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**Deployment of a common European data space
for cultural heritage**

PM. Periodic report M12

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Abbreviations

Consortium participants

EF	Europeana Foundation, The Netherlands (Coordinator)
AIT-Graz	AIT Angewandte Informationstechnik Forschungsgesellschaft mbH, Austria
AIT-Vienna	AIT Austrian Institute of Technology GmbH, Austria
APEF	Archives Portal Europe Foundation, The Netherlands
CAPG	Capgemini Nederland BV, The Netherlands
CARARE	Connecting Archaeology and Architecture in Europe, Ireland
DARIAH	Digital Research Infrastructure for the Arts and Humanities, France
DATO	Datoptron P.C., Greece
DFF	Deutsches Filminstitut & Filmmuseum e.V., Germany
EFHA	European Fashion Heritage Association, Italy
EUN	EUN Partnership AISBL, Belgium
EuroClio	Euroclio European Association of History Educators, The Netherlands
F&F	Facts & Files Digital Services GmbH, Germany
INCEPTION	Inception s.r.l, Italy
MCA	Michael Culture AISBL, Belgium
NISV	Stichting Nederlands Instituut voor Beeld en Geluid, The Netherlands
Photocons	International Consortium for Photographic Heritage Photoconsortium, Italy
PSNC	Instytut Chemii Bioorganicznej Polskiej Akademii Nauk - Poznańskie Centrum Superkomputerowo-Sieciowe, Poland
TMO	Time Machine Organisation, Austria

Other

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

Highlights

This reporting period, we progressed with the work on Permanent Identifiers (PIDs), further extended the logging infrastructure and completed several outcomes that support and improve the aggregation infrastructure (eCloud processing model, increased support for IIIF, and new Sandbox API). We gathered insights from Task Forces (related to centralised vs decentralised scenarios and Linked Data) that will be driving the evolution of the aggregation model in the context of the data space.

We extended and maintained the Europeana APIs, most notably by designing a new Record API (3rd version) and by developing a new API dedicated to translation. We deployed image resolution enhancement technology and completed a methodology for validation and evaluation of enrichments. We also completed several outcomes to improve the search experience on the Europeana website (for example multilingual search within the Spanish pilot).

Data governance further progressed with updates to the enrichment policy and the strategy and plan for the development of data governance mechanisms. We validated the EPF as a tool to measure enrichment improvements and reviewed the EPF to make it suitable to manage 3D content properly and fit for the needs of data partners and users working with 3D content. Increased support for 3D also continued as part of activities related to the Twin It! campaign.

As part of the new welcome pack for CHIs we implemented a page on the Europeana website where providing institutions can register to share their data with the Europeana Initiative and claim their usage statistics dashboard.

We assessed connections between ENA and EAF members and progressed on improved models of cooperation across the data space. We reviewed and improved workflows for data collection in our CRMs and progressed with the integration of a new Learning Management System (LMS). Besides organising several training sessions we also completed the DEN Leadership programme.

For our educational audiences, we organised the Europeana Education competition, and offered training on the use and reuse of Europeana resources which, besides others, contributed to new learning materials and new translations of existent content being published. For academic and research audiences we released a first version of the workflow to publish 'Collections as Data' in the data space on the SSH Open Marketplace. For API users we updated API documentation and completed capacity building resources.

We engaged with audiences via the Digital Storytelling Festival and an Online Creative Residency and promoted the data space offer and high-quality open access data.

Introduction

The periodic report describes work carried out under the common European data space for cultural heritage from 1 May 2023 (M09) until 31 August 2023 (M12) based on the implementation plan (PM. Implementation plan M1).

The report is organised in five work packages (WP): WP1) Development and operation of the data space infrastructure; WP2) Integration of high-quality data; WP3) Capacity building and fostering reuse; WP4) Digital services for the public; and WP5) Programme management (including the balance of efforts as well as reporting on integrations of other EU-funded projects).

All outcomes to be completed in Y1 (Sep 2022 - Aug 2023, as stated in PM. Implementation plan M1) are included in this periodic report with % of completion and expected due date. For outcomes completed in the reporting period a description is added that highlights the objective and result of the outcome and its value for the data space. Additionally, the consortium will report on all outcomes marked as “ongoing” bi-annually (Feb and Aug 2023).

Key Performance Indicators (KPIs) as well as other reporting metrics are provided and discussed in case of notable occurrences.

[Annex: Risk log](#) includes an assessment of foreseen and observed risks with risk responses and other relevant details. The Risk log will be updated periodically and an updated version is attached to this report.

Explanatory notes for tables reporting - colour codes

	Outcomes as stated in the implementation plan ¹
%	Progress until end of current reporting period

¹ Outcomes as stated in the implementation plan are marked with light blue background to be able to refer back to the initial implementation plan. Additional outcomes we report on have a transparent background.

Work package 1: Development and operation of the data space infrastructure

This work package aims to provide a reliable data space infrastructure and quality of service (Task 1.1.), as well as foster innovation, interoperability and compliance with other data spaces (Task 1.2.).

Task 1.1. Provide reliable data space infrastructure and quality of services

Partners: EF, AIT-Vienna, PSNC, DATO, and AIT Graz

The data space infrastructure will build upon the current Europeana Digital Service Infrastructure (Europeana DSI). Europeana DSI consists of four digital products: the Europeana website, Europeana Pro website, APIs, and aggregation systems. Underlying all of these products is the infrastructure to host, monitor, and recover systems.

Under this task, the Europeana DS consortium will extend and maintain the overarching platform infrastructure and services (Activity 1.1.1.), aggregation systems (Activity 1.1.2.), and APIs (Activity 1.1.3.). The Europeana website will be further developed as part of WP4: Digital services for the public and the Europeana Pro website as part of WP3: Capacity building and fostering reuse.

Overview of outcomes: provide reliable data space infrastructure and quality of services

Partner	Outcomes	Progress	Due date
Activity 1.1.1. Extend and maintain platform infrastructure and services			
EF	Inventory of the current identifications schemes used in the data repository delivered	Completed	Feb 2023
EF	Requirements for improved persistence and unique identification system in the core platform gathered	Completed	Feb 2023
PSNC	eCloud processing model reviewed and refactored	Completed	Jun 2023
EF	Report on one selected area for experimentation and assessment of permanent and unique identifiers completed (including recommendations for future work)	Completed	Jul 2023
EF	Logging infrastructure further extended	Completed	Aug 2023
EF, AIT Vienna	Prototype framework for post publication enrichment pipeline delivered	Completed	Apr 2023 (Aug 2023)
EF	New metrics to assess the performance of the Metis aggregation infrastructure defined and implemented	Completed	Aug 2023

EF	Full disaster recovery test completed ²	-	Ongoing
EF	Europeana database reprocessing activities ³	-	Ongoing
EF	Infrastructure supporting products and services are maintained - 80% in M09 - M12	-	Ongoing
EF	Compliance with data protection maintained ⁴	-	Ongoing
Activity 1.1.2. Extend and maintain aggregation systems and services			
EF	API allowing the integration of the Metis service(s) decided and validated for implementation	Completed	Jan 2023
EF	Metis infrastructure migrated to Kubernetes	Completed	Jun 2023
EF, DATO	API allowing the integration of one of the Metis services developed	Completed	Aug 2023
PSNC	IIIF image service updated to use a more openly licensed software	Completed	Aug 2023
DATO	MINT based infrastructures upgraded to support incremental harvesting	Completed	Aug 2023
AIT-Graz	Use of IIIF within aggregators' infrastructure supported	Completed	Aug 2023
EF	Field warnings mechanism in the Metis Suite extended with new problem patterns	-	Ongoing
EF, PSNC	The Metis applications are maintained and kept up-to-date - 10% in M09 - M12	-	Ongoing
Activity 1.1.3. Extend and maintain Application Programming Interfaces (APIs)			
EF	Record API is redesigned	Completed	Aug 2023 ⁵ (May 2023)
EF, AIT Vienna	All APIs migrated to Kubernetes	Completed	Jun 2023
EF	Satisfaction survey for the alpha version of the Record API completed	Not started	Year 2 ⁶ (Jul 2023)
EF	Recommendation service redeveloped	Completed	Aug 2023

² This outcome will feed into DS. Stress test reports.

³ Outcomes in other tasks might require a reprocessing activity. The planning will be aligned with those outcomes.

⁴ According to the Regulation (EU) 2018/1725 concerning the processing of personal data by the EU institutions (IDPR)

⁵ Outcome adjusted with EC.

⁶ Outcome adjusted with EC.

EF, AIT Vienna	First version of a Translation API is established	Completed	Aug 2023
EF, AIT Vienna	Europeana APIs are maintained and well performing - 30% in M09 - M12	-	Ongoing

eCloud processing model reviewed and refactored - a full review has taken place on our usage of Apache Storm as a data processing framework. Conclusions brought questions regarding its longevity and its continued suitability to the problem space it operates in. Several simple Proof of Concept implementations have been created to evaluate the most popular state-of-the-art alternatives. Some of these have been selected for further, more in-depth investigation in the future. In a separate effort, an evaluation has taken place where we can refactor and improve the processing model. Work has been done on the duplicate record detection, allowing the user to get better feedback in case of duplicate records. Further improvements have been identified for the future.

Report on one selected area for experimentation and assessment of permanent and unique identifiers completed (including recommendations for future work) - our investigations have highlighted three problem spaces where better support and handling of persistent identifiers is needed: 1) stability of object identifiers provided by data partners, 2) stability of identifiers originated by the aggregation into the Europeana infrastructure, 3) stability of identifiers shared with (or reused by) our audiences. We have developed a first version of an implementation plan detailing the areas where work will be actioned first. We have acted on the first problem space by preparing and sharing with CHIs and aggregators a survey on Persistent Identifiers⁷ to understand the practices of our data partners. We have received so far 78 responses from clearly identified cultural institutions: 34 responses from CHIs (4 responses from outside of geographical Europe), 15 from the accredited aggregators of Europeana, and 29 responses from CHIs who indicated that they also had a function as an aggregator (2 responses in this group came from the US). The survey received some interest from the ARK alliance managing the ARK identifiers scheme who republished⁸ the survey.

As part of the problem identification, we have inventorised the persistent identifier schemes used in the data space. This work has been selected for presentation at the coming conference on Theory and Practices of Digital Libraries (TPDL 2023⁹) and the EuropeanaTech conference.

Logging infrastructure further extended - with the migration of all services to Kubernetes, the focus has been to migrate the logging routines of the applications running in the cloud environment into a standardised approach that works in Kubernetes and for all applications. This required all applications running in Kubernetes to adopt the same logging method and structure so that logs could be consistently pulled and pushed to the logging infrastructure.

⁷ <https://pro.europeana.eu/post/help-us-to-make-cultural-heritage-data-more-persistent>

⁸ <https://arks.org/blog/help-us-to-make-cultural-heritage-data-more-persistent/>

⁹ <https://tpdl2023.dei.unipd.it/>

New metrics to assess the performance of the Metis aggregation infrastructure defined and implemented - new metrics for monitoring the performance and use of Metis have been proposed (such as reporting on the workload that was handled, publishing success, waiting and queueing time), most of which have also been implemented. We started to report on a new performance indicator (average time required for data publication in Metis) and gained some insights on the performance and behaviour of Metis (reported on in DS. Infrastructure report M09). This will continue in the coming period.

Full disaster recovery test completed (bi-annual update) - we reported on stress testing and on disaster recovery as part of DS. Stress test reports M11 (Jul 2023) and DS. Disaster recovery M11 (Jul 2023). The deployment instructions for various applications were updated to reflect the migration to a new Cloud environment. A disaster recovery exercise was run and consisted of 1) deploying a new Kubernetes cluster 2) testing the deployment instructions for 10 key applications, and 3) deploying and testing the applications.

Europeana database reprocessing activities (bi-annual update) - a reprocessing effort took place during the second half of Y1. Apart from some data maintenance and fixes, it contained measures to make searching for providers easier, updates of contextual information (including that of many related organisations) and the application of the recently added date normalisation algorithm to all records. All these are designed to increase the visibility and findability of the records, as well as to provide a richer context for them. Additionally, as part of the completion of the Europeana Translate project, English translations for certain fields were added to over 25 million records.

Infrastructure supporting products and services are maintained (bi-annual update) - We reported in detail on developments and maintenance as part of DS. Infrastructure report M09 (May 2023). In Jun 2023, the CMS Bolt supporting pro.europeana.eu was upgraded to version 5. The pro.europeana.eu server was upgraded to a new OS version (Ubuntu V.18 to v20). We have also upgraded mail.europeana.eu, Jenkins.eanadev.org, cron.eandev.org to Ubuntu version 20.

Compliance with data protection maintained (bi-annual update) - we ensured compliance of our operations with the IDPR by maintaining and updating privacy statements and processes where relevant (APIs and aggregation).

Metis infrastructure migrated to Kubernetes - Metis and all its components are now containerised (made suitable for deployment using Spring Boot and Docker) and deployed in our Kubernetes clusters, including the frontend and all data storage. The same goes for the Statistics Dashboard application. We can now benefit from the reduced admin overhead, the scalability options and the generic deployability that this brings. The opportunity was also taken to migrate all

deployment procedures that require security (all except the frontend deployments) to GitHub Actions, which allows for a simpler and more secure deployment mechanism.

API allowing the integration of one of the Metis services developed - the Sandbox was equipped with an API (endpoint) that allows two actions. The first is to trigger a regular Sandbox workflow, and return a link where the caller can follow progress and obtain reports as any regular Sandbox user. The second is an action that accepts a record and performs only validation and problem pattern analysis, after which a machine-readable report is returned. Technical documentation is being written for it, so that interested data partners may integrate the API into their own process and infrastructure. The aim is to shorten the feedback loop with the Sandbox and make it easier to apply and test improvements in their data mappings and enrichments.

IIIF image service updated to use a more openly licensed software - the outdated technology stack that was powering the IIIF image service could not be updated to use an open source image conversion codec. We therefore had to do a complete overhaul of the stack, with completely new state-of-the-art technology. The image files have moved to a Ceph storage¹⁰ and the service itself is now run on Cantaloupe¹¹ equipped with the open-source Grok codec¹². As a result the setup has also become simpler and more easy to manage. This new stack was deployed in production and is performing well. We will continue to fine-tune it and make small improvements in the coming period.

MINT based infrastructures upgraded to support incremental harvesting - previously in Mint's OAI system, when updating a Mint dataset, the records were first deleted before being readded. Therefore it was not possible to compare a new version with an old version and decide whether it has changed (because the old version is gone by the time that the new version comes in). So all records looked as if they were new. The change that was made to fix the issue is that records are deleted only after the dataset update, and only if they are no longer part of that dataset. This means that they are still available for comparisons during the update and their date can accurately reflect the last time they were changed. This change will allow the Metis incremental processing algorithm to identify many more records that were not changed, and are therefore not in need of processing. This will save processing resources for other data.

Use of IIIF within aggregators' infrastructure supported - supporting all our data partners working with IIIF has still very high potential to share higher quality content more efficiently with a wider audience. AIT-Graz has worked on two guides to help aggregators working with IIIF. One, is a guide to scale the conversion of images to IIIF compatible resources¹³, the second is a guide to scale the creation of IIIF manifests.¹⁴ While the first guide is already publicly available, the

¹⁰ See <https://ceph.io/en/>

¹¹ See <https://cantaloupe-project.github.io/>

¹² See <https://github.com/GrokImageCompression/grok>

¹³ <https://europeana.atlassian.net/wiki/spaces/EF/pages/2343010305/IIIF+Image+Conversion+Guide>

¹⁴ <https://docs.google.com/document/d/1UuOOqu2TukAPfZ-WggRRC5jDDiR2Mk2bxaL-dXrTLPs/edit>

manifest guide is still under review by the IIF Working Group and will be released in Y2 of the contract, together with more training resources that will be built on these two guides.

Field warnings mechanism in the Metis Suite extended with new problem patterns (bi-annual update) - in collaboration with the Data Quality Committee, the next batch of problem patterns is currently being identified and refined for future implementation (see outcome 'List of metadata and content issues patterns is maintained' in task 2.1. for more details).

The Metis applications are maintained and kept up-to-date (bi-annual update) - maintenance work on the Metis suite focused on the Sandbox. We made various improvements to the performance of the application. We also worked on making the application horizontally scalable (i.e. deployed on multiple nodes) by resolving potential points for conflicts between the nodes. This will later allow the Sandbox to be migrated to Kubernetes along with the other Metis Suite applications. We have already achieved some vertical scaling by increasing the number of processes that are running concurrently within our single Sandbox instance, which improved the overall throughput. We have also started to make some deployment changes in eCloud. Various of its components are in the process of being migrated to a Kubernetes-like environment. The operating system has been upgraded for the data storage machines. And we have added Swagger (a tool for facilitating API development and testing) to the eCloud applications. Thirdly, a continuing effort has been the usual bugs, performance issues, upgrades and code quality improvements. We reported in detail on developments and maintenance as part of DS. Infrastructure report M09 (May 2023). The full Metis aggregation workflow was presented at the EGI Conference, taking place in June 2023 in Poznan, Poland.

Record API is redesigned - a design for the new Record API (3rd version) has been developed to be fully aligned and compliant with EDM and following the best practices for Linked Data, in particular for the most used format namely JSON. This design adopts some of the patterns that were already developed and validated for the most recent Europeana APIs. Given the significant changes between the designs for the 2 versions, the storage and format conversion routines are being redeveloped so that they can be optimised to take full advantage of the concepts and patterns brought in by new design. Besides making the API more inline with standards, it is expected that the new design makes it also simpler and more intelligible for developers while, at the same time, optimising data delivery.

All APIs migrated to Kubernetes - all APIs and associated services were successfully migrated to Kubernetes. This meant that all services had to be dockerized and all necessary changes be made for that. This also involved making changes to the way some services are run and scheduled, and in some cases, changing the architecture of the application. Overall, we have noticed an increase in performance and stability across all applications while greatly optimising the cpu and memory resources which, together with the functionality available in Kubernetes, makes us more capable to scale according to demand.

Recommendation service redeveloped - the implementation of the recommendation engine has been assessed and re-engineered so that it matches more closely the users expectations and works more optimally with the Europeana APIs used to inform recommendations. This resulted in the fusion of 2 APIs (Recommendation API & Recommendation Engine API) that are handling the recommendations and is expected to improve the performance and stability of the service while making it ready to integrate with more sources of input to inform recommendations.

First version of a Translation API is established - a new API dedicated to translation has been developed. This API is meant to act as a broker with external translation services making it easier to switch between services and therefore be more resilient to limitations and/or failures of such services. The options for caching were also investigated and will be integrated in the coming months. This will prevent redundant translations and optimise costs.

