable. It is acknowledged that the service has to be available at a competitive cost to CHIs for it to be widely adopted. More reflections are provided in the following section "Sustainability, long-term impact and continuation" of this report.

Knowledge Base, capacity building programme and resources:

The Eureka3D project is heavily focused on Capacity Building. This Change Pathway is measuring the impact of the knowledge transfer between the information, resource gathering, and dissemination of the project and how that is creating a behavioural change to the CHIs who are digitising and the stakeholder users of 3D assets.

The project has collated data which quantifies the reach of external stakeholders who attended webinars and the numerous dissemination activities within the life of the project. To more accurately measure the impact, Eureka3D will seek to obtain qualitative feedback and testimonies by stakeholders about various key concepts such as: the need for digitising in 3D; the importance of 3D digitisation standards (VIGIE 2020/654 Study); the importance of Paradata (in addition to metadata); the need of a dedicated EU Cultural Heritage Data Hub; user needs and expectations for 3D assets (particularly in relation to education and tourism); environmental impacts; the future of 3D and Cross Reality (XR).

Additionally, it must be noted that the Capacity Building resources will remain online at the project website. Editorial galleries, blogs and pro-blogs are available at Europeana and a number of partners have published information on their sites. Tangible resources will also be created in the project such as the 3D Digitisation Guidelines: Steps to Success and the Final Booklet will also be printed. All of this information adds to the sustainability and legacy impact

of the project.

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 M12-M18, the tools and communication and dissemination activities published in D4.1 (dated 06/30/2023) have been implemented. During this time frame, monthly meetings of the Communication and Editorial Working Subgroup have taken place. A major event of the period under examination was the TwinIT fair in Brussels. As the participation in TwinIT! event included the presence of Eureka3D project in a booth on location, a number of dissemination and training materials (WP2-WP4) were anticipated and produced on the occasion, particularly:

- a Guideline to the EU VIGIE Study 2020/654 on quality in 3D digitisation of tangible cultural heritage, created as online resource and printed booklet;
- A new poster and a new flyer, updated with most recent information
- A pair of new roll ups
- Postcards, project's bags

In the event, representatives of the project took part: Antonella Fresa, project coordinator (Photoconsortium); Marinou Ioannides (Cyprus University of Technology); and Frederik Temmermans (imec).

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 highlighting some of the most relevant new webpages: a page about [Eureka3D Data Hub](#), another one devoted to the [3D Digitisation Guidelines](#), 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. The project website has 9000+ views.
- Publication of articles related to the project on the blog, hosted by [DigitalMeetsCulture](#). These articles showcase more in depth content about the 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, based on the communication needs and ongoing project activities. On May 2024, the newsletter has reached 440+ subscribers, and an opening rate of 45-50%.
- Social media updates are in line with the project's activities and its related content, with 540+ 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. It is worth to mention [the main project's promotional video](#) that offers an overview on the project's goals.

Europeana editorials are progressing and various blogs on Europeana and Europeana Pro highlight topics connected to content providers and collections, while others showcase technical achievements by partners. The [editorial section](#) on the project's website is updated with these publications. An effort in translations is carried out by Europeana team and project partners, in order to offer a multilingual approach to this content. By the end of the project all europeana.eu blogs will be available in at least two languages, with most blogs being available in more than two languages. This is in line with Europeana's multilingual strategy in the Data Space for Cultural Heritage.

Title	Type	Publication date	Lang.	Views on 21/05/2024	Views on 20/06/2024
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History of 3D	Blog	09/08/2023	EN, ES, IT	837	1053
Optical Views	Blog	25/10/2023	EN, ES, IT	363	507
Bibracte, a 2000-year-old town under a forest	Blog	11/01/2024	FR,EN	951	1235
Eureka3D project page	Pro	14/11/2022	EN		1110
VIGIE Study	Pro	14/04/2023	EN		684
Discover how the Eureka3D project supports 3D in the data space for cultural heritage	Pro	16/01/2023	EN		533
Famous monuments in 3D	Gallery	01/09/2023	EN	152	152
3D archaeological treasures	Gallery	01/09/2023	EN	132	132
3D Wonders	Gallery	01/09/2023	EN	102	102
Bibracte Gallery	Gallery	11/01/24	EN, FR	72	80
Fikardou Village	Pro	28/05/24	EN		110
Bibracte Jozef Wilczek	Pro	11/07/24	EN		/

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:

[Webinars: Paradata, Metadata and Data for 3D acquisition in cultural heritage](#), organised in collaboration with UNESCO Chair on Digital Cultural Heritage at Cyprus University of Technology:

- Website dissemination, social media posting, newsletter sending, and cross-dissemination actions with CUT
- Visual materials disseminated through different communication channels and created with the CUT collaboration.
- Video recordings of the webinars available.

