

Integration Initial Report of EUreka3D with the common European data space for cultural heritage

30/06/2023

Corresponding to D1.2 Integration Report 1

INFORMATION ON THE ACTION	
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Abbreviations

Consortium members

- INTERNATIONAL CONSORTIUM FOR PHOTOGRAPHIC HERITAGE (Photocons)
- TECHNOLOGIKO PANEPISTIMIO KYPROU (CUT)
- AYUNTAMIENTO DE GIRONA (CRDI)
- BIBRACTE
- MUSEO DELLA CARTA DI PESCIA
- STICHTING EUROPEANA (EF)
- STICHTING EGI (EGI)
- AGH AKADEMIA GORNICZO-HUTNICZA IM. STANISLAWA STASZICA W KRAKOWIE (AGH)
- imec (pending approval)

Other

AAI	Authentication and Authorisation Infrastructure
CHIs	Cultural Heritage Institutions
DS AGG	Data space aggregators
EAF	Europeana Aggregators' Forum
EDM	Europeana Data Model
ECBF	Europeana Capacity Building Framework
EIF	Europeana Impact Framework
ELF	Europeana Licensing Framework
ENA	Europeana Network Association
EPF	Europeana Publishing Framework
IIIF	International Image Interoperability Framework

Please see the [glossary available on Europeana Pro](#) for more formal definitions of terms used frequently.

Introduction

This report is written by the EUreka3D project partners with a special role for the Coordinator Photoconsortium, EGI as provider of the e-infrastructure that is hosting the EUreka3D services and Europeana Foundation, the organisation leading the deployment of the common European data space for cultural heritage under a contract with the European Union.

The integration report template was discussed and approved by the Commission (HaDEA and DGConnect).

This report presents the project outcomes per specific area of data space deployment and is organised into four sections: 1. **Technical integration into the data space infrastructure**, 2. **Integration of high-quality data**, 3. **Capacity building and fostering reuse**, and 4. **Digital services for the public**.

The integration report is submitted in two phases: an initial version at month 6 of the project (i.e. this document) and the final version in the last month of the Action (i.e. month 24).

This initial integration report describes the planning of the work needed to integrate the outcomes of the EUreka3D project into the common European data space for cultural heritage. It presents possible expected deviations and possible risks in order to provide an early indication of threats and opportunities to the Action and ensure its timely and smooth progress.

The final integration report will provide a detailed report of delivered outcomes, any deviations if applicable as well as the compliance of the project outcomes with the data space frameworks.

This document corresponds to the EUreka3D D1.2 Integration Report 1 and complements the D1.3 Technical progress report 1. Both documents are means of verification for the project's Milestone 1 "First technical and integration reporting", that is timely achieved.

1. Technical integration into the data space infrastructure

This section shows the integration of technical outcomes with the data space infrastructure, in particular with Europeana infrastructure and services, aggregation systems (such as Metis, Metis sandbox and Data Statistics Dashboard) and Europeana APIs. Underlying all of these products is the infrastructure to host, monitor, and recover systems.

All technical outcomes must comply with the following Europeana Guidelines: Europeana Development Guidelines ¹ and Europeana Playbook for software development and integration².

BRIEF INTRODUCTION TO THE INTEGRATION SCENARIO

EUreka3D aims to deploy a cloud-based environment for the Cultural Heritage sector, using cloud technology to provide high quality holistically enriched content to Europeana.

For this, an integration is required between EUreka3D and Europeana systems, mainly taking place on three layers with different scopes:

1. Metadata and paradata for the technical aggregation of collections,
2. A 3D viewer to support visualisation of the 3D assets,
3. Authentication and authorisation infrastructure.

The activities for supporting the expected outcomes are deeply interconnected. In order to define the capability of the system and its possibilities, the collection of requirements from the potential users is currently ongoing, through an intense dialogue among the partners and invited stakeholders. This requirement collection will be formalised in a document, which will assist in defining the integration solution.

The scopes and the integration plan for each of the three elements is provided below. Finally, a comprehensive table of risks is also provided.