Europeana APIs are maintained and well performing (bi-annual update) - We also reported in more details on developments and maintenance as part of DS. Infrastructure report M09 (May 2023).

Reporting metrics: provide reliable data space infrastructure and quality of services

No.	Description	Measured by	Frequency	Target	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023
KPI 1.1 ¹⁵	Records with identifiers using a recognizable persistent identifier scheme	Total number of records in the data repository (incl. Tier 0)	Annually	N/A ¹⁶	-	-	-	-	-
KPI 1.2	Response time of Europeana website	Average time (seconds) for single record per month	Monthly	1.5s	0.98	1	1.07	0.91	0.94
KPI 1.3	Uptime of Europeana website	Average in % for single record per month	Monthly	99.90	99.96	99.96%	99.72%	99.91%	99.95%
KPI 1.4	Uptime of public APIs (all)	Average in % per month	Monthly	99.90	100	99.98%	99.34%	99.95%	99.98%

¹⁵ Metric description changed (Mar 2023) to better describe the metrics and how it is measured.

¹⁶ The associated technology and processes first need to be established. EF will identify the baseline in Feb2023 and a future target by Aug 2023 (a target will be added to the Y2 metrics framework).

KPI 1.5	Uptime of Europeana Pro	Average in % per month	Monthly	99.90	100	99.99%	99.83%	99.97%	99.73%
RM 1.1	Europeana website meets the WCAG 2.1 conformance level AA	Homepage and item pages (except for the media) meet the WCAG 2.1 conformance level AA accessibility standard	Annually	-	-	-	-	AA	-
RM 1.2	Response time of all public APIs	Average response time (seconds) per month	Monthly	-	0.14	0.12	0.13	0.13	0.15
RM 1.3	Response time of Europeana Pro	Average response time (seconds) per month	Monthly	-	0.83	0.85	1.56	1.18	0.90
RM 1.4	Europeana Pro meets the WCAG 2.1 conformance level AA	Homepage and main landing pages in IA meet the WCAG 2.1 conformance level AA accessibility standard	Annually	-	-	-	-	AA	-
RM 1.5	Uptime of Metis	Average in % per month	Monthly	-	100%	100%	100%	100%	100%
RM 1.6	Data publication in Metis	Average time required for publication of datasets in Metis	Bi-annually	-	24.07h	-	-	-	22.07h ¹⁷

¹⁷ The time is related to an average dataset consisting of about 31,300 records.

This reporting period, we saw high uptime and low response time for core data space products. We also confirm that both the Europeana website and Europeana Pro meet the WCAG 2.1 conformance level AA accessibility standard.

Task 1.2. Foster innovation, interoperability and compliance with other data spaces

Partners: EF, NISV, DATO, AIT Vienna, CAPG

Under this task, the Europeana DS consortium will continue to innovate the core service infrastructure to make it interoperable with the data spaces ecosystem. More specifically, the partners will review the aggregation operational model in light of the data governance model for the data space and the new technologies available to support the exchange of semantic data (Activity 1.2.1.). The consortium will also run investigations to become fully compliant with the Data Spaces Technical Framework and the Data Space Support Centre recommendations (Activity 1.2.2.). For this purpose, the consortium will gather and communicate the needs and requirements of the data space for cultural heritage to the Data Space Support Centre and, reciprocally, follow the Centre’s procedures and requirements to ensure seamless and sustainable operation of the data space for cultural heritage.

The consortium will keep supporting the EuropeanaTech community as a space for technological innovation, development and sharing of best practices (notably about interoperability) for digital cultural heritage (Activity 1.2.3.).

Overview of outcomes: foster innovation, interoperability and compliance with other data spaces

Partner	Outcomes	Progress	Due date
Activity 1.2.1. Investigate innovative scenarios for aggregation models			
EF	Roadmap for the Aggregation Strategy reviewed and updated	Completed	Dec 2022
EF	Response to ENA/EAF task force reports ¹⁸ from the perspective of the Aggregation Strategy	Completed	Jun 2023
EF, NISV, DATO	List of functional requirements for data aggregation in the data space delivered	Completed	Aug 2023
Activity 1.2.2. Synergies with other European data spaces			
EF, AIT Vienna, NISV, CAPG	Report to update on synergies with other European data spaces	Completed	Jun 2023
EF	Collaboration with the Data Space Support Center	-	Ongoing

¹⁸ Including ENA and EAF task forces on the topics on Linked Data and Solid technologies (launched Nov 2022).

Activity 1.2.3. Support interoperability and technological innovation for digital cultural heritage			
EF, NISV	EuropeanaTech community ¹⁹ is supported	-	Ongoing
EF	EDM coordinated and documented	-	Ongoing
EF	Data mapping and conversions with stakeholders is supported	-	Ongoing
EF	Continuous involvement in IIF community (e.g. IIF Executive Committee, Technical Review Committee)	-	Ongoing
EF	Data Quality Committee ²⁰ is supported	-	Ongoing

Response to ENA/EAF task force reports from the perspective of the Aggregation Strategy - throughout the year two task forces have been launched to explore innovative and alternative data aggregation models. The Task Force on Solid-based decentralised aggregation conducted a series of interviews to explore the potential of decentralisation when applied to data aggregation in the context of the data space. The report²¹ produced by the Task Force resulted in a series of use cases which will be further refined in Y2 as part of centralised vs decentralised scenarios. Another task force²² focuses on demonstrating the value of linked data for data exchange and will develop guidelines and a technical proof of concept. The TF will run until the first month of Y2 before delivering its results. In the meantime, first use cases have been provided by DC4EU - Dutch Collections for Europe²³, the Dutch national aggregator for Europeana which is already in the implementation phase of a linked data based aggregation model. EF contributed to both TFs and developed an approach for Y2 that will feed into the update of the Aggregation Strategy.

List of functional requirements for data aggregation in the data space delivered - the activities mentioned in the previous outcomes have delivered a series of use cases which will be driving the evolution of the Aggregation model in the context of the data space. While the requirements are clear, the approach to implement them (centralised and/or decentralised) remains to be validated. This validation is planned for Y2. The use cases will also be looked at from a data governance perspective and will contribute to the further development of the data governance mechanism. A new working group on Innovative Operating models will be created to ensure a more holistic approach towards this topic and ensure liaison with other activities such as data governance.

Report to update on synergies with other European data spaces²⁴ - in Y1, we have collaborated with the Data Spaces Support Center (DSSC)²⁵, several data space initiatives including the two

¹⁹ <https://pro.europeana.eu/page/europeanatech>

²⁰ <https://pro.europeana.eu/project/data-quality-committee>

²¹ <https://pro.europeana.eu/project/solid-based-decentralised-aggregation-task-force>

²² <https://pro.europeana.eu/project/linked-data-task-force>

²³ <https://dc4eu.nl/>

²⁴ Available on request.

²⁵ <https://dssc.eu/>

consortia working towards the data space for tourism and the data space for skills and science, research and innovation, EOSC. These collaborations have focused on the sharing of Europeana's almost 15 years of experience in managing and sharing data and in developing products and services around data. We have for instance contributed to the shaping of and provided answers to two surveys from the DSSC: 'Data spaces impact survey' (Mar 2023) and 'Collection of requirements and Building Blocks' (Jun 2023). The task force on SOLID-based decentralised aggregation also interviewed several data space initiatives as part of its investigations: the International Data Spaces Association (IDSA)²⁶, the Big Data Value Association²⁷ (BDVA), and the Post-Platforms Foundation²⁸, to name a few.

Collaboration with the Data Space Support Center (bi-annual update) - in the past month, we contributed to two surveys undertaken by the DSSC (Data spaces impact survey and Data Spaces: Collection of requirements and Building Blocks). CAPG (Europeana DS consortium partner) has participated in the meetings of the Data Governance stakeholder group²⁹ and facilitated making links between the CEDCHE subgroup on data governance and the DSSC.

EuropeanaTech community is supported (bi-annual update) - the EuropeanaTech 2023 conference programme committee has finalised an inspiring programme of 65 presentations and workshops. The process was extremely selective as we have received over 120 submissions, which shows the interest in the conference. The task force 'From shelf to Europeana'³⁰ continues and is working on a handbook to support smaller CHIs. The task force on SOLID-based decentralised aggregation has concluded its work, which is based among others on an analysis of 45 interviews, gathering experience and opinions on decentralisation from actors from within the CH community and beyond (e.g., other data spaces). A new working group (shared EuropeanaTech and Europeana Research) has been launched that works on Datasheets for digital cultural heritage³¹, seeking to promote in the CH sector best practices from the AI community on transparency of provenance for datasets and models. Other actions included a webinar on acoustics in cultural heritage (V2) (Jun 2023)³².

EDM coordinated and documented (bi-annual update) - EDM highlights for this period have happened with regard to 3D (see Task 2.1) and towards alignment of text and A/V data patterns with the IIF community (see below).

Data mapping and conversions with stakeholders is supported (bi-annual update) - in this period, EF has updated some mappings of dereferenceable vocabularies, which were occasionally causing URLs to appear in elements where human readable text is expected. The affected vocabularies were Getty's Art and Architecture Thesaurus, Getty's Thesaurus of Geographic Names,

²⁶ <https://internationaldataspaces.org/>

²⁷ <https://www.bdva.eu/>

²⁸ <https://postplatforms.org/>

²⁹ <https://pro.europeana.eu/project/ds4ch-data-governance-stakeholder-group>

³⁰ <https://pro.europeana.eu/project/workflow-from-shelf-to-europeana>

³¹ <https://pro.europeana.eu/project/datasheets-for-digital-cultural-heritage-working-group>

³² <https://pro.europeana.eu/event/europeanatech-presents-acoustics-in-cultural-heritage-v2-0>

Gemeinsame Normdatei, and Geonames. The gender property has been removed from the Gemeinsame Normdatei mapping. And Iconclass URIs are now better handled in the links coming from Wikidata (which are used to align with the Entity Collection).

Continuous involvement in the IIF community (e.g. IIF Executive Committee, Technical Review Committee) (bi-annual update) - EF has been represented at the IIF Conference in Naples, Italy and participated in the IIF Executive Committee meeting there. The IIF & Europeana Working Group continued to support adoption of IIF in the data space as per the outcome described in 'Use of IIF within aggregators' infrastructure supported' (Task 1.1) and the successful submission of a workshop at the IIF Conference, which is hoped to further encourage cross-community work. It also supervised a refactoring of the pages about IIF on Europeana Pro, making it easier to find relevant (and recent) material on IIF. On the technical side, EF has worked on alignment and standardisation of data patterns for representing textual content in IIF, which are also relevant for the data space and related projects (for captions, subtitles and transcriptions). This implied participating in discussions within the IIF A/V Community Group, the IIF Search Technical Specifications Group and the IIF Technical Review Committee. Finally, the IIF Discovery Technical Specifications Group, which was co-chaired by EF, has been wrapped up. This concludes 5 years of work on specifications for data exchange and update, which have great potential for use in the context of a decentralised data space.

Data Quality Committee is supported (bi-annual update) - the Data Quality Committee (DQC) has continued its work on analysing and prioritisation of data quality problem patterns (see outcome 'List of metadata and content issues patterns is maintained' in task 2.1. for more details). The DQC has also supported the progress on adapting the Europeana Publishing Framework to represent the impact of enrichments produced by data space partners (see 'Validation of the EPF as a tool to measure enrichment improvements' in task 2.1).

Communication and dissemination activities

Partner	Name of event	Activity	Location	Date
EF	Smashing the Silos! The Future of Cultural Heritage Information and Visualization, co-located with DH2023	Participation to panel "Future Challenges & Collaborations"	Graz, Austria	07/09/2023
EF	European Parliamentary Research Service - Policy podcasts	Contribution to podcast "Artificial intelligence in the context of cultural heritage and museums"	Online	06/07/2023
EF	'AI to Amplify' Goethe Institute fellowship programme	Presentation "AI at the Europeana. Strategies for mitigating bias"	Online	05/22/2023
EF	IIF Annual Conference ³³	Participation in the IIF Executive Committee meeting	Naples, Italy	05-08/06/2023

³³ <https://iif.io/event/2023/naples/>

EF	EGI conference ³⁴	Participation to panel on 'Making Space for Data'	Poznan, Poland	06/22/2023
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Reporting metrics: foster innovation, interoperability and compliance with other data spaces

No.	Description	Measured by	Frequency	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023
RM 1.7	Reach to Europeana Tech community	Number of people reached per month (Mailing list, Twitter)	Quarterly	6,613	-	-	-	6,685

³⁴ <https://www.egi.eu/event/egi2023/>

Work package 2: Integration of high-quality data

This work package aims to contribute to a significant and sustained increase of high quality, usable and accessible data in the data space, with a special focus on 3D (Task 2.2.). The efforts will contribute to an increase in high quality tiers by at least 10% each year. The consortium aims, to the best of its capacity, for all new data to be in tier 2 for content and tier A for metadata, as defined by the current Europeana Publishing Framework.

To achieve these objectives, the Europeana DS consortium will integrate the requirements needed to implement the EC recommendations and the Digital Europe programme³⁵ and will collaborate closely with the cultural heritage community, the member states (in the framework of the CEDCHE) and the European Commission. New and extended data governance mechanisms will also be developed to support the provision and management of data within the data space (Task 2.1.).

Finally, the Europeana DS consortium will work on automated approaches to address data quality issues at scale (Task 2.3.).

Task 2.1. Develop and manage data governance mechanisms

Partners: EF, CAPG, INCEPTION, DS AGG

The Data Space governs data through various organisational tools, principles, processes and standards that are harmonised so that the data is interoperable, manageable, reliable and remains useful in the future. These will progressively evolve to enable new objectives of the data space for cultural heritage, stronger safeguards for privacy and data protection, more and varied partners, more decentralised data systems, and opportunities for cooperation with other data spaces, in the form of a Data Governance Mechanism for the data space. (Activity 2.1.1.)

The Europeana Publishing Framework (EPF), the Europeana Data Model (EDM) and the Europeana Licensing Framework (ELF) will be reviewed to accommodate new activities and areas, for instance, for better representing 3D. (Activity 2.1.2. - Activity 2.1.3.)

Overview of outcomes: develop and manage data governance mechanisms

Partner	Outcomes	Progress	Due date
Activity 2.1.1. Identify data governance requirements and objectives			
EF, CAPG	Strategy and plan for the development of a Data Governance Mechanism v1 for the data space developed (internal)	Completed	Dec 2022

³⁵ <https://digital-strategy.ec.europa.eu/en/news/commission-proposes-common-european-data-space-cultural-heritage>

EF	Strategy and plan for the Data Governance Mechanism published	Completed	Jan 2023
EF	Enrichment policy v1 developed (internal)	Completed	Jan 2023
EF	Progress report on the strategy and plan for the development of Data Governance Mechanism, including on the cooperation agreement (internal)	Completed	Mar 2023
EF	Enrichment policy v2 validated (public)	Completed	Aug 2023
EF, CAPG	Strategy and plan for the development of the Data Governance Mechanism v2 updated (internal)	Completed	Aug 2023
EF, CAPG	Report evaluating European and national practices, objectives, requirements and mechanisms on the governance of cultural heritage sector data, including licensing and data protection completed	Completed	Aug 2023
Activity 2.1.2. Develop and expand data governance frameworks and standards			
EF	Proposal for EPF as a tool to measure enrichment improvements	Completed	Dec 2022
EF, INCEPTION, CARARE	Initial review of EDM to support 3D completed	Completed	Mar 2023
EF	Validation of the EPF as a tool to measure enrichment improvements	Completed	Jun 2023
EF, CARARE	Review EPF for 3D completed	Completed	Aug 2023
EF	Review of EPF to support transcriptions & subtitles	Not started	Year 2 ³⁶ (Aug 2023)
Activity 2.1.3. Manage data governance frameworks and standards			
EF	Ownership models and consultation processes to ensure wider stakeholder involvement in the adoption, development, and implementation of data governance standards and frameworks defined	Completed	May 2023
EF	Implementation metrics for ELF and its core elements defined	Completed	Aug 2023
EF	Areas for development, gaps & opportunities of EPF services and products identified and specified using the Framework Management Template	Completed	Aug 2023

³⁶ Outcome adjusted with EC.

EF, DS AGG	List of metadata and content issues patterns is maintained	-	Ongoing
EF	Data Quality Committee ³⁷ is supported	-	Ongoing
EF	Europeana Copyright Community is supported	-	Ongoing
EF	Rights Statements Consortium is supported	-	Ongoing
EF	Continuous involvement in the Rights Statements Consortium community (e.g. Steering Committee, Statements Working Group)	-	Ongoing

*Enrichment policy v2 validated (public)*³⁸ - the enrichment policy was improved through stakeholder consultation (a survey and direct feedback into the policy by selected individuals) and was published on Europeana Pro to ensure transparency. The policy should guide any individual or organisation contributing to the data space through enrichments, and ensure that all enrichment efforts follow the same guiding principles and work towards the same vision.

Strategy and plan for the development of the Data Governance Mechanism v2 updated (internal) - the strategy was updated on the basis of the written feedback received from the CEDCHE data governance sub-group and suggestions from the Europeana Data Governance Stakeholder Working Group. The new version is available online on Europeana Pro replacing the previous one³⁹ and will continue guiding the work of the Europeana Data Governance Stakeholder Working Group. The most notable changes include a clearer articulation of the Data Spaces Support Center as a stakeholder, the addition of an action on ethics and digital cultural heritage, and the modification of some of the timeframes.

Report evaluating European and national practices, objectives, requirements and mechanisms on the governance of cultural heritage sector data, including licensing and data protection completed - the report provides an overview of the various legal obligations that impact or shape the way cultural heritage institutions can govern cultural heritage data. It is a start to outlining the 'regulatory compliance' part of the legal building block as described in the draft DSSC blueprint v0.5. By describing and providing clarity on these legal obligations, such as copyright or privacy, decisions can be made on the data governance and infrastructure of the data space. The understanding developed in this overview forms a basis that will be further developed in specific areas of law or contract as part of the research actions foreseen in the Data Governance Strategy. For example, the various legal and contractual requirements around the publication, enrichment or reuse of metadata or 3D content.

³⁷ <https://pro.europeana.eu/project/data-quality-committee>

³⁸ We published the enrichment policy under the name 'V1' (not V2) given that it is a continuation with no significant structural changes rather a revised version including stakeholder feedback.