[Eureka3D: Preserving Values through #MemoryTwins Hybrid Public Demo Event](#), an hybrid public event organised on the occasion of the project plenary in Limassol (Cyprus):

- Website dissemination, social media posting, newsletter sending.
- Supporting communication actions by project partners (Photoconsortium, CRDI, EGI, CUT).
- Visual materials adapted to different communication channels (social media, website, newsletter).

[TwinIT! campaign final event](#): as mentioned before, the project was featured in a dedicated booth where the main project outcomes and goals were presented:

- Videos and [printed visual materials](#), such as an updated [poster](#), [brochure](#) and [roll-ups](#).
- In the context of the event, Eureka3D presented the efforts done by partner CUT Cyprus University of Technology, to digitally preserve the historical Lambousa boat in Limassol.

[3D Digitisation Guidelines: Steps to Success](#): During the *Twin it!* final event mentioned above, this guide was publicly presented for the first time. It is a guide designed to help anyone on their 3D digitisation journey. It is specifically aimed at Cultural Heritage professionals who are considering, or in the middle of, digitising their cultural heritage collections using three-dimensional models. It outlines and simplifies the recommended standards highlighted in the EU VIGIE Study 2020/654 (Study on quality in 3D digitisation of tangible cultural heritage, published April 2022).

- Besides the printed version, an online version is available to download.
- The guide follows the project's visual image and takes into account the visibility of the EU funding (EU emblem, GA number, Digital Europe Programme).

- The final version is printed in Girona (200 copies, format 150x230 mm) and will be distributed during the Final Conference, EGI conference, Image&Research Conference, Euromed and other occasions
- A specific [postcard](#) has been created in order to promote the downloadable version during various events.

The capacity building marketing plan has also endorsed some external events, as already mentioned in the sections above, all strongly linked to the project goals, where the project has been showcased in different ways:

- [Data Spaces Symposium](#) (12-14 March 2024)
- [Europeana Aggregators Forum](#) (25-26 March 2024)
- [GeoDPA 2024](#) (2 April 2024)
- [INCULTUM International Conference](#) (12 April 2024)
- [Annual conference of Kyiv National University of Culture and Arts](#) (24 April 2024)
- [CS3 2024 Conference CERN](#) (2 May 2024)
- [TwinIt! campaign final event](#) (14 May 2024)
- [XV Jornada d'Estudi i Debat Barcelona](#) (15 May 2024)
- [Europeana Digital Storytelling Festival](#) (21-22 May 2024)
- [Seminar on Archives and Tourism](#) (24 May 2024)
- [EVA Florence 2024](#) (27 May 2024)
- [Coordination meeting with ARTEST project](#) (29 May 2024)
- [SECReTOUR kick-off meeting](#) (2 June 2024)
- [Clean Oceans and Mapping our Seas](#) (19 June 2024)

One of the major upcoming milestones of the project is the final conference that will take place in Girona on 12-13 December 2024. During the last project plenary, the main structure of the public event was discussed among partners. Besides the final project meeting, the public hybrid event will consist of public conferences by project partners and invited contributors, and a public workshop mainly focused on 3D digitisation and cultural heritage for local cultural heritage and museum professionals. An exhibition about the project outcomes is also planned to be hosted during the final conference.

The event 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 of citizens and end-users. In the upcoming weeks, the promotion of the final conference will be launched.

During the final conference, the project's final booklet will be distributed both in a printed and online version. A working group from project partners is currently working on the structure and contents of the booklet. The publication will include four case studies from the project's content providers and reflections on impact, as well as a chapter about the EUreka3D platform.

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.

Sustainability, long-term impact and continuation

Report on [changes](#) in your sustainability analysis/strategy (if any).

For the Final Report, describe the follow-up of the project after the end of the EU grant. How will the results be used or further developed. Describe the strategy to ensure sustainability of results and long-term impact. Comment on possible synergies/complementarities with other (EU funded) activities (if any).

No changes in the sustainability analysis and strategy are envisaged.