¹ <https://github.com/europeana/europeana-dev-guides>

² https://drive.google.com/file/d/12h1O6OLDawoua1pWHlsq5_EI0D12k7T5/view?usp=sharing

1. Technical aggregation of collections

Scope
<p>A short description of the outcome: Metadata about high-quality 3D digitised assets captured during the project will be made available through the Europeana Website. In addition to the metadata fields foreseen in the Europeana Data Model, that will meet the requirements of the Europeana Publishing Framework (minimum tier B according to the Grant Agreement), possibilities are being explored to accommodate additional relevant information relating to the 3D objects (i.e. the paradata). This work relates to the current revision of the EDM that Europeana is performing in the context of the Data Space for Cultural Heritage project.</p>
<p>Main partner: EF, EGI, AGH, CUT, Photocons</p>
<p>Integration scenario: Content providers will make use of storage and data/metadata management facilities in the EUreka3D environment to prepare the datasets for publication in Europeana, according to the Europeana Data Model.</p> <p>To enable the aggregation of the 3D assets in Europeana, the project will make use of the MINT mapping and aggregation tool operated by the accredited aggregator Photoconsortium. This will permit both the EUreka3D datasets, irrespectively of the type of object (3D, image, text, etc.) and the servers where they are stored, to be aggregated via the established route, by harvesting from an OAI-PMH server via the Metis tool.</p>
<p>Deviation (yes/no) No</p>

Integration plan				
Stage	Details	Delivery date	Status	Responsible partner and role
Requirement collection	Collection of requirements needed to design the system, and explore possible solutions for the use cases concerning Europeana.	First version expected by M7. Next versions released as necessary (foreseen at M12, M18, M24).	In progress	EGI, lead All partners involved

Metadata and paradata	Agreement on the metadata and paradata to be released to Europeana, based on the Europeana Data Model (EDM).	By M12	In progress	EGI / AGH , technical advisor CUT / Photocons , content advisor EF , Europeana advisor
Mapping to EDM and aggregation to Europeana	Use of MINT tool to perform the mapping of content providers' metadata to EDM and to expose the mapped datasets via OAI-PMH for harvesting by Metis	By M22	In progress	Photocons , accredited aggregator All content providers involved EF , Metis operator

2. EUreka3D viewer

Scope
<p>A short description of the outcome:</p> <p>Europeana delegates the visualisation of 3D objects to the external providers chosen by the content provider. Herein, a 3D viewer is included in the EUreka3D cloud-based environment to allow the display of high-quality 3D digitised assets captured during the project on Europeana.</p> <p>Additionally, an oEmbed endpoint will be used to allow the embedding of the 3D visualisation in potentially any publication platform.</p>
<p>Main partner: EGI, AGH, EF</p>
<p>Integration scenario:</p> <p>The integration is expected to happen via embedding on the Europeana Item page using an oEmbed endpoint to be developed and made available by the project.</p>
<p>Deviation (yes/no) No</p>

Integration plan				
Stage	Details	Delivery date	Status	Responsible partner and role
Requirement collection	Collection of requirements needed to design the system, and explore possible solutions for the use cases concerning Europeana.	First version expected by M7. Next versions released as necessary (foreseen at M12, M18, M24).	In progress	EGI , lead All partners involved
3D visualisation	Development of mechanisms to visualise 3D assets (as a pilot) and an oEmbed endpoint for embedding into Europeana	First version by M12 Final version by M20	Not started	EGI / AGH , developer EF , developer
Integration via oEmbed for enabling visualisation of 3D assets in Europeana portal	Configuration of the oEmbed endpoint and integration with Europeana	By M22	Not started	EGI / AGH , developer EF , developer

3. Authentication and Authorisation Infrastructure

Scope
<p>A short description of the outcome:</p> <p>The EUreka3D cloud-based environment includes an identity management system (EGI Check-in), which enables authentication and authorisation mechanisms to be used in the project to access the infrastructure resources. Different groups of users are under definition, according to the permissions that have to be granted to them on the system.</p>

Main partner: EGI, AGH, EF

Integration scenario:

EUreka3D resources will be protected by the EGI Check-in service. The integration of Europeana with EUreka3D will require the use of the OIDC/OAuth protocols to enable users to access such resources. The authorisation of Europeana users will be done according to the agreed requirements, which may be done either considering Europeana as a global user or applying different authorisation rules for each user that accesses EUreka3D content through Europeana. In the latter, the integration of the Europeana identity provider in the EGI Check-in ecosystem may be considered. The final solution adopted will be defined by the requirements gathered in the dialogue with the partners and stakeholders.