³⁹ <https://pro.europeana.eu/post/enrichments-policy-for-the-common-european-data-space-for-cultural-heritage>

<https://pro.europeana.eu/post/data-governance-for-the-common-european-data-space-for-cultural-heritage-strategy-and-plan>

Validation of the EPF as a tool to measure enrichment improvements - the Europeana Initiative is investing into content and metadata enrichments but we currently can not measure the impact of these enrichments. In Dec 2022, we proposed to use the EPF as a tool to measure enrichment improvements to content and metadata. The proposal was validated with this outcome through an analysis of past enrichment efforts, i.e. to see with real data if, by implementing the proposal, enrichment improvements can be measured in a meaningful way. The results of the analysis have shown that the impact of enrichments on data quality can be quantified by measuring changes in metadata tiers that correspond to different levels of aggregation in the data publication chain. It also showed that the EPF has the potential to be used to capture the impact of data enrichment efforts carried out by different participants in the aggregation chain on data quality. Following up this work, in Y2 we will implement a separate metadata tier calculation for data enriched by Europeana.

Review EPF for 3D completed - with 3D content being a high priority for the data space, we need to review our standards and framework to make them suitable to manage 3D content properly and fit for the needs of data partners and users working with 3D content. The extension of the EPF for 3D will be supported by a series of actions that were identified and developed with this outcome. The 3D working group set up in Y1, will support the collection of usage scenarios for 3D content and metadata and corresponding data quality criteria that are necessary to realise these scenarios. In addition, we will continue the analysis of 3D viewers and review the embedding strategy. A third strand of work will identify a set of thresholds for quality and complexity of 3D. This work will be complemented by work on our training resources and documentation, to support the Twin it! campaign to build a pan-European collection of 3D-digitised heritage assets.

Ownership models and consultation processes to ensure wider stakeholder involvement in the adoption, development, and implementation of data governance standards and frameworks defined - this document⁴⁰ clarifies who the Europeana Licensing Framework is for, and what use, adoption or implementation of the framework means. On that basis, it describes who the responsible actors behind the framework are and how this should translate in an inclusive decision-making process for further shaping the Europeana Licensing Framework. This forms a basis that can continue to guide the organisational governance that supports the development of principles and rules in data governance.

Implementation metrics for ELF and its core elements defined - this document⁴¹ outlines various possible metrics, such as the understanding by users of reuse conditions or the usefulness of the copyright office hours by the copyright community (to be used depending on priorities and feasibility). They are identified on the basis of the theory of change for the Europeana Licensing Framework and the expectations in terms of framework use.

⁴⁰ [Ownership models and consultation process for the ELF](#)

⁴¹ [Implementation metrics for ELF and its core elements](#)

Areas for development, gaps & opportunities of EPF services and products identified and specified using the Framework Management Template⁴² - the EPF with the key components, and the implementation services and products is under constant development. Managing this process and documenting the changes is the purpose of this outcome. It reports against many outcomes also mentioned in other areas of this report, like the work on Metis Sandbox, AI experiments, EPF for 3D, EPF for enrichments and progress with our guidelines. It also includes the ongoing work to improve the template that is used across all our frameworks to manage them in a consistent way for the benefits of the Europeana Initiative.

List of metadata and content issues patterns is maintained (bi-annual update) - the Data Quality Committee (DQC) has undergone an in-depth analysis of the problem patterns that it has identified over the past years in order to prioritise and organise the next steps of the effort to address the long tail of the data problems. This included older backlog patterns and newly submitted ones, which were (re-)considered in the light of the recent reporting implementation for field warnings in Metis Sandbox. The DQC also included some content-level issues, next to the metadata ones. Out of over 60 patterns, 15 patterns have been short-listed for work in the next year, either by (1) further (quantitative) investigation on their impact on the quality of the entire database and prototyping to assess the feasibility of detecting them at scale; (2) tackling them by improving guidelines for data partners. These two sets are, for (1):

- Escape and special characters in titles and descriptions (mostly relevant for the translations produced by the Europeana XX project)
- Schematic data within fields
- Field should be literal but is URL
- edm:type with same content as dc:type
- Incorrect lang tag
- Duplicate metadata statements
- Impossible dates
- Invalid language tags (xml:lang attributes)
- Duplicate objects within a dataset
- Special characters are not represented with the right encoding
- (seemingly) empty field

And for (2):

- Lack of context to geotagging/location info
- Generic property is used while there is a more specific appropriate one (e.g. edm:hasMet instead of dcterms:spatial)
- There is confusion between genre and type
- Unfit edm:isShownBy in edm:object

Data Quality Committee is supported (bi-annual update) - duplicate outcome - please see update in Task 1.2.

⁴² [EPF Framework management](#)

Europeana Copyright Community is supported (bi-annual update) - in this period, the copyright community conducted three office hours sessions⁴³, set up a new task force⁴⁴ to raise awareness and encourage compliance with the public domain provision in the copyright in the digital single market directive, and continued to share news and updates in relation to copyright and digital cultural heritage through its communication channels.

Rights Statements Consortium is supported (bi-annual update) - EF has continued to maintain the RightsStatements.org website⁴⁵ and resources. The sustainability of supporting the consortium will continue to be addressed as part of the Data governance strategy.

Continuous involvement in the Rights Statements Consortium community (e.g. Steering Committee, Statements Working Group) (bi-annual update) - EF has continued to facilitate the development of the work of the community, and in particular is exploring the capacity building needs to support the use of the rights statements.

Communication and dissemination activities

Partner	Name of event	Activity	Location	Date
EF	FRAME training basics ⁴⁶	Presentation on copyright in audiovisual digital cultural heritage	online	14/06/2023

Reporting metrics: develop and manage data governance mechanisms

No.	Description	Measured by	Frequency	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023
RM 2.1	Reach to Europeana Copyright community	Number of people reached per month (Mailing list, Twitter)	Quarterly	3,041	-	-	-	3,075

Task 2.2. Data acquisition and data improvements

Partners: EF, DATO, INCEPTION, TMO, DS AGG

This task will aim to develop processes and practices to support efficient data acquisitions and data improvements. The Europeana DS consortium will improve the communication mechanism around data quality. Reports and feedback about data quality will be better integrated in the data producers workflows so the communication about data quality issues can be more productive and directly contribute to a quality increase. (Activity 2.2.1.)

⁴³ <https://pro.europeana.eu/index.php/search?q=COPYRIGHT+OFFICE+HOURS>

⁴⁴ <https://pro.europeana.eu/project/article-14-task-force>

⁴⁵ <https://rightsstatements.org/en/>

⁴⁶ <https://www.ina.fr/actualites-ina/frame-0>

EF and the Europeana DS aggregators will work together to improve the quality of data in key areas directly impacting the digital services made available in the data space, for instance, the multilingual accessibility across all services. The consortium will identify opportunities for data cleaning, data conversion or general data quality improvements through clear data quality reports provided by the Metis Suite throughout the data aggregation workflow. EF will proactively contact data aggregators to make sure data issues are solved at source as much as possible. (Activity 2.2.2.)

The data quality increase will be supported by bringing new CHIs in. The consortium will reactivate dormant collaborations with existing aggregators to make new and updated content and metadata available to the data space. A data campaign will also be run by the Europeana DS consortium together with the Europeana Aggregators' Forum to actively seek CHIs owning 3D content and channel the content to the data space for cultural heritage. (Activity 2.2.3. - Activity 2.2.4.)

Overview of outcomes: data acquisition and data improvements

Partner	Outcomes	Progress	Due date
Activity 2.2.1. Develop workflows and practices that support efficient data acquisitions and data improvements			
EF	Selection process for dataset samples in the Sandbox adjusted and optimised	Completed	Dec 2022
EF	Mechanism to prevent the publication of content tier 0 records in Metis implemented	Completed	Dec 2022
EF	Prioritisation process for managing the data ingestion backlog refined	Completed	Feb 2023
EF	User experience in the Metis Sandbox improved	Completed	Apr 2023
EF	Requirements for user account in the Metis Suite collected and prioritised	Completed	May 2023
EF	Welcome pack to CHIs developed and disseminated	Completed	Aug 2023
EF	Data Quality reports in the Metis Suite improved	Completed	Aug 2023
EF, DS AGG	Status update on usage and engagement of DS aggregators with the Metis Sandbox	Completed	Aug 2023
EF	Statistics Dashboard maintained and kept up-to-date	-	Ongoing
EF	Processes for the provision of accurate (or improvement of) rights information reviewed	-	Ongoing

EF	Process for the analysis, notification and take down of materials with personal or sensitive data reviewed	-	Ongoing
Activity 2.2.2. Raise the quality and access to existing content and metadata			
DS AGG	Europeana DS AGG annual work plans including quality objectives and/or targets per aggregator (internal) completed	Completed	Oct 2022
EF	Third iteration of organisation pages delivered	Completed	Jul 2023
DS AGG	Europeana DS AGG annual progress report completed	Completed	Aug 2023
EF	Report on the coverage of the entity collection and precision of relationships to items in entity collection	Completed	Aug 2023
DATO	Support to the MINT based infrastructures	-	Ongoing
EF	Data quality improvements and new content delivered	-	Ongoing
EF	Data partners supported with data quality improvements and data publication	-	Ongoing
EF	Regular link resolution process is maintained	-	Ongoing
Activity 2.2.3. Engage with inactive and new data partners			
EF	Report on actions taken and results achieved to re-engage with inactive partners (internal) completed	Completed	Aug 2023
Activity 2.2.4. Aggregate 3D content			
EF	3D working group is created	Completed	Aug 2023 ⁴⁷ (Dec 2022)
EF, TMO	Brief for the 3D campaign developed	Completed	Mar 2023 ⁴⁸ (Feb 2023)
EF, CARARE, INCEPTION, TMO	Update on the availability of high quality 3D content available in the data space	Completed	Aug 2023
CARARE, EF	Specifications and guidelines for the provision of 3D content developed	Completed	Aug 2023
EF	Knowledge Base pages for 3D available and updated	-	Ongoing

Requirements for user account in the Metis Suite collected and prioritised - a document has been created that will guide further development in this area. It starts with an inventory of potential

⁴⁷ Outcome adjusted with EC.

⁴⁸ Outcome adjusted with EC.

functionality that could be implemented to personalise user interactions within the Metis Suite. They mainly come from, and benefit, the users of the applications, but the needs of the operators of the applications have been taken into consideration as well. From this a set of prioritised requirements for an IAM (Identity and Access Management) system has been distilled. Finally, a rough implementation plan has been composed by considering how the EF's existing IAM system (Keycloak) could meet these requirements and what a roadmap for integrating it with the Metis suite could look like.

Welcome pack to CHIs developed and disseminated - we created a page for the Europeana website⁴⁹ where the providing institutions can register to share their data with the data space, be exposed to other benefits of being part of the Europeana Initiative, and request a dashboard that shows usage statistics for items from their institution. When providing institutions share their data for display on our website, we believe they expect people to see it. To demonstrate to the providing institutions clear evidence of usage, we developed a mechanism that enables us to easily share the main usage statistics with them. We can now create a usage statistics dashboard for each institution with some basic usage data such as visits, bounce rate, pageviews and average time people spent looking at items from this institution. Here is an example of a usage dashboard.⁵⁰ In Sep 2023, the aggregators will contact the providing institutions they work with who already provide data to the data space asking them to register via this page to receive their usage statistics dashboard. In the future we will explore with CHIs to understand what additional or other types of usage data are valuable. Via this Welcome pack and its dissemination, EF will receive the contact details for the providing institutions so that we can contact them to improve their data and promote our other services such as our account functionality on the website so that they can curate their content, access to our training material and ask them to join the Europeana Network Association.

Data Quality reports in the Metis Suite improved - We have made improvements to existing Sandbox reports (particularly on the problem pattern listing) which we reported on in more detail previously in connection with the outcome '*User experience in the Metis Sandbox improved*' (completed Apr 2023). Additionally, we added a whole new report page requested by our users, which provides an overview of the quality of the submitted data (in terms of tier calculations). The user is for instance able to identify and retrieve the records that score less well, and open the tier report for these records, identifying where improvements could be made. In this way, the new page creates a more natural flow for accessing the existing record-specific tier report.

Status update on usage and engagement of DS aggregators with the Metis Sandbox - as a new tool we made available for our aggregators, it is important to see if the Metis Sandbox is used by aggregators. From monitoring the Metis Sandbox in Y1 of the contract, we see an average of 78 datasets processed per week (about 50,000 records processed per week). In total we have also seen that at least 25 accredited aggregators have used the Metis Sandbox on a regular basis in their data preparation stages. From other aggregators we heard they are planning to work with it

⁴⁹ <https://www.test.eanadev.org/en/share-your-data>

⁵⁰ <https://app.databox.com/datawall/b7ee8e27a99e7e3c69e6ce1379d3dfe53f8084c64810c20>

in the future according to their needs. Their feedback on the tool is generally positive, with few potential areas of development that are either being worked on at the moment or considered for the future. Colleagues from Hispana, the Spanish national aggregator say: "*Metis Sandbox is a breakthrough and a great help as it allows us to know the status of the metadata we add before sending it to Europeana. This way we can inform our providers earlier and send records with the highest possible quality.*" Also aggregators under development are using the Metis Sandbox. Colleagues representing Slovakiana⁵¹, the Slovak national aggregator under development say: "*Clear, intuitive, easy. Metis Sandbox is a great tool that has assisted me not only in testing our data but also in enhancing their quality.*" For more details see also the Europeana DS AGG annual progress report.⁵²

Statistics Dashboard maintained and kept up-to-date (bi-annual update) - we have done a minor release for the Statistics Dashboard⁵³ with some updates and improvements. Besides the migration to Kubernetes (see outcome *Metis infrastructure migrated to Kubernetes*, Activity 1.1.2.), it contained a newly added link to the help desk, a new version of Angular (the UI framework) and some small bug fixes. Besides the release we have also spent time on setting up automated end-to-end tests.

Processes for the provision of accurate (or improvement of) rights information reviewed (bi-annual update) - the accuracy of the rights information assigned to digital objects through the relevant metadata fields is checked on a regular basis by staff at the Europeana Foundation upon ingestion or reingestion of the data. In addition, we cleaned up all remaining data that still contained incorrect values in edm:rights. This was done as part of the Europeana database reprocessing activities in Jul 2023 (see Task 1.1).

Process for the analysis, notification and take down of materials with personal or sensitive data reviewed (bi-annual update) - EF ensures a prompt communication with data providers and where necessary the take down of data upon individual requests.

Third iteration of organisation pages delivered - after the successful implementation of organisation entities and organisation pages last year, a number of improvements were planned to be carried out in Y1 of the contract to also incorporate feedback from partners. We have updated a number of organisation names, fixed issues with their enrichment and added more organisation names. All these changes went to production with the completion of the reprocessing of our database (see under activity 1.1.1). In parallel, the curation mechanism for organisation pages was improved and then introduced to several data partners together with a guide⁵⁴, to improve the organisation pages and highlight the most important parts of the collections. One example of a

⁵¹ <https://www.slovakiana.sk/domov>

⁵² Available on request.

⁵³ <https://metis-statistics.europeana.eu/en/>

⁵⁴

<https://europeana.atlassian.net/wiki/spaces/EF/pages/2345500691/Guide+to+edit+organisation+pages+on+europeana.eu>

curated organisation page is the one for Albertina.⁵⁵ Taking this work further, will help to highlight the collections of CHIs and give them more and better visibility on the Europeana website.

Europeana DS AGG annual progress report completed - this report summarises the achievements of the DS AGG in a clear and comprehensive way. DS AGG contributed to all work packages - to the development and operation of the data space infrastructure (e.g. developments on IIF), the integration of high-quality data, to capacity building and fostering reuse (e.g. by (co)organising events), and the digital services for the public (e.g. by creating editorial).

*Report on the coverage of the entity collection and precision of relationships to items in entity collection*⁵⁶ - EF has updated indicators on the (multilingual) data present in the Entity Collection (EC), which contributes to the general quality of the data in the data space through semantic enrichment. These measurements can give us direction towards the curation of the EC and the development of the semantic enrichment process. There is little change compared to the last calculation (Aug 2022), since the EC itself has not undergone drastic updates in this period. We nonetheless observe valuable gains in the coverage of some languages, which result from the curation of data for organisations and the addition of more Greek, Irish and Slovenian data in the EC. There is still room for improvement for some languages and types of entities. Maltese is still only supported by less than 10% of the entities. That is the case also for the type agent in Bulgarian, Greek, Croatian, Lithuanian and Latvian and for the type place in Slovenian. The amounts of links between items and the EC have remained rather stable, with most notable gains for Croatian and Romanian while Spanish, Irish and Lithuanian datasets have fewer records linked to the EC. These are probably mostly caused by the evolution of the data partners' datasets in the period. Danish, Maltese and Portuguese collections are still poorly linked to the Entity Collection, with less than 25% of the records in those languages linked. In the meantime we have begun an effort to improve the precision of the links between the EC and item records, by keeping track of the problematic enrichments that result from matching ambiguous labels in entities and object metadata. These enrichments, which are reported via various feedback channels, can be tackled by updating the entity, disabling the enrichment or merely deleting the entity when it happens to be less relevant for the data space.

Support to the MINT based infrastructures (bi-annual update) - the Mint UI suffered from an outdated JSP-based approach⁵⁷. DATO has spent time on testing and evaluating modern Javascript-based UI elements and frameworks. The Vue.js framework⁵⁸ was selected and it will be progressively integrated in the next Mint releases. The page for dataset options was replaced with a Vue component, and the dataset statistics pages were refactored to a single reusable component that is used in multiple places. Support activities included ensuring that the EFG (European Film Gateway) can map to their own schema, and providing support for various users for handling their enrichments (particularly for EUScreen, as they have sent multiple updates).

⁵⁵ <https://www.europeana.eu/en/collections/organisation/148225000004477257-albertina>

⁵⁶ Available on request.

⁵⁷ See https://en.wikipedia.org/wiki/Jakarta_Server_Pages

⁵⁸ See <https://vuejs.org/>

Data quality improvements and new content delivered (bi-annual update) - Since Sep 2022, we updated in total 355 datasets and over 11.2 million records, including 114 newly published datasets (equal to 2,920,150 million records ingested). The updates as well as the depublication of low quality records led to an improvement of data quality available on the Europeana website (4.6 million records increase for Tier 2+/Tier A+; 2.3% increase for Tier 2+; 4.5% increase for Tier 3+; and 3.4% increase for Tier A+).

Data partners supported with data quality improvements and data publication (bi-annual update) - the ongoing support for data partners includes feedback about their data with concrete advice on how to improve data quality and solve data modelling problems. What helps a lot with providing feedback and supporting data partners is the Metis Sandbox and the Data Statistics Dashboard. Using these two products helps to improve data quality. Data partners can analyse their data in a more granular way using the Dashboard, and can test mappings and quality improvements using the Metis Sandbox. The same is true for EF, and as EF and data partners look at the same interface when discussing results, it makes it easier to speak the same language when fixing issues. With the Metis Sandbox being used a lot more in the last months, our support for data partners is also more focussed on the Metis Sandbox. Aggregators are submitting questions and feedback via the Aggregation Systems Customer Helpdesk (22 requests since Sep 2022), reachable via the Feedback button in the Metis Sandbox. This also makes it easier for the DPS and Aggregation Systems team to work together to support data partners with the more technical aspects of the work.