The project was able to understand more clearly the constraints and challenges, also in terms of costs, for CHIs to create, document and maintain a high quality collection of 3D objects. Such analysis is at the basis of sustainability planning for the continuation of the EUreka3D Data Hub and services, in the light of expanding the number of CHIs that use the platform. Starting from the experience of the 4 content providers in the project, each of them with specificities and very different types of heritage items to be digitised in 3D, it was possible to fully identify all the costs of the digitization projects, following the guidance and complexity analysis that is provided by the VIGIE 2020/654 Study, including the different requirements for planning, organisation, human resources, hardware and software to be used, and of course the specific core activities of digitisation / data acquisition, pre-processing, modelling (2D and 3D);

formatting, export of data and final preparation of the 3D models to be eventually shared online and in Europeana. The reflection that EUreka3D project intends to deliver to the EU and CH community relates to the inevitable correlation between resources available and quality of the results. In fact, while the effort on 3D digitization should continue to be pursued at EU and Member State levels, there is a trade-off between quality of the 3D models and available resources which must be taken into account, especially considering the very ambitious targets indicated in the EC Recommendation 2021/1970: this means that, to achieve the targets set in the Recommendation with high quality, highly reusable 3D models, the investment in the digitization projects must be highly consistent, which is not always affordable by the Cultural Heritage Institutions.

According to the original Call fiche and in the EUreka3D GA, some reflections were provided in advance in the light of estimating the costs of digitization per new or updated object, and the costs of metadata update. Those estimations were made as a theoretical exercise, aiming at understanding the various aspects of digitization and metadata/paradata creation that the content providers would face during the project. The details of the actual costs and of the real digitization journey of EUreka3D content providers will be a key part of the case studies to be presented in the final booklet at the end of the project.

Preliminary reflections that are worth sharing follow, on the 3 major areas of costs:

1/ COST OF 3D DIGITIZATION:

The providers in the project adopted different strategies according to their requirements and needs and according to the specificities of the objects to be digitised. The 3D digitisation of tangible CH can be an exceptionally complex process. Various factors condition the production effort and have a direct impact on the quality of the final output (e.g. the characteristics of the object, the type of equipment to be used, the level of accuracy expected for the 3D model..), and the complexity refers both to data capture and data post-processing.

Partners CRDI and Museo della Carta, committed to digitise museal objects but missing internal capacity and technologies, outsourced the entire process to specialised companies. In this case, guidance was given to the service provider about the quality requirements indicated in the VIGIE 2020/654 Study. The cost of the digitization, performed with the widely used photogrammetry technique, is therefore expressed in a fixed price all inclusive.

Partner CUT, in charge of digitising highly complex monuments and outdoor sites on behalf of local municipalities and authorities, leveraged internal capacity and technology to perform the digitisation so to meet the highest quality standards, with the aim to derive 3D models that fully correspond to a digital twin of the real monument. The cost of the digitization is mainly composed of the hourly cost of specialised personnel who spent their time onsite for the digitization and in the post-processing of the 3D models.

Partner Bibracte adopted a mixed approach including photogrammetry digitization of museal objects and 3D reconstruction of theoretical models of artefacts based on research and software restitution of metric, statistical, typochronological, and stylistic data. In addition to this, Bibracte is delivering a collection of orthophotographic terrain surveys, digitised by photogrammetry as commonly used in archaeology to document and study the physical features of a site or landscape. The terrain collection is currently in the process of being documented. The work is conducted by Bibracte leveraging internal resources.

In summary, it is very difficult to estimate the cost of digitising in 3D, because each object is different. Often, CHIs perform digitization projects to create 3D models under national or EC funded projects, and in such cases the most part of the cost of digitization, if not the entire cost, is not sustained by the CHIs directly.

2/ COST OF DOCUMENTATION (METADATA AND PARADATA)

There is significant work employed to create meaningful metadata for cultural heritage resources, and also multidisciplinary expertise is often needed by metadata experts, technical experts and subject-matter experts alike. All of this contributes to the total cost of metadata creation and annotation, which mainly remains a human-based activity. Even if methods for automated metadata creation exist, the result of machine-generated information may not be optimal and needs in any case a human intervention to validate and ensure trustworthiness of the information.