Deviation (yes/no) No

Integration plan

Stage	Details	Delivery date	Status	Responsible partner and role
Requirement collection	Collection of requirements needed to design the system, and explore possible solutions for the use cases concerning Europeana.	First version expected by M7. Next versions released as necessary (foreseen at M12, M18, M24).	In progress	EGI , lead All partners involved
Authentication and Authorisation prototype	EGI Check-in is implemented for demonstration and testing	By M6	Completed	EGI , developer
Authentication and Authorisation	Integration of Europeana with EGI Check-in, to guarantee authentication and authorisation rules to access 3D assets.	By M22	Not started	EF , developer EGI , advisor

Europeana identity provider integration	Explore the possibility of integration of Europeana idP in the EGI Check-in ecosystem, to enable the integration with EOSC AAI.	By M24	Not started	EF , developer EGI , advisor
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Risks			
<i>Description</i>	<i>Mitigation strategy</i>	<i>Involved partner</i>	<i>Timeline</i>
Lack of a development team	Avoid the development of complex components and reuse existing open-source projects as much as possible.	EGI / AGH	M12-M22
Wide scope / too many functionalities that makes the development required unfeasible during the life of the project	Simplify the system and consider that the project will conduct a pilot, not a mature production system.	EGI / AGH / EF	M12
Incompatible AAI solutions between EGI and EF	Attempt an integration based on common industry standards for AAI used by EGI Check-in, such as OIDC and OAuth.	EGI / EF	M14
Incompatibility, lack of expressivity, lack of agreement or delay in the upgrade of EDM for describing 3D assets	Creation of a dedicated data model for 3D assets for EUreka3D, and use of the minimum subset of EDM to present the essential metadata to users in Europeana.	EF / CUT	M12

2. Integration of high-quality data

This section shows high-quality, usable and accessible data that the project will deliver to the data space supporting local and regional representation as well as multilingual accessibility. All data outcomes must comply with the following Europeana Guidelines: Europeana Data Model³, Europeana Publishing Framework⁴, Europeana Content Strategy⁵, Guidance for Projects Partners doing Annotations, Transcriptions & Subtitles⁶.

Content and metadata

This section reports a clear content aggregation plan as well as the content provider, content and metadata Tiers, and expected publication date. Please copy and paste as many rows as necessary.

	Dataset ID	N. records	Type of media (image, sound, text, 3D, video)	Content Tier ⁷ (Tier 2, Tier 3, Tier 4)	Metadata Tier ⁸ (Tier A, Tier B, Tier C)	Copyright status ⁹	Expected delivery date	Comments
Content Provider: CUT								
New records							-	
Newly digitised records		N. 3	3D	Tier 4	Tier B	Open access	Expected delivery by M22	Digitisation started
Updated records								
Total records		N. 3	3D	Tier 4	Tier B	Open access	by M22	

³ <https://pro.europeana.eu/page/edm-documentation>

⁴ <https://pro.europeana.eu/post/publishing-framework>

⁵ <https://pro.europeana.eu/post/europeana-content-strategy>

⁶ https://docs.google.com/document/d/1vDT7lppoPKbg0_y8ys_vE4OibYRHke1WKsNq1mR8fQ/edit?usp=sharing

⁷ https://pro.europeana.eu/files/Europeana_Professional/Publications/Publishing_Framework/Europeana_publishing_framework_content.pdf

⁸ https://pro.europeana.eu/files/Europeana_Professional/Publications/Publishing_Framework/Europeana_publishing_framework_metadata_v-0-8.pdf