Regular link resolution process is maintained (bi-annual update) - we have quarterly cycles in place for creating consolidated link reports to identify datasets that have broken links. Data partners are then asked to work on the identified datasets before we resolve the issues at the end of the quarter and before we start a new quarterly cycle. A highlight of a dataset that we were able to fix is the dataset from Mauritshuis.⁵⁹ In addition, aggregators were able to fix and update many more datasets. The number of broken links identified within a quarter can vary a lot since datasets with broken links can occur at any time. For example, in Apr 2023 we recorded about 0.63% broken links in the data repository and in Jun 2023 there were 2.04% broken links. This difference not only reflects how many datasets were updated to fix broken links but mainly new occurrences of datasets where links stopped working within the last quarter.

*Report on actions taken and results achieved to re-engage with inactive partners (internal) completed*⁶⁰ - the purpose of this report is to give an update on the progress against the actions proposed in December 2020 when we wrote the strategy for reviving records from inactive data partners. About 18 million records out of the total of 62 million records were identified in autumn 2020 as coming from data partners that are not active at the moment. In Y1 of the data space, the number of records that have not been updated since 1 January 2017 has decreased by 2.5 million records to 8.8 million records in August 2023. This strand of work not only helped to re-engage

⁵⁹ <https://www.europeana.eu/en/collections/organisation/148225000004509120-mauritshuis>

⁶⁰ [Report on actions taken and results achieved to re-engage with inactive partners](#)

with inactive data partners but to improve the overall quality of the data published on the Europeana website.

3D working group is created - Since Sep 2022, EF has been working with its consortium members on the challenges brought by 3D. The group counts representatives from Inception, Carare, TMO and from Y2 onwards Photocons. The group provides expertise for many different aspects of 3D and also offers representation from the main projects running on 3D, namely 5D Culture and Eureka3D. Inception acts in this group as a liaison with the 4CH initiative. The group also will provide the technical foundations for the Twin it! campaign and will liaise with the CEDCHE 3D sub-group.

Update on the availability of high quality 3D content available in the data space - the total number of high quality 3D items (tier 2+/A+) published on the Europeana website has increased from 3,761 to 4,635 between Sep 2022 and Aug 2023 (an increase of 874 items). The largest contributions were made by the Archaeological Information System of the Czech Republic⁶¹ (via CARARE), the Share3D platform⁶² (also via CARARE) and the MINGEI project⁶³ (via searchculture.gr). The Twin it! Campaign is expected to contribute to a larger growth in the future. Exploring 3D content on third party platforms will also help to show the potential of 3D collections. The collaboration with ongoing projects like Eureka3D⁶⁴ and 5DCulture⁶⁵ is also important to bring more 3D content in the data space.

Specifications and guidelines for the provision of 3D content developed - specifications and guidelines related to the provision of 3D content are made available and maintained in the Knowledge Base⁶⁶. New specifications are issued through the work on the extension of the Europeana Data Model (EDM) and will be documented once tested as part of the data aggregation activities. The Twin it! Campaign homepage⁶⁷ also offers guidance to the institutions eager to share 3D content.

Knowledge Base pages for 3D available and updated (bi-annual update) - the Knowledge Base offers pages about the criteria for 3D content to reach one of the 4 content tiers.⁶⁸ This documentation is available and maintained.

Reporting metrics: data acquisition and data improvements

No.	Description	Measured by	Frequency	Target	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023

⁶¹ [Archaeological Information System of the Czech Republic](#)

⁶² [Share3D platform](#)

⁶³ [MINGEI project](#)

⁶⁴ <https://pro.europeana.eu/project/eureka3d-european-union-s-rekonstructed-content-in-3d>

⁶⁵ <https://pro.europeana.eu/project/5dculture-deploying-and-demonstrating-a-3d-cultural-heritage-space>

⁶⁶ <https://europeana.atlassian.net/wiki/spaces/EF/pages/2365227031/Publishing+guide+for+3D+content>

⁶⁷ <https://pro.europeana.eu/page/twin-it-3d-for-europe-s-culture>

⁶⁸ <https://europeana.atlassian.net/wiki/spaces/EF/pages/2059796518/ContentTier+1+3D+type>

KPI 2.1	High quality data	Number of Tier 2+ material in Tier A+ (excl. content Tier 0)	Monthly	27.15 million	30.5 million	30.6 million	30.8 million	31.0 million	31.2 million
KPI 2.2	High quality content	Percentage of Tier 2 + material (excl. content Tier 0)	Monthly	>75%	72.47	72.89	73.01	73.05	73.03
KPI 2.3	High quality and reusable content	Percentage of Tier 3+ material (excl. content Tier 0)	Monthly	>55%	54.89	55.16	55.30	55.25	55.27
KPI 2.4	High quality metadata (search, browse and explore)	Percentage of Tier A+ material (excl. content Tier 0)	Monthly	>75%	74.03	72.53	72.58	72.64	74.15 ⁶⁹
KPI 2.5	Broken links in the repository	Percentage of broken links (out of total, incl. content Tier 0)	Quarterly ⁷⁰	<1%	0.63	-	2.04	-	-
KPI 2.6	Non-EPF compliant content (Tier 0)	Percentage of Tier 0 content	Quarterly	<10%	9.37	9.23	-	-	8.27
RM 2.2	Updates to datasets	Total number of newly created and updated datasets per month (out of total)	Monthly	-	18	22	-	-	22
RM 2.3	Updates to records	Total number of newly created and updated records per month (out of total)	Monthly	-	441,063	419,857	758,481	154,236	640,242
RM 2.4	New CHIs published on Europeana website	Total number of new CHIs (cumulative)	Annually	-	-	-	-	-	154

⁶⁹ Between Jun - Aug 2023, we had an error in measuring the Tier A+ material (i.e. we included Tier 0 content by mistake).

⁷⁰ Number of broken links are measured quarterly (Sep, Dec, Mar, Jun).

RM 2.5	New content on the Europeana website	Total number of new datasets published (cumulative)	Quarterly	-	87	95	-	-	114
RM 2.6	Records in the data repository	Total number of records (excluding content tier 0)	Quarterly	-	56.8 million	56.6 million	-	-	57.2 million
RM 2.7	Records in the data repository by accredited aggregators	Total number of records (excluding content tier 0)	Quarterly	-	41.7 million	41.6 million	-	-	42.2 million
RM 2.8	3D content available in Europeana (items)	Total number of 3D items published (Tier 2+ and Tier A+ material)	Quarterly	-	4,613	4,588	-	-	4,635
RM 2.9	3D content available in Europeana (CHIs)	Total number of CHIs sharing 3D content with Europeana (Tier 2+ and Tier A+ material)	Quarterly	-	47	47	-	-	49
RM 2.10	Coverage of entity collection (items)	Total number of items linked to (at least) one entity collection	Quarterly	-	33.8 million	-	-	-	33.8 million
RM 2.11	Coverage of entity collection (collections)	Total number of entity collections with items	Quarterly	-	27,275	-	-	-	27,210

Between May - Aug 2023, we updated 104 datasets (newly created or updated) and almost 2 million records. The updates contributed to an increase in the data quality. We also calculated 154 new CHIs published on the Europeana website over Y1. In June 2023, we measured 2.04% of broken links in the data repository. The high number is mainly due to one big dataset, for which we currently still work on a solution to fix the links.

Task 2.3. Automated approaches towards data quality

Partners: EF, DATO

In this task, we will work on automated approaches to address data quality issues at scale. EF and DATO will continue to improve the data enrichment process to create accurate links between cultural heritage item descriptions and contextual resources. EF will also continue testing and implementing AI technologies. This work will be accompanied by refinement and publication of methodologies to better validate and evaluate the results from automated approaches to data quality. EF will promote the use of AI solutions and the datasets developed for cultural heritage to other data spaces. (Activity 2.3.1.)

Overview of outcomes: automated approaches towards data quality

Partner	Outcomes	Progress	Due date
Activity 2.3.1. Use of AI to enrich metadata and content			
EF, DATO	Enrichment algorithm is improved (e.g. addressing ambiguity)	Completed	Aug 2023 ⁷¹ (Jun 2023)
EF	One AI solution (image resolution enhancement) deployed at scale	Completed	Aug 2023
EF	Validation and evaluation methodology of (AI) enrichment results (V1) published	Completed	Aug 2023
EF	Report on two new selected areas for experimentation and assessment of AI (including assessment of relevant work in GS projects) completed	Completed	Jun 2023 (Aug 2023)

Enrichment algorithm is improved (e.g. addressing ambiguity) - an approach was selected following a preliminary evaluation of some options. This approach is based on Large Language Models (LLM) and uses a technology similar to the one used in the Recommendation service (we expect that, if successful, it may also bring improvements on this front). Even though it is not yet a solution, it gives us a direction to explore and develop for next year. In parallel, we have started an inventory collecting the ambiguity cases that we have come across over the years either being reported by end-users and partners, or identified during the enrichment evaluations made for past projects. This inventory will be used for evaluation of the solution and also to give us a better understanding of the challenges of the problem space.

One AI solution (image resolution enhancement) deployed at scale - EF has implemented a reprocessing component that applies an AI-based image resolution enhancement service that was explored in earlier experiments. The enhancement done by this component makes it

⁷¹ Outcome adjusted with EC.

possible in the medium term to present to users items with very low-resolution images in higher quality for images that do not currently meet the Europeana publishing criteria as they do not bring satisfactory user experience (EPF Content Tier 0) and are therefore suppressed on the Europeana website. This is especially interesting for older datasets which are hard to update at source. This component is currently being applied to a selection of around 1.6M Tier 0 items with appropriate rights.

Validation and evaluation methodology of (AI) enrichment results (V1) published⁷² - seeking to address one of the principles of the enrichment policy for the data space, EF created a first version of a methodology for evaluating and validating the result of (automatic) enrichment efforts. This methodology, which is based on the experience gathered in earlier (project) assessments, should especially be followed by data space partners that perform automatic enrichment efforts, in order to guarantee a minimal level of quality.

Report on two new selected areas for experimentation and assessment of AI (including assessment of relevant work in GS projects) completed⁷³ - in this period we continued work to experiment with AI to augment the quality of data and/or service. This report showcases work done to recognize image placeholders, property marks (watermarks) and similar images in datasets. Based on this exploratory work, a decision can be made to bring the selected technology in the data space offering. The report also includes a presentation of PyEuropeana, a Python library that has been developed internally and is used for running the AI experiments and has potential to assist Python developers in their connecting to the Europeana APIs.

⁷² <https://pro.europeana.eu/post/methodology-for-validating-enrichments>

⁷³ [Applications of Artificial Intelligence at Europeana Foundation - Experiments 2023](#)

Work package 3: Capacity building and fostering reuse

The overarching objective of WP3 is to strengthen the capacity of professionals and reuse communities working with digital cultural heritage.

Specifically, it will develop capacity among cultural heritage professionals to create high quality data that can be used in a wide range of user scenarios. This WP will work with the Europeana Network Association (ENA) and the Europeana Aggregator's Forum (EAF) to develop training, events and interaction programmes that will allow its members, and cultural heritage professionals at large, to learn to use the tools and services provided by the data space and become agents of change in their organisations and in the sector.

Equally, this work package will develop capacity for the use and reuse of high quality data in specified communities such as education, research and the developer communities and it will investigate possibilities for closer collaboration with the Media and Tourism data spaces.

Both of these efforts will be underpinned by a solid user and market research programme, a further development of our tools and services for collaboration that enable the communities to thrive, and an outreach and dissemination strategy to strengthen the position of the data space with key identified professional audiences.

Task 3.1. Enhance cooperation throughout the data space

Partners: EF, DFF, NISV

Under this task the Europeana DS consortium will support, maintain and develop effective coordination of activities of the data space, with specific emphasis on leveraging the synergies of the Europeana Network Association (ENA)⁷⁴ and the Europeana Aggregators' Forum (EAF)⁷⁵, to identify and manage collective actions that facilitate a rewarding and motivating experience for CHI's. It will support the aims of the data space to enable cross border cooperation and collaboration, utilising the expertise of professionals from the ENA and EAF. (Activity 3.1.1. - Activity 3.1.2.)

EF, together with the Member State holding each presidency of the Council of the EU, will invite the CEDCHE Expert Group members, relevant experts and policy makers to discuss, align visions and expectations, or form a shared understanding of important, challenging, or new topics for the creation and development of the data space. (Activity 3.1.3)

Overview of outcomes: enhance cooperation throughout the data space

Partner	Outcomes	Progress	Due date
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⁷⁴ <https://pro.europeana.eu/network-association/sign-up>

⁷⁵ <https://pro.europeana.eu/page/aggregators>

Activity 3.1.1. Develop methods of cooperation			
EF	Approach to creating a rewarding experience for CHI evaluated	Completed	Mar 2023
EF	Thematic programme of activity across the data space ecosystem developed	Completed	Apr 2023
EF	Improved model of cooperation across the data space ecosystem developed (V1)	Completed	May 2023
EF	Pilot for improved model of cooperation completed	Completed	Aug 2023
EF	Thematic programme of activity developed and maintained	-	Ongoing
Activity 3.1.2. Provide secretariat for Europeana Aggregators' Forum (EAF) and Europeana Network Association (ENA)			
EF	ENA General Assembly organised	Completed	Nov 2022
EF	Annual reporting for ENA and EAF activities published	Completed	Jan 2023
EF	Strategy for ENA/EAF outreach and engagement developed	Completed	Jun 2023
EF, DFF, NISV	Evaluation report of accreditation scheme (internal)	Completed	Aug 2023
EF	Assessment of connection between ENA and EAF members completed	Completed	Aug 2023
EF	New aggregators reviewed for accreditation	-	Ongoing
EF	EF, ENA and EAF periodic meetings organised (incl. ENA MB and MC, and EAF Steering Group and EAF meeting)	-	Ongoing
EF	General management support for Task Forces, Working Groups and communities (ENA/EAF/Europeana Initiative)	-	Ongoing
Activity 3.1.3. Support national digital strategies to increase high quality data			
EF	Czech Republic Presidency Europeana activity organised	Completed	Dec 2022
EF	Czech Republic Presidency Europeana activity evaluated and reported	Completed	Mar 2023
EF	Swedish Presidency Europeana activity organised	Completed	Apr (Jun 2023)
EF	Develop and implement mechanisms to engage and inform Member States	-	Ongoing
EF	Twin It! campaign	-	Ongoing

Improved model of cooperation across the data space ecosystem developed (V1) - the v1 model of cooperation provides an overview of the activities identified and developed by the Foundation, Network Association and Aggregators' Forum, to enhance processes and activities that facilitate the successful operation of the data space. It outlines the structure and approach to coordinating the collaboration, the actions and activities agreed upon as relevant to make progress with, and outlines a provisional roadmap for implementation in Y2.

We have established monthly meetings during which we discuss ways to primarily improve collaboration and cooperation within the Initiative, and secondarily across partnerships and data spaces. This is further embellished with quarterly full day meetings to facilitate more detailed ideation and discussion.

The Model of Cooperation is a set of agreed mechanisms under which elements of the Initiative work together for mutual benefit. This is underpinned by the conceptual development work undertaken (and which runs concurrently), such as the development of an Impact Model for the Initiative (due Y2), and further user research to better identify the identity and needs of the Initiative audiences and stakeholder base, and further outreach to engage with other data spaces.

The agreed mechanisms for cooperation can be described as:

- A joint thematic programme, where elements of the EI (and eventually data space) agree to work together to make progress under an identified theme.
 - The Twin It! campaign is a good example of an idea borne from the EC, developed by EF and further implemented with actions by ENA and EAF.
 - Further, the Initiatives' Supporting digital cultural heritage of Ukraine working group, facilitated the support and promotion of the 'The Laptops for Ukraine' campaign.
- Community Engagement, where elements of the EI (and eventually data space) agree how and where to facilitate connections between their respective communities.
 - The pilot Country Groups (due Y2) is an example of ENA and EAF together identifying a need to take action at a country level, and with the support of EF develop the methods to do that. In addition, the country group pilot is intended to complement the need to work thematically, which will be piloted around actions that support TwinIt, for example.
- A third mechanism that is developing towards the end of Y1 is the approach to engage in joint projects.
 - Such as the coordinated actions of EF and ENA in a recent ECCCH proposal.

The model of cooperation is due to be fully documented in Q4 2023, and following the proposed schedule of the IP Y2, the Model will be completed in Jan 2024, and published by Feb 2024.

Pilot for improved model of cooperation completed - the model of cooperation has iteratively been developed throughout Y1. The pilot can be considered complete. Further review of the model of cooperation will continue through Y2, including refinements.

Thematic programme of activity developed and maintained (bi-annual update) - the thematic programme of activity aims to provide an overview of activities to be carried out within the Europeana Initiative for 2023 and beyond to help raise awareness of thematic crossovers and stimulate possible further joint ventures between activities. The areas identified are 3D, Multilingualism and content themes. The document has been shared across the Europeana Initiative for further consultation. Based on the outcomes of this it will be updated and revised.

Strategy for ENA/EAF outreach and engagement developed - we evaluated established types of outreach and engagement activity undertaken according to Network Association, her communities or the Aggregators' Forum and the data validating the impact of those activities. We also reviewed work undertaken to strengthen the connections between the work of the Initiative partners, such as the market research undertaken in Task 3.2 and 3.3. Based on this we proposed strategic actions that build on the activities in Y2 and that can help to advance outreach and engagement.

A large part of the work in Y1 supported the dialog and ultimate agreement on the Country Group concept (due Y2) as a mechanism to address areas for improvement in the current outreach approach. Such as providing localised opportunities to connect ENA members with local, regional or thematic aggregators to further support their work by supplying, enhancing or using cultural heritage data. This includes providing initial funding to support in-person meetings, thematic actions that can be used to mobilise local partners (such as TwinIt), and the development of local language resources.

Further the EI Collaboration identified the need to develop better models for delivering a rewarding experience for CHI (Outcome Y1), in response the planning for the development of the impact model prioritises the community impact model as a first use case to deliver in Y2. The aim of this use case is to create a model that connects actions with outcomes that truly benefit our community members. And we anticipate this will enable the EI to better outreach actions that engage and deliver benefits back to members such as validating how the events programme can be utilised to engage and drive repeat engagement.