Also, depending on the type and depth of research that is needed for the creation of appropriate documentation that accompanies the cultural heritage object, the creation time might highly vary. In the context of the project, Museo della Carta represents an interesting case to be analysed. Besides the n. 2 models of paper moulds digitised in 3D, the content of this provider is composed of 2D digitised heritage objects of different kinds: paper moulds, visual artworks collection and a bulk of heritage documents that testify the business of paper production in the course of centuries. Prior to the EUreka3D project, the Museo created n. 27 full documentation sets for the most important items in their collection, to accompany the object's metadata. This involved the effort of a full time PhD researcher who worked about 12 months. In the context of the project, instead, a bulk of ca. 5.000 heritage documents were prepared, uploaded on the Museo's own CMS and accompanied with appropriate metadata information, fully compliant with the Europeana Publishing Framework. This activity took similarly 12 months, but for 5.000 documents.

In the case of paradata, the level of information to be collected also varies, depending on the data acquisition process itself (more or less complex), equipment used, conditions indoor/outdoor, involved personnel. As with metadata, the paradata collection's effort is based on the content provider requirements and constraints. While advocating for the highest accuracy and quality possible, such constraints for information collection and preservation must be considered.

In summary, similarly to the cost of digitization, it is very difficult to estimate a one-size-fits-all average cost for metadata and paradata creation, as these activities largely depend on the content providers requirement, available documentation and desired level of background research to be implemented. In this light, the project embraces the Europeana's recommendation to content providers to "determine the minimum quality needed but aim for the highest affordable".

3/ COST OF STORAGE AND DATA MAINTENANCE

A working group has been established to explore further details for the maintenance of the EUreka3D Data Hub, and perform a cost analysis in order to outline possible models for sustainability in the light of offering the Data Hub as a service on the market and in the Data Space for Cultural Heritage. A meeting about the future of EUreka3D and the vision of its contribution in the data space was held on 8/2/2024 with the vast majority of partners involved. More activities in this context will continue, such as for example:

- Running a SWOT analysis on several user scenarios, in order to gather different views and requirements
- investigating the market size and identifying potential uptakers, and also checking possible competitors to assess how the EUreka3D data Hub can be competitive against established private services (e.g. Sketchfab)
- Running a survey towards potential users/customers to get feedback.

Finally, work is ongoing to identify payment schemes for CHIs to join and use the EUreka3D Data Hub. The customer CHIs just pays for the use of the services, without the need of having technical skills or buying computers and storage facilities. As with the vast majority of cloud services available on the market, it is foreseeable to create a portfolio of different packages tailored upon certain parameters that reflect user requirements. The package would cover every aspect of the service (security, storage, computing power, maintenance, training, etc) for the customer CHI to deliver their objects to the end users after the digitisation task..

In terms of sustainability planning and continuation, it is appropriate to highlight two additional areas of work for the project partners, that relate to the maintenance of online resources and to the synergies and links established or to be established with other important initiatives:

MAINTENANCE OF THE COLLECTIONS AND ONLINE RESOURCES IN EUROPEANA

All editorials published on europeana.eu will stay available for at least 3 years after its original publication date, and most likely will stay available for as long as the europeana.eu platform is online. EUreka3D outputs and editorial on europeana.eu will continue to be promoted and shared by the Europeana Foundation as part of its campaigns. For instance, the [3D tag page on europeana.eu](#) gathers all editorial related to the topic of 3D, including the EUreka3D outputs. All objects aggregated as part of the EUreka3D project will stay available on europeana.eu for access, download and re-use. Data partners retain the right to remove, reingest or update their data after the end of the project, but remain committed to guarantee collections availability also beyond the end of the funding period.

All dissemination material published on pro.europeana.eu will stay available to the public until at least 3 years after the end of the project term. In the case that Europeana Pro moves its domain from pro.europeana.eu to another platform, Europeana Foundation will still adhere to keeping this dissemination material available until at least 3 years after the end of the project term.

In relation to sustainability and future accessibility to EUreka3D resources, coordinator Photoconsortium takes part in the Europeana Capacity Building Working Group and in the Europeana 3D Working Group of the data space project. Both groups will deliver outcomes that can be leveraged for sustainability of EUreka3D outcomes, such as training and learning materials to be part of the new Europeana Learning Platform, and useful information and guidance for the publication of 3D models in Europeana to be included in the Europeana Knowledge Base.

LINK TO OTHER INITIATIVES

In addition to the projects and institutions that the project is already working with, EUreka3D aims at creating synergies with other initiatives currently ongoing or soon to be launched, such as

- ECHOES project, which will establish the ECCCH European Collaborative Cloud for Cultural Heritage. EF is a partner in this initiative and Photoconsortium supported the ECHOES proposal with a letter of interest. It is

expected to establish a collaboration agreement with the ECHOES project as soon as it will be possible and to be included in the stakeholder group following the development of the ECCCH.