⁹ <https://pro.europeana.eu/page/available-rights-statements>

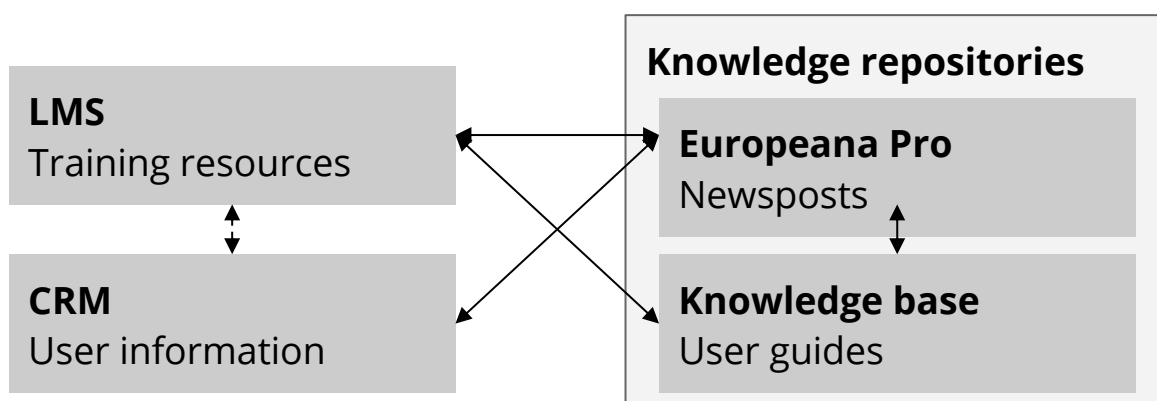
Content Provider: CRDI								
New records								
Newly digitised records		N. 50	3D	Tier 4	Tier B	Open access	Expected delivery by M22	Digitisation provider was selected
Updated records								
Total records		N. 50	3D	Tier 4	Tier B	Open access	by M22	
Content Provider: BIBRACTE								
New records		250	3D (ground models)	Tier 3	Tier B	Open access	Expected delivery by M22	Selection ongoing
Newly digitised records		250	3D (artefacts)	Tier 4	Tier B	Open access	Expected delivery by M22	Digitisation ongoing
Updated records								
Total records		500	3D	Tier 3/4	Tier B	Open access	by M22	
Content Provider: MUSEO DELLA CARTA								
New records		5.000	IMAGE and TEXT (documents)	min. tier 2	Tier B	Open access	Expected delivery by M22	Selection ongoing
Newly digitised records		2	3D (paper moulds)	Tier 4	Tier B	Open Access	Expected delivery by M22	Digitisation to start after Summer 2023
Updated records								
Total records		5.002	IMAGE, TEXT and 3D	TIER 2/3/4	Tier B	Open access	by M22	

Risks			
<i>Description</i>	<i>Mitigation strategy</i>	<i>Involved partner</i>	<i>Timeline</i>
Complexity of 3D Digitisation and 3D parametrization	To apply a correct management of pre-condition parameters, e.g.: data acquisition, location of the acquisition, surface properties; To develop recommendations, guidelines and examples of good practices	CUT and content providers	M1-M24
IP issues arise on authorship of the produced models	To develop recommendations, guidelines and examples of good practices	CUT, EF for IP support, and content providers	M1-M24
Aggregation is late	To start early with planning for digitization and metadata creation; To aggregate ASAP what is already available online	Photocons, EFand content providers	M6-M24
Aggregation is difficult	For any possible occurrence in terms of technicalities, the MINT operator will be involved to provide support and problem solving	Photocons and content providers	M6-M24

3. Capacity building and fostering reuse

This section shows the integration of training outcomes that strengthen the capacity of cultural heritage professionals and reuse communities working with digital cultural heritage, in particular in education, research, tourism and the creative industries.

All outcomes must comply with the Guidelines for the development and delivery of training¹⁰.



Training outcomes

Outcome	Audience	Learning goals ¹¹	Expected publication or delivery date	Partners involved
"3D in Cultural Heritage" Capacity building event in Roma and online	Cultural Institutions; researchers in 3D for cultural heritage; PhD students; other cultural professionals	<i>User is able to Remember / Understand / Apply / Analyse</i>	6th June 2023	Organised by Photoconsortium with participation of project partners, and associate partners
VIGIE Study 2020/654 materials Flyers and other materials to explain	Cultural Institutions; technology/service providers; 3D digitisation	<i>User is able to Remember / Understand / Apply / Analyse / Evaluate / Create</i>	end of 2023, beginning 2024	CRDI with CUT, Photoconsortium, imec

¹⁰ <https://pro.europeana.eu/page/guidelines-for-delivering-training-and-development>

¹¹ Please use Bloom's taxonomy for these learning goals. [See B.3 of the guidelines](#) mentioned above for more information

the 3D digitisation recommendations in a more user-friendly way	professionals			
Webinar series in Autumn 2023 3 online appointments dedicated to different topics - programme to be defined, with learning test	Cultural Institutions, Europeana network	<i>User is able to Remember / Understand / Apply / Analyse</i>	October- November- December 2023	Photoconsortium in collaboration with ICA and with project partners
Training session about the use of Europeana and its 3D objects (in a broader training on archaeological objects and their raw materials) Event in Bibracte	Teachers & educators	<i>User is able to Remember / Understand / Apply / Analyse / Evaluate / Create</i>	27-29 November 2023	Bibracte
Training workshop for “early adopters” of the EUreka3D tool and methods Event in Bibracte or Lyon	Cultural Institutions; researchers in 3D for cultural heritage, archaeologists	<i>User is able to Remember / Understand / Apply / Analyse / Evaluate / Create</i>	End of 2023, early 2024	Bibracte and associate partner Archéovision
Participation in Mnemosyne Summer School Training and presentation on 3D digitisation	Cultural Institutions; researchers in 3D for cultural heritage; other cultural professionals	<i>User is able to Remember / Understand / Apply / Analyse / Evaluate / Create</i>	tbd	CUT
Training workshop at EGI 2024 Participation in EGI conference	Technology/service providers; 3D digitisation and other cultural professionals	<i>User is able to Remember / Understand / Apply / Analyse / Evaluate / Create</i>	tbd	EGI with CUT
Training workshop at Euromed 2024	Cultural Institutions;	<i>User is able to Remember /</i>	November 2024	CUT