We learn from having undertaken this outcome that ideation, development and planned delivery of outreach and engagement is taking place concurrently under various activities, most notably under enhanced collaboration (Activity 3.3.1).

*Evaluation report of accreditation scheme*⁷⁶ - The aggregator accreditation scheme was developed in 2018 with the goal to provide clarity for the Europeana Initiative and cultural heritage

⁷⁶ [Evaluation report of accreditation scheme](#)

institutions (CHIs) about the active Europeana aggregators and acknowledge their role as trusted partners for CHIs. With the deployment of the data space, we explore new synergies and new ways of working within the EAF. New approaches of aggregation (e.g. decentralised, Linked Data) and data governance but also a stronger focus on capacity building will lead to new responsibilities for aggregators in the data space. This is the motivation for a review of the current accreditation scheme. Building on this work, the strength and weaknesses of the current scheme, the models for implementation and management of accreditation of the EAF members will be updated by EF and EAF members (in particular involving the EAF Steering Group) to further strengthen the role of accredited aggregators in the data space and to increase the reciprocity of the accreditation scheme.

Assessment of connection between ENA and EAF members completed - the preliminary assessment of the connection between ENA and EAF members shows that 88% of the EAF representatives are also ENA members. This has helped us to better our understanding of how to efficiently communicate with members of both ENA and EAF, for example reduce duplication of messages through basecamp, and reduce duplicating presentations at the EAF and ENA events. In addition, it has helped us to ensure that we are consistent in our offers to ENA and EAF members (for example discount tickets to the Europeana conference). We will continue to conduct analysis as we discover the advanced functionalities and workflows of the Zoho CRM, developed through Activity 3.3.3. Successful progress depends on the quality of data gathered, for example we observe that the inaccurate or inconsistent spelling of name and/or organisation name hinders the possibilities to assess connections. Improvements to the way we collect and enable direct editing of membership data (for ENA members for example) may be a point of improvement in Y2 if possible through Activity 3.3.3.

New aggregators reviewed for accreditation (bi-annual update) - no new aggregators have been accredited in the past months. We have a few potential new aggregators, and at least two of them are ready to receive accreditation in autumn 2023: Catalonica⁷⁷ and Euskariana⁷⁸. Both will be regional aggregators for the Catalan and Basque region.

EF, ENA and EAF periodic meetings organised (incl. ENA MB and MC, and EAF Steering Group and EAF meeting) (bi-annual update) - in this period, we continued supporting the ENA and EAF operational activities and organisation of monthly meetings of the ENA MB and the EAF Steering Group, as

⁷⁷ <https://catalonica.bnc.cat/catalonicahub/en/inicio/inicio.do>

⁷⁸ <https://www.euskariana.euskadi.eus/euskadibib/eu/home/home.do>

well as the MC meeting⁷⁹ (Jun 2023), EAF meeting⁸⁰ (Apr 2023), and EAF Outreach event⁸¹ (Jun 2023).

General management support for Task Forces, Working Groups and communities (ENA/EAF/Europeana Initiative) (bi-annual update) - in this period, we continued supporting all the existing ENA, EAF and Europeana Initiative wide Task Forces and Working Groups and provided overall management and guidance to the seven ENA communities. In May 2023, the Article 14 Task Force⁸² was launched.

Develop and implement mechanisms to engage and inform Member States (bi-annual update) - in the period, we organised the Swedish Presidency conference (Apr 2023). We organised an online meeting with the CEDCHE members and copyright experts on the topic of out of commerce works (April 2023). We also updated the Europeana country reports and shared the status per Member State on Europeana Pro.⁸³

Twin It! campaign (update) - since its launch on 21 Jun 2023 and to this date (end of Aug 2023), the Twin it campaign saw the appointment of 20 National contact points in EU Member States and the kick-off of its first phase, in which Member States were asked to identify a heritage asset to be digitised in 3D by the end of the Sep 2023. As part of our communication efforts, we started a 3D Pro news series that will highlight content related to 3D and cultural heritage as well as campaign developments. The series started in Aug 2023⁸⁴ and will continue from Sep 2023 onwards. In cooperation with the European Commission, we are currently developing a Twin it! Label that will be used to brand events and initiatives which contribute to the objectives of the campaign. We also collaborated with the European External Action Service (EEAS) to submit Twin it! visual material as the EU contribution to a cultural 3D project within the G20 Summit that will take place on 9-10 Sep 2023 in New Delhi, India. Lastly, we started a partnership with the 4CH Competence Centre to develop a capacity-building offer targeting EU MS representatives involved in the Twin it campaign. Through this partnership, we will develop a series of workshops on 3D digitisation which will take place from Oct - Dec 2023.

Reporting metrics: enhance cooperation throughout the data space

No.	Description	Measured by	Frequency	Target	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023
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https://pro.europeana.eu/files/Europeana_Professional/Event_documentation/Events/MC/MC-meeting-programme-June-2023.pdf

⁸⁰

https://pro.europeana.eu/files/Europeana_Professional/Event_documentation/Events/Aggregator_Forum/Europeana-Aggregators-Forum-Spring-2023.pdf

⁸¹

https://pro.europeana.eu/files/Europeana_Professional/Event_documentation/Events/Aggregator_Forum/EAF-outreach-June2023-Digital-Programme.pdf

⁸² <https://pro.europeana.eu/project/article-14-task-force>

⁸³ <https://pro.europeana.eu/page/member-states>

⁸⁴ <https://pro.europeana.eu/post/discover-the-potential-of-3d-and-heritage-acoustics>

KPI 3.1	Satisfaction of the Europeana Network Association members with the ENA	Total % of 'satisfied' and 'completely satisfied' responses on a 5-point Likert scale	Annually	75%	-	-	-	66.80%	-
KPI 3.2	Growth of Europeana Network Association members	Number of members in the ENA	Quarterly	4,250	4,182	-	-	-	4,396
RM 3.1	Number of participants engaged in EI activities	Number of participants i.e. contributing time and expertise to EI activities and actions (such as TFs, WGs and in response to CTA to engage with other activities in ENA, EAF, Initiative) (cumulative)	Quarterly	-	-	-	-	-	407
RM 3.2	Task forces in the Europeana Initiative	Number of active task forces per month (ENA, EAF, Initiative)	Quarterly	-	-	-	-	-	6
RM 3.3	ENA membership enables knowledge transfer	% of surveyed ENA members reporting membership helps them staying up to date with best practices and new trends	Annually	-	-	-	-	60%	-
RM 3.4	ENA membership delivers practical knowledge	% of surveyed ENA members reporting membership enables them to learn knowledge, skills and information	Annually	-	-	-	-	56%	-

		they use in their job							
RM 3.5	ENA membership facilitates knowledge sharing	% of surveyed ENA members reporting membership enables them to learn new information they can share with others	Annually	-	-	-	-	56.6%	-
RM 3.6	Satisfaction with the European EU presidency activities	Total % of 'satisfied' and 'completely satisfied' responses on a 5-point Likert scale	Quarterly	-	86%	-	-	-	-

The metrics (RM 3.3 - RM 3.5) provide a limited snapshot of membership experience, using data collected via the annual ENA satisfaction and impact survey. The metrics reported on above can be further contextualised with other quantitative and qualitative data. Combined, these data help us to explore the nuances in members' satisfaction with the Network's offer. Our data can be compared across several years and from this we can track patterns and trends, as well as implement improvements.

We see that the rate of members reporting to learn information that they can use in their work settings is consistent with 2022. We see an increase in members reporting they are learning information they can share with others (from 42% in 2022 to 56.6% in 2023). Members also report extending their professional networks (an increase from 41% agreeing with the statement in 2022 to 51% in 2023). 71% say the Network has some importance for daily work, which is an increase over both 2021 and 2022. Yet we see a decrease in members reporting that membership helps them stay up to date with new trends. In summary, we see that membership experience is improving incrementally year on year, though response rates to the survey are declining each year, and validates the need for the concurrent work undertaken through ENA to explore new avenues to engage members, such as through more collaboration and connection at a country level.

For Y2, the scope of the metrics was changed to measure the impact of training with measurable learning outcomes. We believe that measuring the impact of active engagement (e.g. via training) will be most meaningful.

Task 3.2. Identify needs of user groups

Partners: EF

Under this task, EF will continuously explore the needs of professional audiences in the cultural heritage sector (Activity 3.2.1) as well as the needs of potential groups interested in reuse of cultural heritage data, such as education, research and the creative industries. EF will also work with other European data spaces, including tourism and media, to better understand the needs of these user groups in relation to the data space (Activity 3.2.2). User research will guide the development of tools and services and will identify which data, tools, and services should be offered as a priority.

Overview of outcomes: identify needs of user groups

Partner	Outcomes	Progress	Due date
Activity 3.2.1. Conduct user research among professional audiences			
EF	Europeana Pro user survey completed	Completed	Mar 2023
EF	Report on indicators of digital transformation across Europe (incl. assessment of value of previous ENUMERATE research)	Completed	Jul 2023
EF	Qualitative and quantitative (primary and secondary/desk) research among professional audiences undertaken	-	Ongoing
Activity 3.2.2. Perform user and market research to foster reuse			
EF	Decision-makers and influencers among reuse communities identified	Completed	Feb 2023
EF	Qualitative research among decision-makers and influencers completed	Completed	Apr 2023
EF	Report on areas of potential reuse among education, research and academia completed (incl. recommendations for product and service developments)	Completed	Aug 2023 (Apr 2023)
EF	Report on areas of potential reuse among cultural enthusiasts completed (incl. recommendations for product and service developments)	Completed	Aug 2023
EF	Primary research conducted among audiences	-	Ongoing
EF	Market and user research on audiences interested in reuse undertaken	-	Ongoing

*Report on indicators of digital transformation across Europe (incl. assessment of value of previous ENUMERATE research)*⁸⁵ - we outlined our approach for collecting data about the cultural sector in Europe this year, combining efforts around ENUMERATE with other survey work undertaken by the EI and associated projects. We also put forward a plan for how we will connect our quantitative primary market research activities, including ENUMERATE, more closely with the impact framework. We aim to make these data collection activities more relevant to the data space, for example to inform the development of products and services and our other offers, and to help us target areas for data acquisition, as well as making the data available to Member States and to inform policy making on a national and pan-European level.

Qualitative and quantitative (primary and secondary/desk) research among professional audiences undertaken (bi-annual update) - we run our annual Pro user survey and research to inform collaboration and engagement with the Europeana Network Association. More detailed information on these is available in DS. Communication and dissemination plan M11 (Jul 2023). In addition we have overseen various primary research gathering activities, supporting surveys on the topics of: persistent identifiers, environmental sustainability and digital preservation, satisfaction with the data space offering (from the perspective of CHIs and aggregators respectively), and the ENUMERATE survey.

Report on areas of potential reuse among education, research and academia completed (incl. recommendations for product and service developments) / Report on areas of potential reuse among cultural enthusiasts completed (incl. recommendations for product and service developments) - both outcomes were merged into one - 'Report on areas of potential reuse incl. recommendations for product and service development'.⁸⁶

Primary research conducted among audiences (bi-annual update) - from May to Jul 2023, EF spoke with people working in 13 aggregators to assess their ability to help with providing a more multilingual experience on the Europeana website, aiming to foster reuse through more multilingual editorial.

Market and user research on audiences interested in reuse undertaken (bi-annual update) - we investigated opportunities of reaching fashion audiences, and conducted interviews with cultural enthusiasts and creatives (e.g. participating in GIF and DSF) on their behaviours and needs. Learnings will feed into our assessment of products and services that can be refined, as necessary, and offered to additional audiences.

⁸⁵ Available on request.

⁸⁶ Available on request.

Task 3.3. Build awareness and engagement

Partners: EF

Under this task, EF will build awareness and engagement of the activities in and around the data space among our professional audiences. We will ensure and deliver a strategic approach to marketing and communications (Activity 3.3.1), offer event programming (Activity 3.3.2), and ensure that audiences engage with our activities (Activity 3.3.3).

Overview of outcomes: build awareness and engagement

Partner	Outcomes	Progress	Due date
Activity 3.3.1. Ensure strategic approach to marketing and communications			
EF	Dissemination strategies for key channels (Twitter, LinkedIn, Europeana Pro) delivered (internal)	Completed	Feb 2023
EF	Pro editorials published (e.g. Pro News and themes)	-	Ongoing
EF	Promotional activities promoted (Newsletters, Twitter, LinkedIn)	-	Ongoing
Activity 3.3.2. Develop event programming			
EF	Europeana Annual Conference organised	Completed	Sep 2022
EF	Europeana events strategy delivered (internal)	Completed	Feb 2023
EF	Learnings and recommendations from Impact Assessment implemented - Annually	Completed	Apr 2023
EF	Events programme delivered and improved (events calendar, events toolkit, etc.)	-	Ongoing
EF	Activities of the international Events Manager Group coordinated	-	Ongoing
EF	Compliance with data protection maintained ⁸⁷	-	Ongoing
Activity 3.3.3. Engage professional audiences			
EF	Requirements for a community collaboration tool defined	Completed	Jun 2023
EF	Workflows for data collection in CRM reviewed	Completed	Jun 2023
EF	Online training spaces for capacity building improved	-	Ongoing
EF	Platforms for professional audiences maintained (technical infrastructure, user journeys, accessibility)	-	Ongoing

⁸⁷ According to the Regulation (EU) 2018/1725 concerning the processing of personal data by the EU institutions (IDPR)

Pro editorials published (e.g. Pro News and themes) (bi-annual update) - we have published regular posts through Europeana Pro news this period, covering news and announcements from across the Europeana Initiative and cultural heritage sector. In this period, monthly themes put a spotlight on initiatives bringing together education and digital cultural heritage, including the Low Code Fest⁸⁸ (Feb 2023) and Built with Bits⁸⁹ (immersive technologies for education, April 2023). In alignment with editorial published on the Europeana website, a news theme in March 2023 focused on Women's History Month⁹⁰, and a theme in May and June explored digital storytelling, aligning with the digital storytelling festival.⁹¹ This period also saw the continuation of ongoing series around the common European data space for cultural heritage⁹², careers of ENA members councillors⁹³, the CDSM directive and copyright office hours⁹⁴, and the start of a series promoting EuropeanaTech 2023⁹⁵. More detailed information is available in DS. Communication and dissemination plan M11 (Jul 2023).⁹⁶

Promotional activities promoted (Newsletters, Twitter, LinkedIn) (bi-annual update) - in this period, we continued to amplify our Pro editorial work and also promoted calls relevant to professional audiences via relevant channels. The most popular activities in this period in terms of traffic driven to Europeana Pro were the Europeana conference call for proposals and ticket sales, the digital storytelling festival, and Twin it!⁹⁷. More detailed information is available in DS. Communication and dissemination plan M11 (Jul 2023).

Events programme delivered and improved (events calendar, events toolkit, etc.) (bi-annual update) - in this period, we continued to improve our events programme and integrated hybrid meetings where possible. The work on the events calendar and the events toolkit continues.

Activities of the international Events Manager Group coordinated (bi-annual update) - the Events Managers Group has grown to be a very valuable group who shares experiences and supports each other in the challenges when organising (hybrid) events. It is of great value learning from other organisations what formats, style or tools they use, sharing good practices, as well as coordinating the timing of major conferences. It started as a small group of 4-5 people in 2020 and counts about 15 people today. Informal discussions and when possible visiting each other's events has proven to be a great way to get a better understanding of the different ways we all work. For example, our colleagues from IFLA have visited our conference in 2022 and EF joined theirs in August 2023. In addition, we share our lessons learned and successes to continue learning from each other.

⁸⁸ <https://pro.europeana.eu/tags/low-code-fest>

⁸⁹ <https://pro.europeana.eu/tags/built-with-bits>

⁹⁰ <https://pro.europeana.eu/tags/womens-history-month-2023>

⁹¹ <https://pro.europeana.eu/tags/digital-storytelling>

⁹² <https://pro.europeana.eu/tags/data-space>

⁹³ <https://pro.europeana.eu/europeana-network-association/members-council>

⁹⁴ <https://pro.europeana.eu/tags/copyright>

⁹⁵ <https://pro.europeana.eu/tags/europeanatech2023>

⁹⁶ Available in the document section here: <https://pro.europeana.eu/page/data-space-deployment>

⁹⁷ <https://pro.europeana.eu/page/twin-it-3d-for-europe-s-culture>

Compliance with data protection maintained (bi-annual update) - we ensured compliance of our events with the IDPR, including before the event through the call for proposals process, event and speaker registration, and after the event through their evaluation, by maintaining and updating privacy statements, setting up the necessary processes, and ensuring that the third party tools we rely on are compliant.

Requirements for a community collaboration tool defined - we conducted 12 one on one in-depth interviews among Europeana Network Association and European Aggregators' Forum members and followed this up with questions as part of the Europeana Network Association impact and satisfaction survey. This work provided learnings on what active members want to be offered or where they need support to increase participation, requirements they have that may increase collaboration and on how to market the ENA to people working in, with or around cultural heritage. In particular we heard that many needs can be better met by improving some of our existing tools and services. More detailed information is available in DS. Communication and dissemination plan M11 (Jul 2023).

Workflows for data collection in CRM reviewed - after the approval of Zoho as our primary CRM tool, and the migration to the EU servers we have continued to develop better workflows within the Zoho CRM application, and connect it with different Zoho apps that we currently use. We have replaced some of the tools we used in the past by Zoho Campaigns, Zoho Survey, and Zoho Forms to create consistent workflows connected with our CRM tool. We also refined the admin area of Zoho CRM by adding validation rules and tooltips ensuring that the information is captured and structured correctly for future use cases. The next phase we will enrich the CRM with project information and continue to expand its use to additional use cases.

Online training spaces for capacity building improved (bi-annual update) - we continued to refine the 'Learn with us' section on Europeana Pro,⁹⁸ including planning for how to integrate it with the Learning Management System, how to position both and user journeys between the two, and the Europeana Knowledge Base. We have added new content to the section (for example, a page on IIIF resources⁹⁹) and have promoted the 'evergreen' content that sits under the section.

Platforms for professional audiences maintained (technical infrastructure, user journeys, accessibility) - we migrated the Europeana Pro CMS from Bolt 3 to Bolt 5. Bolt 3 is being decommissioned and our move to Bolt 5 will ensure that the CMS for Europeana Pro remains secure and robust. We have continued to monitor accessibility which scores highly across the site and we have been working on providing colleagues with guidance to better help colleagues determine where content should sit across our sites for professional audiences and to improve user journeys.