- EUreka3D-XR, the continuation project of EUreka3D, is in advanced negotiation phase with expected starting date 1/1/2025. EUreka3D-XR will build upon the results of EUreka3D to expand research and tools for CHIs to reuse 3D collections in the creation of VR-XR scenarios dedicated to different types of stakeholders and users.
- The upcoming 3D competence centre, for which a call for proposal closed on 29/5/2024. The core group of EUreka3D partners submitted a proposal named EUreka3CH-3D, coordinated by CUT, that leverages and expands the knowledge gained from the VIGIE 2020/654 Study and its applications in EUreka3D, deploying a vast capacity building programme and a capillary network of national nodes to provide support to CHIs in the 3D digital transformation process.

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)

Work Package 1: Project management and coordination			
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)
T1.1	Project management	YES, on going	Since the beginning of the project a kick-off meeting (Pisa) and 3 plenaries (Rome, Brussels, Limassol) 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 WP1 deliverables are timely submitted.
T1.2	Quality control and Data Management	YES, on going	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/ .
T1.3	Reporting on integration with Europeana CSP operator	YES, on going	Work for integration and interoperability with Europeana/Data Space for Cultural heritage are progressing with initial outcomes delivered. The D1.2 is timely delivered. Nothing additional to report in the period.
Other issues <i>Mention and explain unexpected events and adjustments that had to be made. Explain impact on other tasks, available resources and planning/timing.</i>		The WP is on track, and it is possible to estimate a progress of 75% against its completion.	

Milestones and deliverables (outputs/outcomes)
- D1.5 timely delivered and corresponding MS3 is achieved

Work Package 2: Capacity building for CH digital transformation and 3D digitisation			
Activities			
<i>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.</i>			
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, on going	Digitisation completed or almost completed, as well as post-digitization processing. Some of the ready models have been uploaded in Data Hub, and particularly the Lambousa boat was offered for inclusion in the TwinIt! Campaign. Examples and guidance are provided for metadata and paradata preparation, in compliance with the recommendations of the VIGIE Study 2020/654.
T2.2	Training and capacity building	YES, on going	The programme of online and onsite events is unfolding. Noteworthy in the period: Paradata Metadata and data webinar in two parts organised by CUT and a public demo session to showcase the status of EUreka3D data hub and services. Work to produce guidance and simplified materials derived from the VIGIE Study 2020/654 is ongoing.
T2.3	Aggregation in Europeana	YES, on going	A first dataset relating to existing online collections by Museo della Carta was aggregated and published in Europeana via Photoconsortium MINT. The model of the Lambousa boat was also aggregated and published. A EDM-compliant metadata input form was created for the Data Hub, and OAI-PMH based protocols are being tested to enable Europeana harvesting directly from the Data Hub.

<p>Other issues</p> <p><i>Mention and explain unexpected events and adjustments that had to be made. Explain impact on other tasks, available resources and planning/timing.</i></p>	<p>The WP is on track, and it is possible to estimate a progress of 75% against its completion.</p>
<p>Milestones and deliverables (outputs/outcomes)</p>	
<p>No deliverables and milestones are due in the reporting period. The deliverables and milestones due in the previous reporting periods (M1-12) were timely submitted</p>	

<p>Work Package 3: Digital infrastructure and integration of services and tools</p>			
<p>Activities</p> <p><i>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.</i></p>			
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, on going	Different requirements are being collected by WP3 participants as the platform is developed and tested by the different users, especially Content Providers. These requirements are 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, on going	EGI DataHub has been improved to support user needs that are specific for the Eureka3D community, such as changes in the GUI to add EDM support for metadata. Storage is facilitated, but has not increased yet as the project has not demanded more storage. Extended storage may be allocated if it is needed once the project members upload their 3D models to the Eureka3D cloud.
T3.3	Set-up the authentication and authorisation infrastructure for the project	YES, on going	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, on going	EOSC is undergoing a major redesign and this task is being evaluated. Careful monitoring of the situation is being performed and a contingency plan is developed.
T3.5	Interoperability with Europeana CSP	YES, on going	The integration with Europeana has been successfully completed in the testing environments of the EUreka3D platform and Europeana. This means that the whole EUreka3D workflow has been successfully proved, from the time the Content Provider uploads a 3D model in EUreka3D to the point that its metadata and viewer are presented in Europeana to the end user. The next step is to complete this integration in the Production (final) environment.
Other issues <i>Mention and explain unexpected events and adjustments that had to be made. Explain impact on other tasks, available resources and planning/timing.</i>		The WP is on track, and it is possible to estimate a progress of 80% against its completion.	
Milestones and deliverables (outputs/outcomes)			
No deliverables and milestones are due in the reporting period. The deliverables and milestones due in the previous reporting periods (M1-12) were timely submitted			