Event in Cyprus	researchers in 3D for cultural heritage; other cultural professionals; policy makers	<i>Understand / Apply / Analyse / Evaluate / Create</i>		
Training action at Image & Research 2024 Participation in conference in Girona	Cultural Institutions; technology/service providers; 3D digitisation and other cultural professionals	<i>User is able to Remember / Understand / Apply / Analyse / Evaluate / Create</i>	November 2024	CRDI
Case studies on content providers' journey Online publication	Cultural Institutions; Europeana network	<i>User is able to Remember / Understand / Apply / Analyse</i>	By the end of the project	Coordinated by Photocons with collaboration of all the partners
EUreka3D Data Hub services and tools user manuals Online publication	Cultural Institutions; technology/service providers; researchers in cultural heritage; 3D digitisation and other cultural professionals	<i>User is able to Remember / Understand / Apply / Analyse / Evaluate / Create</i>	By the end of the project	EGI with AGH and imec
EUreka3D booklet Online publication + 200 printed copies	Cultural Institutions; technology/service providers; researchers in cultural heritage; 3D digitisation and other cultural professionals; policy makers	<i>User is able to Remember / Understand</i>	By the end of the project	Coordinated by Photocons with collaboration of all partners

Risks			
<i>Description</i>	<i>Mitigation strategy</i>	<i>Involved partner</i>	<i>Timeline</i>
Low participation in training and capacity building events (probability low, impact medium)	<p>The CHIs involved in the EUreka3D pilot are committed to take on board staff members and other partners to receive the training. A robust communication plan will ensure wide outreach of the calendar of open online training events.</p> <p>To maximise outreach each partner is committed to take in the loop their networks of peers and colleagues. A big part will be played by addressing the networks of Europeana Association, Aggregators Forum and the Education Community.</p> <p>The news published on the project website and through the project blog are also supporting the communication towards the target audience,</p>	All partners	M1-M24

4. Digital services for the public

This section covers editorial content delivered by the project to the Europeana website, such as blog posts, virtual exhibitions, and galleries.

Editorial outcomes

These outcomes must comply with the following Guidelines: Europeana Editorial Guidelines¹² and Europeana Pro Guide¹³.

Editorial	Website	Type of Editorial	Expected Date
Blog on VIGIE Study (high quality 3D digitisation)	Europeana Pro	News post	April 14 2023 EU-funded study sheds light on 3D digitisation of tangible cultural heritage Europeana PRO
Pre-history of 3D	Europeana	blogpost	July 2023
About CRDI's collections of pre-cinema items (with angle on education and CH research)	Europeana	blogpost	September 2023
About Bibracte's archaeological content and tourism	Europeana	blogpost	November 2023
About Museo della Carta's heritage collection (paper manufacturing)	Europeana	blogpost	January 2024
About Cyprus' monuments	Europeana	blogpost	March 2024
EUreka3D's cloud-based services and tools (by CUT)	Europeana Pro	News post	Late 2024
Technical innovation in 3D digitisation by imec	Europeana Pro	News post	Mid 2024

¹² <https://pro.europeana.eu/discover-the-data/creating-editorial>

¹³ https://docs.google.com/document/d/1HBnbDYxqgZ7-nEcfK93pwoZlCf6vz3Q-Yw_6ndDpqoE/edit

Four galleries by Europeana on 3D artefacts in its database	Europeana	galleries	All available by November 2023
Two galleries by Museo della Carta on their content expertise	Europeana	galleries	All available by February 2024
Two galleries by CRDI on their content expertise	Europeana	galleries	All available by June 2024
Two galleries by Bibracte on their content expertise	Europeana	galleries	All available by August 2024

Risks			
<i>Description</i>	<i>Mitigation strategy</i>	<i>Involved partners</i>	<i>Timeline</i>
Aggregation is delayed, so it is not possible to include the EUreka3D collections in the blogs	The blogs can be written using images of the content in 2D. When the 3D collections are aggregated and published on Europeana, the blogs can be updated with 3D items	EF, Photocons, content providers	M1-M24