Reporting metrics: build awareness and engagement

No.	Description	Measured by	Frequency	Target	Apr	May	Jun	Jul	Aug

⁹⁸ <https://pro.europeana.eu/page/learn-with-us>

⁹⁹ <https://pro.europeana.eu/page/europeana-and-iiif>

					2023	2023	2023	2023	2023
KPI 3.3	Satisfaction rate for Europeana Pro	Total % of 'satisfied' and 'completely satisfied' responses on a 5-point Likert scale	Annually	75%	-	-	-	78%	-
RM 3.7	Traffic to Europeana Pro	Number of visits per month	Monthly	-	30,186	31,708	23,116	23,454	24,727
RM 3.8	Traffic to Knowledge Base for Aggregators	Total number of views (cumulative)	Quarterly	-	8,484	-	-	-	8,832
RM 3.9	Number of Europeana events	Number of events held by Europeana DS consortium, EAF, and ENA (cumulative)	Quarterly	-	29	-	-	-	41
RM 3.10	Reach of Europeana events	Number of participants (cumulative)	Quarterly	-	2,979	-	-	-	5,204
RM 3.11	Satisfaction rate for events	Total % of 'satisfied' and 'completely satisfied' responses on a 5-point Likert scale (cumulative)	Quarterly	-	80%	-	-	-	82%

In Jun 2023, the annual survey for Europeana Pro revealed a good satisfaction with 78% of respondents being 'satisfied' and 'completely satisfied ' with the website.

Between May - Aug 2023, in total EF, EAF and ENA, organised 12 events that welcomed 2,225 participants. Events organised so far in the data space Y1 had a very good cumulative satisfaction rate of 80%.

Overview of communication and dissemination efforts: build capacity of aggregators and professionals

Partner	Name of event	Activity	Location	Date
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Events organised				
EF	AI tools in perspective: the potential for cultural heritage institutions, the responses of DH researchers ¹⁰⁰	Debate	Online	04/05/2023
EF	Digital Story Festival ¹⁰¹	Event	Online	9-10/05/2023
EF	Copyright office hours on artificial intelligence ¹⁰²	Informal discussion	Online	16/05/2023
EF	Impact Café ¹⁰³	Cafe	Online	07/06/2023
EF/EAF	EAF Outreach Event #1 ¹⁰⁴	Event	Online	15/06/2023
EF/JHN/AEPJ	Preserving heritage, inspiring tourism ¹⁰⁵	Webinar	Online	19/06/2023
EI	Low Code Fest ¹⁰⁶	Webinar	Online	30/06/2023
EF	Policy office hours on open access, copyright and ethics ¹⁰⁷	Cafe	Online	19/07/2023
MCA (MUSEU)	ReInHerit project - ECTN - General assembly ¹⁰⁸	Presentation	Brussels	11/05/2023
Photoconsortium	3D in Cultural Heritage - EUreka3D event ¹⁰⁹	Event	Rome (hybrid)	06/06/2023
DFE (EFG)	Enriching Film Heritage Data with OpenRefine	Presentation	Online	05/07/2023
BL (Europeana Sounds)	Ukraine Hatathon 4.0: Preserve the Past, Create the Future ¹¹⁰	Presentation	Online	24/07/2023

¹⁰⁰

<https://pro.europeana.eu/event/ai-tools-in-perspective-the-potential-for-cultural-heritage-institutions-the-responses-of-dh-researchers>

¹⁰¹ <https://pro.europeana.eu/page/digital-storytelling-festival>

¹⁰² <https://pro.europeana.eu/event/copyright-office-hours-on-artificial-intelligence>

¹⁰³ <https://pro.europeana.eu/event/europeana-impact-community-cafe>

¹⁰⁴ <https://pro.europeana.eu/event/europeana-aggregators-forum-outreach-event>

¹⁰⁵

<https://pro.europeana.eu/event/preserving-heritage-inspiring-tourism-building-on-the-europeana-cultural-routes-collaboration>

¹⁰⁶ <https://pro.europeana.eu/page/low-code-fest>

¹⁰⁷ <https://pro.europeana.eu/event/policy-office-hours-on-open-access-copyright-and-ethics>

¹⁰⁸ <http://www.reinherit.eu/>

¹⁰⁹ <https://pro.europeana.eu/event/3d-in-cultural-heritage>

¹¹⁰ <https://www.youtube.com/watch?v=DYFdIX9Dc1k>

Task 3.4. Develop capacity building as a service

Partners: EF, CAPG

Under this task, we will develop capacity building tools and services (Activity 3.4.1) and manage and develop mechanisms for the training programme (Activity 3.4.2).

Overview of outcomes: develop capacity building as a service

Partner	Outcomes	Progress	Due date
Activity 3.4.1. Develop capacity building tools and services			
EF	Capacity Building Working Group launched	Completed	Dec 2022
EF	Europeana Capacity Building Framework (V3) developed (internal)	Completed	Jan 2023
EF	Holistic approach to product and service design and development developed (V1)	Completed	Aug 2023 ¹¹¹ (Jan 2023)
EF, CAPG	Motivation and engagement model for capacity building developed	Completed	Mar 2023
EF	ENA Community Impact model developed and validated	-	Year 2 ¹¹² (Jul 2023)
EF	Europeana Impact community ¹¹³ supported	-	Ongoing
EF	Training activity/resources for EIF/ECBF developed/provided	-	Ongoing
Activity 3.4.2. Manage and develop mechanisms for the training programme			
EF, CAPG	Impact pathway for training programme developed	Completed	Feb 2023
EF, CAPG	Requirements and objectives for training programme defined	Completed	Feb 2023
EF, CAPG	Training programme (v1) developed	Completed	Apr 2023
EF, CAPG	Training programme improved and delivered	-	Ongoing
EF	Inventory of existing training (and other capacity building resources) maintained and updated	-	Ongoing

Holistic approach to product and service design and development developed (V1) - throughout the year, EF investigated ways to improve its approach to product and service design and

¹¹¹ Outcome adjusted with EC.

¹¹² Outcome adjusted with EC.

¹¹³ <https://pro.europeana.eu/page/europeana-impact-community>

development. The objectives at stake here were to achieve some alignment between different teams so the design, development, and release to market and intake of the product can be performed faster and with greater results. The approach was investigated as part of two use cases: 1) the continuous development of the Metis Sandbox and its adoption by aggregators and CHIs, and 2) the development of the implementation plan for Y2. In those two cases, the following steps were followed:

- *Scoping action:* during these actions user needs are identified, use cases are identified and requirements are drawn. This phase already helps to anticipate training needs, audiences of future communication and marketing efforts and the needed success metrics.
- *Collaborative action:* Functional and technical designs are developed in parallel and are formalised through epics and stories as per the scrum methodology.
- *Implementation action:* Implementation follows an agile development process where the work is developed and tested in a test and then acceptance environment before getting released. Training was developed in parallel with the implementation process so it can be ready when the product is released to market.

The steps will be then repeated for future iteration. It is important to note that these steps can be applied for development of any size from a new product to a specific feature or improvement of an existing feature. While the approach has not yet been formalised, the steps described above have been implemented in the two mentioned use cases and have contributed to a better alignment and increased collaboration between business areas (market research, user testing, implementation and training developments).

Europeana Impact community supported (bi-annual update) - we sent one newsletter in May 2023. We held the first of three planned Impact Community Cafés¹¹⁴ (Jun 2023). The Steering Group and Community members put forward a proposal for the EuropeanaTech conference which was unfortunately not accepted, but which now forms the basis for a more extended webinar (and possible collaboration with the EuropeanaTech community) later in the year.

Training activity/resources for EIF/ECBF developed/provided (bi-annual update) - the online Europeana Impact Playbook (as the core tool of the EIF) has been shared for feedback. Learning resources developed in the Impact Lite Task Force have been updated based on this feedback and will be made available in the final version later in 2023. A programme of offline and online training based on the new online Impact Playbook and following the guidelines of the ECBF has been developed for data space supporting project participants as well as EF, ENA and EAF and will be rolled out in Sep/Oct 2023.

In this period, the following work has taken place for the Europeana Capacity Building Framework (ECBF): an Impact pathway for training has been developed; requirements & objectives of a training programme were completed; a first version of the motivation and engagement model were completed; training programme V1 (see below) was completed; the priorities and primary

¹¹⁴ <https://pro.europeana.eu/event/europeana-impact-community-cafe>

focus areas for train-the trainer programme for the provision of high quality data were completed; a roadmap for the creation of training was updated; a Learning Management System was selected. For this a proposal for a Learning Management system was written, market research and an internal pilot took place; a train-the-trainer proposal was developed aimed at improving trainer skills of Subject Matter Experts (SME's) to become trainers. Several of the above were produced with the help of the Capacity Building Working Group and/or supported by CAPG. Relevant products/services or core components of the ECBF will be included in the upcoming update of the ECBF.

Training programme improved and delivered (bi-annual update) - an internal training programme was produced. This document gives an overview of the existing and planned training offers by the Europeana Initiative. It is compiled from different sources, including existing public training offers, an internal training pipeline (planning) document (incl. project plans of data space supporting projects) based on the priorities and primary focus areas for train-the trainer programme for the provision of high quality data and the requirements and objectives of a training programme, identified earlier. Internal development of new training resources has started based on this training programme.

Inventory of existing training (and other capacity building resources) maintained and updated (bi-annual update) - work on this inventory paused to reconsider the objective and processes in the Capacity Building Working Group and to align this work with the activities for managing and developing mechanisms for the training programme (Activity 3.4.2.) and other projects that are related to this for, for example Charter Alliance and the Skills Data space¹¹⁵.

Reporting metrics: develop capacity building as a service

No.	Description	Measured by	Frequency	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023
RM 3.12	Reach to Europeana Impact community	Number of people reached per month (Newsletter, mailing list, LinkedIn)	Quarterly	2,718	-	-	-	2,810

Task 3.5. Facilitate the provision of high quality data

Partners: EF, DS AGG

The aggregation infrastructure of the data space is an essential enabler for the contribution of high quality data, together with the frameworks that govern how data is created, enriched and shared and the building of necessary capacity. EF will support data providers in making use of the

¹¹⁵ Charter Alliance: <https://charter-alliance.eu/>; Skills data space: <https://www.skillsdataspace.eu/>

infrastructure and of framework requirements through capacity building efforts, including training solutions, dynamic knowledge transfer (such as through working groups), events and knowledge repositories.

The Europeana DS consortium will manage and implement a training programme that supports the provision of high quality data. Aggregators and data partners will benefit from the training programme by receiving knowledge on the use of products and tools available in the data space for the provision of high quality data. (Activity 3.5.1)

The consortium together with EAF and ENA will also support peer to peer knowledge exchange with the aim to increase the quality of data available for reuse (Activity 3.5.2).

Overview of outcomes: facilitate the provision of high quality data

Partner	Outcomes	Progress	Due date
Activity 3.5.1. Deliver training programme for aggregators and data partners			
EF	Priorities and primary focus areas for train-the-trainer programme for the provision of high quality data identified	Completed	Mar 2023
EF, DS AGG	Roadmap for the creation of training created (internal)	Completed	Apr 2023
EF	DEN Leadership programme Cohort completed and evaluated - once annually	Completed	Jun 2023
EF, DS AGG	Training for the provision and reuse of high quality data published online	-	Ongoing
EF, DS AGG	Training Events delivered	-	Ongoing
Activity 3.5.2. Support the transfer of knowledge between professionals			
EF	Approach to identifying, cataloguing and sharing professional expertise with EAF and ENA developed	Completed	Apr 2023
EF	Model for enhancing knowledge transfer of professional expertise developed (i.e. fellowships, mentoring)	Completed	Jul 2023
EF	Partnership with European Students Association for Cultural Heritage (ESACH) developed	-	Ongoing
EF	Activities that promote the value of participating in training and knowledge transfer by ENA and EAF delivered	-	Ongoing
DS AGG	Activities that facilitates knowledge transfer of expertise (ie one-to-one support and helpdesk for CHIs, peer-to-peer support between aggregators) developed	-	Ongoing
EF	Activities engaging networks and communities (IIIF WG, DQ committee, ethics WG, accurate rights information) supporting	-	Ongoing

	the delivery of high quality data undertaken		
EF, DS AGG	Knowledge transfer delivered and peer-to-peer / one-to-one support provided	-	Ongoing
EF	Europeana Communicators community ¹¹⁶ supported	-	Ongoing
EF	Europeana Climate Action Community ¹¹⁷ supported	-	Ongoing

DEN Leadership programme Cohort completed and evaluated - once annually - a third cohort of 16 cultural heritage professionals have successfully completed the DEN Leadership programme from April to June 2023. The cohort consisted of participants from Italy, UK, Turkey, Ireland, Belgium, The Netherlands and more countries and from leading positions (directors) to change makers (advisors). The programme provided participants with a strategic toolbox, peer group sharing, and plenty of food for thought to equip them to lead digital transformation in a structured and impactful way, driven by the vision that digital transformation in the sector requires decisive leadership and dedicated action.

Participants indicated, in a survey conducted after the programme, that they found the programme insightful, enriching and thorough and that their expectations were met. They were able to use new knowledge and skills in their work directly. In Y2, the programme compliance with the requirements of the Europeana Capacity Building Framework will be evaluated. This evaluation, combined with declining applications and the fact that there is no sustainable business model for this programme yet, leads to uncertainty of continuing this programme after Y2.

Training for the provision and reuse of high quality data published online (bi-annual update) - no new training resources have been published in this period.

Training Events delivered (bi-annual update) - internal training on training development has taken place for Subject Matter Experts (SME's). We have hosted a series focusing on climate action, and better digital information management practice. It was held by the Europeana Climate Action Community in collaboration with Ki Culture. In collaboration with the Heritage Lab we have organised the third Digital Storytelling Festival. This international event encourages cultural heritage professionals, educators, creatives, and students from Europe, India and beyond to boost their storytelling skills and tell stories exploring culture. The festival also included several practical workshops.

Model for enhancing knowledge transfer of professional expertise developed (i.e. fellowships, mentoring) - building on the 'Approach to identifying, cataloguing and sharing professional expertise with EAF and ENA' (April 2023) a consultation with ENA and EAF was undertaken, data from members and impact surveys were reviewed and we identified where more structure or

¹¹⁶ <https://pro.europeana.eu/page/europeana-communicators-group>

¹¹⁷ <https://pro.europeana.eu/page/climate-action-community>

alternatives models to those currently provided are needed. These areas are 1) providing open searchable access to catalogued interests and expertise of ENA members (and other professionals connected through the EAF, for example), and 2) interest in supporting the stimulation of country level community engagement to reduce language barriers in sharing knowledge informally, and potentially leading to formal training development. These areas will be further developed during Y2.

Partnership with European Students Association for Cultural Heritage (ESACH) developed (bi-annual update) - we continued our informal partnership with ESACH through supporting members with a continuation of the 2022 bursary scheme¹¹⁸ to encourage attendance at this year's EuropeanaTech and promoting the plans and work of ESACH to our audiences¹¹⁹. We have further provided editorial and strategic advice to a key strategic publication (due Q3/4 2023) outlining the future of engagement with youth, and have created an opportunity for a dedicated internship at EF focusing on engagement with new professionals (see reporting in activity 3.6.2. Engage with academic and research communities).

Activities that promote the value of participating in training and knowledge transfer by ENA and EAF delivered (bi-annual update) - we supported the planning, implementation and promotion of Europeana Tech to be held in Y2 as a core knowledge transfer activity for the Europeana Initiative partners. In addition, we continue to promote other ENA and EAF knowledge transfer activities such as copyright hour and community events such as webinars and cafes. And through social media we promote the communities themselves. We also worked with the ENA, her communities and EAF to better understand and support their planning for activities.

Activities that facilitates knowledge transfer of expertise (ie one-to-one support and helpdesk for CHIs, peer-to-peer support between aggregators) developed (bi-annual update) - in Y1 of the data space, DS AGG supported in total 109 CHIs from 27 countries (including 27 new CHIs collaborating with DS AGG). In the context of the work done by aggregators with CHIs, knowledge transfer plays an important role. As part of the quarterly broken link resolution process, aggregators help their partners to fix links. EFHA, Photoconsortium, AIT Graz and MCA are a few aggregators that worked on this with their partners in the last period. One-to-one support to work with IIF played an important role for AIT-Graz, BL and APEF, while more general support to improve or update the mapping is an ongoing concern for all Europeana DS aggregators. Talking about mapping updates also includes the support to add vocabulary terms to enrich metadata, work where AIT Graz, EFHA and DFF made progress. Beyond the technical and data related support, aggregators also support their partners in finding a sustainable aggregation route, e.g. CARARE helping CHIs from former projects in that regard.

Activities engaging networks and communities (IIF WG, DQ committee, ethics WG, accurate rights information) supporting the delivery of high quality data undertaken (bi-annual update) - we have

¹¹⁸ <https://pro.europeana.eu/post/apply-for-a-europeana-esach-bursary-for-europeanatech-2023>

¹¹⁹ <https://pro.europeana.eu/post/discover-how-esach-is-advancing-the-voice-of-youth-in-heritage>

supported the planning and development of activities within the IIF WG and community, and the DQC to deliver events that support the delivery of high quality data (see also Activity 1.2.3.).

Knowledge transfer delivered and peer-to-peer / one-to-one support provided (bi-annual update) - the DEN leadership programme was completed with a cohort of 16 participants from across Europe. (see also reporting for related ongoing outcome: Activities that facilitate knowledge transfer of expertise (i.e. one-to-one support and helpdesk for CHIs, peer-to-peer support between aggregators) developed (bi-annual update).

Europeana Communicators community¹²⁰ supported (bi-annual update) - the Europeana Communicators Community has fostered the translation of the Seven Tips for Digital Storytelling¹²¹. The Tips are now available in 13 languages. The Community also supported and contributed to the 2023 edition of the Digital Storytelling Festival (May 2023), as well as the webinar series to build communications and editorial confidence.

Europeana Climate Action Community supported (bi-annual update) - the Environmental sustainability practice¹²² task force of the community has designed, published, and is widely communicating about its Digital Information Management Survey¹²³. The survey aims to gather evidence to evaluate the sustainability of digital information management and preservation practices in European cultural heritage institutions. The community also ran a series of three workshops¹²⁴ in collaboration with Ki Culture¹²⁵ (April/May/June 2023), which explored climate action and better digital information management practices. Lastly, the community is contributing to the European Heritage Hub¹²⁶, a EU-funded project which will develop an autonomous advocacy and knowledge platform of cultural heritage stakeholders, and of which the Europeana Foundation is a partner. With its focus on the triple transformation of the cultural heritage sector (social, environmental and digital), the Community has mapped key policy issues on the intersection of digital and environmental transformation which will feed into the Hub's activities.