Work Package 4: Communication, dissemination and impact assessment			
Activities			
<i>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.</i>			
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, on going	Tools and communication and dissemination activities foreseen on intermediate report M12 have been implemented during period M12-18. 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. Several visual materials have been disseminated aiming to feature the project's activities and outcomes (banners, flyers, postcard, and poster, among others).
T4.2	Editorials and publications	YES, on going	The foreseen editorials for period M12-18 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 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, on going	A working group from project partners is currently working on the structure and contents of the final booklet. This publication will collect 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 will be distributed during the final conference, which will take place in Girona next December 2024. The event will highlight the project outcomes, and will include public hybrid conferences and a workshop on 3D digitisation in cultural heritage.
T4.4	Impact assessment	YES, on going	The Eureka3D project is following the Europeana Impact Playbook and working on an impact plan that measures the impact of stakeholders and project partners, as well as the knowledge transfers to external stakeholders groups. The impact assessment report is mapping 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 will be finalised by the end of the year.
Other issues <i>Mention and explain unexpected events and adjustments that had to be made. Explain impact on other tasks, available resources and planning/timing.</i>		The WP is on track, and it is possible to estimate a progress of 75% against its completion.	

Milestones and deliverables (outputs/outcomes)	
No deliverables and milestones are due in the reporting period. The deliverables and milestones due in the previous reporting periods (M1-12) were timely submitted.	
Budget implementation — Use of resources (deviations) <i>(n/a for Lump Sum Grants) (n/a for Additional Prefinancing Report)</i>	
<i>Explain <u>deviations</u> 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.</i>	
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 M12-M18. 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.

D1.5 Technical Report 3 is timely delivered on M18 and the corresponding milestone 3 is timely achieved.

The project is on track with excellent collaboration among partners and all activities progressing, with some of the tasks in WP2-3-4 being pushed forward to meet the needs of communication and dissemination of the project in the Twint! high level event in Brussels. No risks materialised, although a revision of the task about registering EUreka3D's services on EOSC is needed to cope with the major reorganisation of the EOSC platform initiated by the EC and currently ongoing. A contingency plan and corresponding actions is provided in this report, and careful monitoring of the EOSC situation is being performed.

The EUreka3D action for digitization, storage and sharing of 3D cultural collections is progressing, with good results in terms of enabling AAI services, cloud storage, PIDs assignments, a 3D models viewer and an EDM-compliant metadata input form. Work to implement integration with Europeana and interoperability with the Data Space is being concluded in the next month, in order to proceed with the aggregation of the 3D datasets and consequent ingestion and publication of the collections in europeana.eu.

A series of capacity building events was delivered and more are planned in the next months including a second webinar series in collaboration with ICA International Council on Archives (Fall 2024) and participation in important events like the EGI conference (September), Image & Research (November) and Euromed (December). New resources for dissemination and training such as new visual materials, additional Europeana editorials and the Guideline to the VIGIE 2020/654 Study have been produced. The planning for the final conference (Girona 12-13 December 2024) is progressing and so is the production of the Final Booklet collecting all the lessons learnt in the project's journey and including case studies from the content providers, for other CHIs to learn and take inspiration from.

Efforts to raise awareness of the project and of its capacity building programme continue by using all communication channels implemented in the project and by leveraging existing connections and networks of the project partners, thus allowing EUreka3D stakeholders network and collaborations to grow.

The impact of the project is being tracked, collecting feedback from stakeholders particularly following the capacity building actions, and the changes that the adoption of the VIGIE Study 2020/654 on quality on 3D digitization, the use of the EUreka3D Data Hub and the effort on disseminating and showcasing the collections via Europeana have brought in the content providers workflows.

The plan for the sustainability of the project's results, based on the impact assessment action, is under study in the consortium, also taking into account the continuation of the project in 2025-2026 with EUreka3D-XR (currently in advanced negotiation phase), and a possible role in the upcoming 3D competence centre, for which a proposal named EUreka3CH-3D was submitted by the core group of EUreka3D partners.