Reporting metrics: facilitate the provision of high quality data

No.	Description	Measured by	Frequency	Target	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023
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¹²⁰ <https://pro.europeana.eu/page/europeana-communicators-group>

¹²¹ <https://pro.europeana.eu/page/seven-tips-for-digital-storytelling>

¹²² <https://pro.europeana.eu/project/environmental-sustainability-practice-task-force>

¹²³ <https://pro.europeana.eu/post/is-your-digital-cultural-heritage-sustainable-tell-us-through-the-climate-action-community-survey>

¹²⁴ <https://pro.europeana.eu/post/embracing-sustainability-insights-from-the-europeana-ki-culture-sustainability-workshop-series>

¹²⁵ <https://www.kiculture.org/>

¹²⁶ <https://pro.europeana.eu/project/european-heritage-hub>

KPI 3.4	Aggregator satisfaction with data space products and services (accredited aggregators)	Total % of 'satisfied' and 'completely satisfied' responses on a 5-point Likert scale	Annually	75%	-	-	-	-	79.5%
KPI 3.5	CHI satisfaction with data space products and services	Total % of 'satisfied' and 'completely satisfied' responses on a 5-point Likert scale	Annually	75%	-	-	-	-	76%
RM 3.13	Participants attending Europeana training	Number of participants taking part in instructor led training using Europeana training resources (including training delivered by DS AGG and EF) (cumulative)	Quarterly	-	882	-	-	-	1,100
RM 3.14	Satisfaction rate of participants undertaking training	Total % of 'satisfied' and 'completely satisfied' responses on a 5-point Likert scale (cumulative)	Quarterly	-	86%	-	-	-	86%
RM 3.15	Reach to Europeana Communicato rs community	Number of people reached per month (Newsletter, LinkedIn, mailing list)	Quarterly	-	3,065	-	-	-	3,143
RM 3.16	Reach to Europeana Climate Action community	Number of people reached per month (Basecamp, mailing list)	Quarterly	-	372	-	-	-	445

RM 3.17	CHIs supported by DS AGG	Total number of CHIs supported by individual consultation (cumulative)	Quarterly	-	81	-	-	-	109
RM 3.18	Coverage of CHIs supported by DS AGG	Total number of countries that received support by individual consultation (cumulative)	Quarterly	-	28	-	-	-	27
RM 3.19	Outreach to CHIs	Total number of new CHIs collaborating with DS AGG (cumulative)	Quarterly	-	22	-	-	-	27

In this period, we completed a satisfaction survey with aggregators (KPI PI 3.4) with a good satisfaction rate of 79.5% of respondents being 'satisfied' and 'completely satisfied'. We asked about satisfaction with support and feedback offered by Europeana staff, speed of publication, error reporting mechanisms, quality of the data, quality of enrichments, media processing, Metis Sandbox (including documentation), Data Statistics dashboard, Working groups and related activities and also capacity building activities provided by EF. The satisfaction rate recorded is an average of the calculated score for each of these categories.

We also completed a survey that measured the satisfaction of CHIs (KPI 3.5) with a good satisfaction rate of 76% of respondents being 'satisfied' and 'completely satisfied'. We asked about satisfaction with various products (the rate is an average of the score allocated for each product): Europeana website, Europeana Pro website, Statistics dashboard, APIs, Metis Sandbox, events and training - responses were gathered only from participants who stated that they used our products (which surprisingly represented only a maximum of 34% of the overall number of respondents coming from the ENA). We also surveyed satisfaction with various aspects of the aggregation process, this data will be reported separately in Y2 as we will run the survey for longer.

Between May - Aug 2023, we organised 7 training sessions which saw 218 participants (on average 86% satisfaction rate).

Partner	Name of event	Activity	Location	Date
Training organised				
EI	Europeana-Ki Culture Sustainability Workshop	Workshop	Online	25/05/2023

	Series - #2 ¹²⁷			
EI	Europeana-Ki Culture Sustainability Workshop Series - #3 ¹²⁸	Workshop	Online	08/06/2023
MCA (MUSEU)	Methodologies for metadata semantic enrichment ¹²⁹	Workshop	Online	08/06/2023
Carare	Cultural heritage in 3D: Publishing 3D content in Europeana ¹³⁰	Workshop	Online	14/06/2023
MCA (MUSEU)	The ontology of Wikidata: how to interact with it for a better quality ¹³¹	Workshop	Online	20/06/2023
Carare	Cultural Heritage in 3D: Data capture and modelling in action ¹³²	Workshop	Online	24/07/2023
BL (Europeana Sounds)	Not just books: digital collections and resources ¹³³	Workshop	The British Library	25/08/2023

Task 3.6. Facilitate the reuse of high quality data

Partners: EF, EUN, EuroClio, F&F, DARIAH

Based on user research done over the past years, we know there are audiences who consistently use and reuse digital cultural heritage (e.g., professionals in aggregation and cultural heritage - both those who do and do not yet share data; education (primary, secondary, and tertiary) professionals; and researchers and students).

Specific efforts will be done to engage with educational communities (Activity 3.6.1.), academic and research communities (Activity 3.6.2.), as well as developer communities and API customers (Activity 3.6.3.).

Overview of outcomes: facilitate the reuse of high quality data

Partner	Outcomes	Progress	Due date
Activity 3.6.1. Engage with educational communities			

¹²⁷ <https://pro.europeana.eu/event/europeana-ki-culture-sustainability-workshop-series>

¹²⁸ <https://pro.europeana.eu/event/europeana-ki-culture-sustainability-workshop-series>

¹²⁹ <http://www.museuhub.eu/en/30/training-video>

¹³⁰ <https://www.carare.eu/en/events/webinar-on-publishing-3d-content-in-europeana/>

¹³¹ <http://www.museuhub.eu/en/30/training-video#st1688137557905>

¹³² <https://www.carare.eu/en/events/cultural-heritage-in-3d-data-capture-and-modelling-in-action/>

¹³³ <https://www.bl.uk/events/doctoral-open-days>

EUN	English version of the updated Digital Education with Cultural Heritage MOOC launched	Completed	Feb 2023
EuroClio	'Train the trainer event' organised	Completed	Mar 2023
EF	Annual Open Education Week: contribution added	Completed	Mar 2023
EF	All Digital Week campaign: contribution added	Completed	Mar 2023
EUN	Second language version (TBD) of the updated Digital Education with Cultural Heritage MOOC launched	Completed	Apr 2023
EUN	Europeana Education competition organised	Completed	May 2023
EuroClio	Historiana online self-paced course designed and piloted	Completed	May 2023
EUN	EUN national trainings organised (10 trainings)	Completed	Aug 2023
EuroClio	10 New learning materials and 15 new translations of existent content published on Historiana	Completed	Aug 2023
EUN	New stories of implementation/use and reuse on the Teaching with Europeana blog published (500 stories) ¹³⁴	Completed	Aug 2023
EF, F&F	3 Transcribathon events and 1 workshop organised per year	-	Ongoing
F&F	Transcribathon platform maintained	-	Ongoing
EF	Blogs and social media posts (LinkedIn, Facebook, Twitter) published	-	Ongoing
EF	Europeana Education community ¹³⁵ supported	-	Ongoing
Activity 3.6.2. Engage with academic and research communities			
EF	Research on digital cultural heritage as an emerging university subject completed	Completed	Aug 2023
DARIAH	Training resources for academic and research data users published on the SSHOC Marketplace	Completed	Aug 2023
EF	Europeana Research community ¹³⁶ and Research Advisory Board ¹³⁷ supported	-	Ongoing
EF	Outreach events for academic and research communities organised	-	Ongoing
EF	Capacity building on AI tools	Completed	May 2023

¹³⁴ Number of stories adjusted with EC (possibly lower number by Aug 2023).

¹³⁵ <https://pro.europeana.eu/page/europeana-education>

¹³⁶ <https://pro.europeana.eu/page/europeana-research>

¹³⁷ <https://pro.europeana.eu/page/research-advisory-board>

EF, DARIAH	DARIAH annual event: representation of the cultural heritage sector in programme committee	Completed	Jun 2023
EF	Liaison with other academic research and cultural communities developed and maintained (LIBER, GLAMLabs)	-	Ongoing
Activity 3.6.3. Engage with the developer communities and API customers			
EF	Capacity building resources for API users developed	Completed	Aug 2023
EF	API documentation maintained and updated	Completed	Aug 2023
EF	New business relationships to foster reuse of Europeana APIs created	-	Ongoing
EF	New integrations or updated integrations or reuse projects in collaboration with developers or creatives promoted through Europeana Pro and/or EF social media	-	Ongoing
EF	Europeana API services and capacity building resources presented at relevant CH events	-	Ongoing
EF	Changes/improvements of Europeana API services communicated to reusers	-	Ongoing
EF	FAQs, tutorials, and example API calls created and maintained in line with new API iterations	-	Ongoing

Second language version (TBD) of the updated Digital Education with Cultural Heritage MOOC launched (update) - The Romanian language version of the MOOC started on 27 Feb and finalised on 12 Apr 2023. 969 people from 68 countries registered, 605 people participated in the modules and 222 completed the course. 97% of participants rated the overall value of the course as “Good” or “Very good” and 87% agreed that they will use the ideas and examples presented in the course. The satisfaction rate with Europeana resources was the highest we ever obtained with 100%.

Europeana Education competition organised¹³⁸ - in collaboration with the 2023 STEM Discovery Campaign¹³⁹, the Europeana Education Competition 2023 was organised from Mar to Apr 2023. It invited teachers in primary, secondary and post-secondary education, vocational education and training (VET) and special education experts of any subject, museum educators, and other CHI professionals (like librarians, archivists, curators and other non-formal educators) – to find innovative ways of using Europeana arts and digital science heritage in their educational activities and to share their story of implementation about it. As a result of the competition, 184 participants from 19 countries made a submission and from those entries, 119 were eligible

¹³⁸ <https://euroclio.eu/event/engaging-educators-to-use-online-tools-online-self-paced-course/>

¹³⁹ <https://www.scientix.eu/events/campaigns/sdc23/competitions>

Stories of Implementation that will be published in the upcoming weeks on the Teaching with Europeana blog¹⁴⁰.

Historiana online self-paced course designed and piloted - The course aims to increase confidence in using Historiana and in teachers' digital competences. 20 people registered to join the course pilot, together with three trainers, a trainee, and three observers. In total, 5 participants completed the whole course, three with grades above 75%. The engagement rate of the second module was 70%, meaning that 14 participants completed the first two modules. The average time spent on the course by those participants who completed the five modules was 10 hours. All participants were aged between 35-60. Participants came from the following countries: Belgium, Georgia, Greece, Italy, Malta, Serbia, Slovenia, Slovakia, Spain, Sri Lanka, United Kingdom, USA. As a result of the pilot, three eLearning Activities are ready to be published on Historiana. From the feedback collected by participants, some adjustments will be made to run the course in Y2. Among the most important are: the course modules will be available throughout the year for self learning and once per year there will be a "live" version with moderation; the live version will focus every year on a specific topic; more examples, infographics and reading material will be added and videos will be cut in small pieces; and a new module to discuss what is high quality (history) education, and how Historiana can be used as a blended learning tool, will be added.¹⁴¹

EUN national trainings organised (10 trainings) - for the very first time, Europeana Education Ambassadors conducted training courses at local and national levels to train colleagues on the use and reuse of Europeana's resources. In total, more than 60 training courses took place in Croatia, Greece, Italy, Latvia, Malta, Portugal, Romania, Spain and Turkey, engaging over 1,600 formal and non-formal educators. During these training courses, participants had the opportunity to learn more about the Europeana Initiative, and how to search and use educational content made available through Europeana.eu and the Teaching with Europeana blog.

10 New learning materials and 15 new translations of existent content published on Historiana - a total of 5 new partners pages were created in Y1 on Historiana¹⁴² (Associazione culturale GoTellGo, Michael Culture Association, National Library of Serbia, National Library of Lithuania and National Library of Latvia). In total 24 new learning materials have been published from old and new partner pages. And 34 new language versions of existing materials have been produced in Croatian, Bosnian-Croatian-Montenegrin-Serbian language (BCMS), Spanish, French, Brazilian Portuguese and Slovakian¹⁴³.

New stories of implementation/use and reuse on the Teaching with Europeana blog¹⁴⁴ published (500 stories) - as a result of the national training courses and the Europeana Education Competition 2023, about 184 new Stories of Implementation were collected. Most of these stories are in

¹⁴⁰ <https://teachwitheuropeana.eun.org/updates/competition-winners-2023/>

¹⁴¹ A complete report about the results of the pilot is available on request.

¹⁴² <https://historiana.eu/partners>

¹⁴³ <https://euroclio.eu/wp-content/uploads/Content-made-with-Europeana-Digital-Collections.pdf>

¹⁴⁴ <https://teachwitheuropeana.eun.org/>

English, though for the first time, stories in Croatian, Greek, Italian, Latvian, Portuguese, Romanian and Spanish were also drafted. All these resources will be available online on the Teaching with Europeana blog. Curricula and time constraints of teachers to fill in the standardised template proved impossible to reach the high target set for Y1 (500 stories). EUN will mitigate the target in two ways. First, they will upload in the coming weeks the translated materials in German, Spanish, French, Italian, Polish, Portuguese, Romanian and Turkish of the Digital Learning in the pandemic booklet¹⁴⁵ to the Teaching with Europeana blog. This will increase the existing multilingual offer in the blog by four more languages. And secondly, for Y2 we will adapt the Stories of Implementation template to create 'microstories' that will be less time consuming for educators.

3 Transcribathon events and 1 workshop organised per year (annual update) - four online runs were organised during the reporting period (3 Stories of the Month¹⁴⁶ + 19th Century Run). Three hybrid events were organised (in conjunction with the EnrichEuropeana+ project¹⁴⁷). Two planned events with CHIs (Riga and Dublin) had to be postponed due to logistical issues on the partners' side.

Transcribathon platform maintained (bi-annual update) - technical support for the development as well as maintenance of the platform has been provided in conjunction with the Enrich Europeana Plus project.

Blogs and social media posts (LinkedIn, Facebook, Twitter) published (bi-annual update) - in the reporting period, EF published updates on the Europeana Education group on Facebook. The most popular post reached more than 3,000 people and was published by a community member and presents how to bring Europeana.eu resources to life by converting them to three-dimensional objects through a 3 steps procedure¹⁴⁸. We also posted updates on the Education LinkedIn group. One of the most popular posts promoted the Europeana Education Competition with a short video¹⁴⁹.

Europeana Education community supported (bi-annual update) - the most important community effort that kept the group engaged during the reporting period is the organisation of Low-Code Fest 2 (planned for Sep 2023)¹⁵⁰. More than 60 people registered to participate in the capacity building phase (Jun/Jul) and 6 teams submitted a project. During the first week of September a maximum of three teams will be selected to be involved in the final hackfest event on 22 Sep 2023.

¹⁴⁵ <https://pro.europeana.eu/post/digital-learning-in-the-pandemic-cultural-heritage-resources-by-and-for-educators>

¹⁴⁶ <https://europeana.transcribathon.eu/stories-of-the-month/>

¹⁴⁷ <https://pro.europeana.eu/project/enricheuropeana>

¹⁴⁸ <https://www.facebook.com/groups/EuropeanaEducation/permalink/1871885906526374/>

¹⁴⁹

https://www.linkedin.com/feed/update/urn:li:activity:7034890557600452608?utm_source=share&utm_medium=member_desktop

¹⁵⁰ <https://pro.europeana.eu/page/low-code-fest>

Research on digital cultural heritage as an emerging university subject completed - this research represents the first screening of university courses specifically designed to train students in digital cultural heritage, possibly as the future generation of cultural heritage professionals. Summer schools were also considered, together with the most recent job advertisements. EF will carry on the most substantial part of this research in Y2, publishing the results also in the form of recommendations. The recently launched internship - *New Professionals - Digital Cultural Heritage* - was designed to support this effort. It registered 40+ applications, which is approximately four times the average of applications for internships, probably due both to the topic and the interest in Europeana activities relating to academia.

Training resources for academic and research data users published on the SSHOC Marketplace - DARIAH, in collaboration with EF, released the first version of the workflow to publish 'Collections as Data' in the data space for cultural heritage.¹⁵¹ The workflow and the checklist at its basis reflect the requirements for the reuse of digital cultural heritage in academia and research, especially in combination with computational approaches. The workflow represents a concrete step forward to support CHIs in understanding and meeting these requirements, and the checklist is a guide for potential product development when focusing on the dataset level vs the item level. CHIs that take part in the GLAMLabs Community have tested the checklist applying it to a number of datasets (see below). In Y2, the workflow will be tested within the Europeana environment and presented at external conferences and workshops.

Europeana Research community and Research Advisory Board supported (bi-annual update) - the Research community currently hosts a working group who has worked to design a datasheet prototype to describe ML (Machine Learning) datasets, in collaboration with EuropeanaTech.¹⁵² This effort fits coherently in the ongoing overall effort to foster the 'Collections as Data' principles in the data space, in order to facilitate computational approaches to digital collections. The expert group recently submitted a scientific article to the 'Journal of Open Humanities Data', presenting the work carried out, and intend both to present it at conferences and develop it within a funded project. A reference to this expert group can be found in a recent interview with the Research Community chair for Europeana Pro.¹⁵³ Research Community members gave presentations on the data space at 1) the event 'Movable cultural heritage in digital form' organised by the Association of Museums of Slovenia - Section for museum documentation (in Slovenian, May 2023, and 2) the event 'Let's talk about data spaces' organised by EOSC support office Austria - HE Project EOSC Focus, May 2023. The Research Advisory Board contributed to reviewing the meta-analysis and the questionnaire for the inquiry on potential users' needs and behaviours in academia and research (contributing to market research starting in Y1).

Outreach events for academic and research communities organised (bi-annual update) - In May and Jun 2023, EF and DARIAH focused their efforts on the round table on AI tools and the DARIAH annual event (see the specific sections here below).

¹⁵¹ <https://marketplace.sshopencloud.eu/workflow/I3JvP6>

¹⁵² <https://pro.europeana.eu/project/datasheets-for-digital-cultural-heritage-working-group>

¹⁵³ <https://pro.europeana.eu/post/professionals-in-focus-steven-claeyssens>

Capacity building on AI tools - EF, the Research Community SG and the Research Advisory Board joined their efforts to organise a round table entitled *AI tools in perspective: the potential for cultural heritage institutions, the responses of DH researchers (May 2023)*¹⁵⁴, in response to the relevant flow of exchanges on related topics that happened on the community discussion list between Feb and Apr 2023. With three speakers and a discussant, the round table aimed to present experiences matured in each of the cultural heritage sector's main areas - libraries, museums, and archives - soliciting theoretical and practical points of views from a research angle. 220+ people signed up, 120 attended; the video recording on YouTube received 270+ views (by early August), a number much higher than the average reached by the communities' events. To meet the ENA's interest in AI, the Research SG is contributing to the organisation of another webinar, in collaboration with IFLA (International Federation of Library Associations and Institutions), planned for Oct 2023.

DARIAH annual event: representation of the cultural heritage sector in programme committee - This year's DARIAH annual event - *Cultural Heritage Data as Humanities Research Data?*¹⁵⁵ - was particularly relevant to the Europeana Initiative, and EF participated in the programme committee, two sessions and a panel. Specific contributions focused on the data space, the outcomes tailored for academic and research communities, the Europeana initiative, the platform and APIs. More than 200 participants, from over 30 different countries, joined the event (Budapest, Jun 2023); the presence of cultural heritage professionals, alongside researchers, was significant. There was also a strong representation from the ENA Research Community, for which the DARIAH Annual Event 2023 represents the major event of this year.

Liaison with other academic research and cultural communities developed and maintained (LIBER, GLAMLabs) (bi-annual update) - EF contributes to the LIBER WG on Digital Scholarship and Digital Cultural Heritage. Through online and in-person meetings, the WG made progress in designing a Digital Scholarship and Data Science in Libraries training material hub, in collaboration with the LIBER WG on Data Science. A minimum viable product was presented in a pre-conference workshop at the LIBER Annual Event 2023 (Budapest, July 2023).¹⁵⁶ EF also contributes to the GLAMLabs Community steering group, who further elaborated on the results of the workshop held in Oct 2022, with the aim to publish a scientific article. A pre-print was published on Arxiv.¹⁵⁷ The article was submitted to the 'Global Knowledge, Memory and Communication' Journal and already passed the peer-review process. With the workshop results and additional case studies, it represents a significant step to test the 'Collections as Data' approach proposed within the data space.

¹⁵⁴

<https://pro.europeana.eu/event/ai-tools-in-perspective-the-potential-for-cultural-heritage-institutions-the-responses-of-dh-researchers>

¹⁵⁵

<https://www.dariah.eu/2023/07/07/recap-of-the-annual-event-2023-cultural-heritage-data-as-humanities-research-data/#>

¹⁵⁶ <https://liberconference.eu/>

¹⁵⁷ <https://arxiv.org/abs/2304.02603>

Capacity building resources for API users developed - throughout the year we've developed an FAQ for API users on the Europeana Knowledge Base, which went live in August 2023¹⁵⁸. We also created tutorials on Fair Use with Europeana's APIs and using HTTP Headers for Europeana's APIs¹⁵⁹. Finally, a first version of EDM API training¹⁶⁰ was developed for the Learning Management System.

API documentation maintained and updated - requirements were gathered and a structure was set in place for moving the API documentation from Europeana Pro to JIRA Confluence. The migration of API pages started in Q2 of 2023 with the migration of the IIIF documentation¹⁶¹, harvesting and OAI-PMH documentation¹⁶², and the Entity API documentation¹⁶³. The migration will continue and conclude in Y2.

New business relationships to foster reuse of Europeana APIs created (bi-annual update) - new business relationships were explored with Amazon Alexa for integration of Europeana visuals in Alexa visual smart home devices, and with Clust-ER Innovate in Italy to see how inclusion of Europeana API capacity building can improve technical innovation in the Emilia Romagna region.

New integrations or updated integrations or reuse projects in collaboration with developers or creatives promoted through Europeana Pro and/or EF social media (bi-annual update) - all developers and creative reusers who worked on an integration using Europeana's APIs were offered the possibility of being interviewed about their work for promotion on Europeana Pro. This has resulted in three Europeana Pro news posts showcasing new and innovative integrations using the Europeana APIs¹⁶⁴.

Europeana API services and capacity building resources presented at relevant CH events (bi-annual update) - Europeana's API suite and its capacity building resources were presented at many different CH events over the past six months. Outreach to educators was made possible through presentations as part of the *Digital Education with Cultural Heritage MOOC*¹⁶⁵, which for the first year included a chapter and lesson on introducing APIs to the classroom. The Low-Code Fest 2022 started in June 2024, including three hours of capacity building sessions introducing APIs

¹⁵⁸ <https://europeana.atlassian.net/l/cp/Wg5GMy9h>

¹⁵⁹

<https://europeana.atlassian.net/wiki/spaces/EF/pages/2358673409/How+to+use+HTTP+Headers+to+authenticate+your+self+to+the+Europeana+APIs>

¹⁶⁰

<https://europeana.atlassian.net/wiki/spaces/EF/pages/2358673409/How+to+use+HTTP+Headers+to+authenticate+your+self+to+the+Europeana+APIs>

¹⁶¹ <https://europeana.atlassian.net/wiki/spaces/EF/pages/1627914244/Europeana+s+IIIF+APIs>

¹⁶² <https://europeana.atlassian.net/wiki/spaces/EF/pages/2324463617/Europeana+s+FTP+And+OAI-PMH+servers>

¹⁶³ <https://europeana.atlassian.net/wiki/spaces/EF/pages/2324561923/Europeana+Entity+API+documentation>

¹⁶⁴

<https://pro.europeana.eu/post/coding-apis-and-education-with-low-code-fest-winner-my-monastery-a-digital-adventure>, <https://pro.europeana.eu/post/coding-apis-and-education-with-low-code-fest-winner-vr-kobzar>, <https://pro.europeana.eu/post/coding-apis-and-education-with-low-code-fest-winner-a-gamified-experience-for-st-martin-cultural-heritage-route>

¹⁶⁵ <https://teachwitheuropeana.eun.org/updates/digital-education-with-cultural-heritage-mooc-2023/>

and their usage, for educators looking to enter the Low-Code Fest competition. Mentoring sessions were held as part of the InnoAir hackathon to support developers in using the Europeana APIs for their own integrations and new platforms.

Changes/improvements of Europeana API services communicated to reusers (bi-annual update) - the usual channels for publishing new API updates to users were used to update users, mainly through Github release notes.¹⁶⁶

FAQs, tutorials, and example API calls created and maintained in line with new API iterations (bi-annual update) - this work is explained in more detail under the outcome 'API documentation maintained and updated'.

Communication and dissemination activities

Partner	Name of event	Activity	Location	Date
INTEF/Ministry of Education Spain	EDUcharla 28: "Recursos Educativos Abiertos II: nutriendo de materiales digitales el aula" ¹⁶⁷	Panel discussion with experts in Spain on open educational resources where EF was invited to present our offerings	Online	24/05/2023
FYCMA	Culture and Museums International Tech Forum ¹⁶⁸	EF was invited to the discussion panel: Partnerships towards Co-Digitalization ¹⁶⁹	Malaga, Spain	19/06/2023
EUN	Europeana Data Space Workshop	Workshop with the Europeana Educators Ambassadors and the 29 winners of the Europeana Education competition. EF run capacity building workshop on the use of APIs in education as preparatory sessions for the Low-Code Fest 2 and a session on new Europeana developments for educators and feedback loop.	Brussels, Belgium	30-06/01-07/2023
EIT	Hackathon "InnoAir & Europeana: The Challenge of Sustainability and Social Justice" ¹⁷⁰	A hackathon with seven teams from across Europe were invited to develop and showcase their integration during the InnoAir hackathon, potentially re-using Europeana datasets through Europeana's API for new innovative applications	Sofia, Bulgaria	08/06/2023
DARIAH	Lesson for Bachelor	Presentation on Europeana re-user	Athens,	05/05/

¹⁶⁶ <https://github.com/europeana/api2/releases>

¹⁶⁷

https://intef.es/educharlas_intef/educharla-28-recursos-educativos-abiertos-ii-nutriendo-de-materiales-digitales-el-aula/

¹⁶⁸ <https://cmmalaga.fycma.com/>

¹⁶⁹ <https://cmmalaga.fycma.com/wp-content/uploads/2023/03/Jornadas-Tecnicas-Profesionales-CM-2023.pdf>

¹⁷⁰

<https://innoair-sofia.eu/en/challenges/97-challenges/407-hackathon-%E2%80%9Cinnoair-europeana-the-challenge-of-sustainability-and-social-justice%E2%80%9D.html>

	course at the Pantheon University of Social and Political Sciences	services and Europeana Research.	Greece	2023
DARIAH	Datification in libraries, workshop	Presentation on datification in libraries, with some exercises based on the inquiry: What is a dataset?	Belgrade, Serbia	26/05/2023
DARIAH	Guest lecture for the Executive Master in Digital and IT Essential at the universities of Brussels ULB-VUB	Lecture on: Digital Intersections - when cultural heritage, digital humanities and research infrastructures meet.	Online	26/05/2023
EF/ DARIAH	DARIAH Annual Event ¹⁷¹	An entire event dedicated to cultural heritage data which brought together academics, researchers and cultural heritage practitioners committed to working at the European level. A joint presentation and contributions to the final panel addressed the Europeana platform and APIs, the Europeana Research Community, and the data space for cultural heritage.	Budapest, Hungary	6-9/06 2023
DARIAH	Conference of European National Librarians (CEN), Annual General Meeting	Presentation on national libraries as data infrastructures, also in the context of the data space for cultural heritage.	Paris, France	20/06/2023
EF	CLARIAH Tech & Data Day ¹⁷²	Contributions on the European perspective within the panel on the research infrastructures' developments vs the needs of data-intensive humanities research.	Leiden, NL	29/06/2023
EF/ DARIAH	DH2023 Pre-conference symposium: The Future of Cultural Heritage Information and Visualization ¹⁷³	A paper and a contribution to the final panel addressing the Europeana ecosystem, the platform and APIs, and the data space for cultural heritage. The symposium was organised by the INTAVIA project, which developed a tool for analysis and visualisation also harvesting data from Europeana.eu	Graz, Austria	09/07/2023
EF	La Digitalizzazione del Patrimonio Culturale ¹⁷⁴	Event organised by the Cluster Innovate of the Emilia Romagna Region on the	Online	18/07/2023

¹⁷¹ <https://annualevent.dariah.eu/documents/2023-cultural-heritage-data-as-humanities-research-data/>

¹⁷² <https://www.clariah.nl/events/open-tech-and-data-day>

¹⁷³

<https://intavia.eu/smashing-the-silos-the-future-of-cultural-heritage-information-visualization-kunsthau-graz-austria-on-july-9th-2023/>

¹⁷⁴ <https://innovate.clust-er.it/bando-la-digitalizzazione-del-patrimonio-culturale/>

		publication of the call for projects for the digitisation of cultural heritage. (In Italian)		
EF/ DARIAH	Big Ideas, Challenging Questions. IFLA Satellite Conference - Art Libraries Section ¹⁷⁵	A keynote, a lightning talk and a contribution to the final panel, about the data space for cultural heritage, the Europeana Research Community, the platform and the APIs.	Amsterdam, NL	17-19/08/2023

Reporting metrics: facilitate the reuse of high quality data

No.	Description	Measured by	Frequency	Target	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023
KPI 3.6	Educators reached in national training events ¹⁷⁶	Total number of educators (cumulative)	Bi-annually	TBC ¹⁷⁷	-	-	-	-	1,638
KPI 3.7	Satisfaction rate of educational communities	Total % of 'satisfied' and 'completely satisfied' responses on a 5-point Likert scale (cumulative)	Quarterly	75%	76%	-	-	-	88%
KPI 3.8	API users (external)	Total number of (external) API users per month	Monthly	175	165	182	141	170	117
RM 3.20	New learning resources for education	Total number of new resources using Europeana data (cumulative)	Quarterly	-	69	-	-	-	261
RM 3.21	Language variations of existing learning resources	Total number of new translations of learning resources (cumulative)	Bi-annually	-	-	-	-	-	34

¹⁷⁵ <https://www.rijksmuseum.nl/en/whats-on/lectures-symposiums/big-ideas-challenging-questions>

¹⁷⁶ Y1 includes educators reached by EUN training; Y2 will include both educational partners (EUN and EuroClio). EuroClio will first build capacity in Y1 by training the trainers to enable trainers to reach educators through national training in Y2.

¹⁷⁷ EF will use the first measurements to identify targets.

RM 3.22	Participants completing the online courses ¹⁷⁸	Total number of participants (cumulative)	Bi-annually	-	222	-	-	-	367
RM 3.23	Traffic to educational platforms (TwE blog and Historiana)	Number of visits to educational resources (cumulative)	Bi-annually	-	-	-	-	-	165,707
RM 3.24	Reach to Europeana Education community	Number of people reached per month (mailing list, LinkedIn, Facebook)	Quarterly	-	11,001	-	-	-	11,400
RM 3.25	Outreach events to academic and research communities organised	Total number of events delivered (cumulative)	Quarterly	-	3	-	-	-	5
RM 3.26	Reach to Europeana Research community	Number of people reached per month (Discussion list, Twitter)	Quarterly	-	7,085	-	-	-	7,272
RM 3.27	API usage (REST API)	Total number of requests per month (external traffic)	Monthly	-	17.9 million	18.0 million	14.4 million	14.0 million	10.5 million
RM 3.28	API sign-ups (REST API)	Number of API sign-ups per month (cumulative)	Quarterly	-	504	-	-	-	781

In Y1, educational audiences were very satisfied with the offer with 88% of respondents being 'satisfied' and 'completely satisfied'. We saw in total 295 new learning resources (including translations) and 2,005 people were 'trained' in MOOCs and national training. Educational platforms (TwE blog and Historiana) had 164,000+ visits. In Y1, we organised 5 events for

¹⁷⁸ Y1 will include participants completing the online courses (MOOCs) organised by EUN. In Y2 this metric will also count participants of the Historiana online course done by EuroClio.

academic and research audiences reaching 7,200+ people. In Y1, the Europeana REST API (which includes Europeana's main APIs allowing users to build applications with our collections) had on average of 165 users and over 17.1 million requests per month.

Work package 4: Digital services for the public

Experience from Europeana DSI-4 shows that the primary audiences for the data space are overwhelmingly cultural heritage professionals, and, even more successfully, educators, researchers, and students. The foundation for the data space for cultural heritage is the well-established Europeana website. Specific attention going forward will be given to how EF can better serve current audiences and position the data space as an attractive option to new audiences (media, tourism, cultural/creative industries). This will involve continued optimisation (and communication) of existing functionalities and exploring additional features, with input and feedback from audiences, and determining where to focus our efforts (Task 4.1).

The consortium will also engage audiences with digital cultural heritage by expanding pan-European themes and perspectives, inspiring use, reuse, and participation, and communicating activities to audiences (Task 4.2).

Task 4.1. Deliver high-performing Europeana website

Partners: EF

Europeana.eu offers pan-European content to anyone with an interest in cultural heritage. We will ensure the website is easy to access, functions well on all devices, and is ready to take advantage of 5G infrastructure as it continues to expand across Europe. (Activity 4.1.1.)

EF aims to turn new visitors into returning visitors by improving the findability of content (Activity 4.1.2. - 4.1.4., Activity 4.1.6.), by extending user participation features (Activity 4.1.5) and optimising the user feedback mechanism (Activity 4.1.7).

The majority of visitors come to the website to search - EF will continue to improve our search accuracy by adjusting our algorithm, extending our filters, and expanding multilingual coverage of our content.

To encourage use and reuse of materials visitors can find on the website, EF will introduce new and extend existing participation features, and invest in communication mechanisms to regularly remind people of what they can find and reuse on the website.

Overview of outcomes: deliver high-performing Europeana website

Partner	Outcomes	Progress	Due date
Activity 4.1.1. Optimise the responsiveness of the website			
EF	Website look good on every screen (including mobile)	Completed	Jun 2023
EF	Website is fully responsive and 5G-ready (implementation)	-	Ongoing

Activity 4.1.2. Optimise search experience, prioritising relevance and data quality			
EF	Tuning the weight of different fields in ranking (M-F8) (two iterations deployed)	Completed	Mar 2023
EF	Item-page level search within transcriptions	Completed	Mar 2023
EF	Re-activating advanced search (filters) (M-F14)	Completed	May 2023
EF	Search within subtitles (FT-F5)	Completed	Jun 2023
EF	Reinstating search logs and associated evaluation metrics (EVAL-5, EVAL-6, EVAL-7)	Completed	Aug 2023
EF	Search relevance and performance maintained	-	Ongoing
Activity 4.1.3. Optimise browse experience to improve content discovery			
EF	Place entities exist on the website	Completed	Dec 2022
EF	Design of the Theme pages expanded	Completed	Dec 2022
EF	Tooltips introduced	Completed	May 2023
Activity 4.1.4. Expand multilingual coverage to include all EU official languages			
EF	Refine our approach for prioritising translations of editorial pieces and share with EC for discussion	Completed	Dec 2022
EF	Approach(es) and workflow(s) for the validation of website translations in operation	Completed	Dec 2022
EF	Further evaluation and integration with the eTranslation service completed ¹⁷⁹	Completed	Aug 2023
EF	Multilingual search infrastructure expanded with search results translation (in the context of the Spanish pilot)	Completed	Aug 2023
EF	ENA/EAF engaged to support validation of static translations on europeana.eu	-	Ongoing
EF	Multilingual coverage of editorial content increased	-	Ongoing
EF	Maintain user interface translations in supported languages	-	Ongoing
Activity 4.1.5. Extend user participation features			
EF	Compliance with data protection maintained ¹⁸⁰	-	Ongoing

¹⁷⁹ Dependencies with the Europeana Translate project delayed the planned actions for working with the eTranslation service. EF has exchanged information on progress and challenges in July 2023 and will continue to work on this outcome in Y2 with the eTranslation team.

¹⁸⁰ According to the Regulation (EU) 2018/1725 concerning the processing of personal data by the EU institutions (IDPR).

Activity 4.1.6. Optimise user interaction and display of content			
No outcomes are planned to be completed in Y1.			
Activity 4.1.7. Optimise user feedback mechanism			
EF	Precise and informative error messages for broken links available	Completed	Nov 2022
EF	FAQ for people using the website available in 24 EU languages	Completed	Dec 2022
EF	Current feedback mechanism is consolidated and extended to other data space's products	Completed	Aug 2023

Website look good on every screen (including mobile) - we are seeing that more people use large screens to view the website, therefore we decided to implement a gridless design that responds well to every screen size. All the main pages on the website are now gridless and look good on small and large screens.

Website is fully responsive and 5G-ready (implementation) (bi-annual update) - we ensure that the website is fully responsive and looks good on small screens like mobile phones, and also tablets and desktops and very large screens like a television. We are also continuously ensuring that our website performs well i.e. is accessible at any time and loads quickly.

Re-activating advanced search (filters) (M-F14) - to improve the search experience for everyone and especially our professional audience who understand the data structure and therefore have clever ways to find what they are looking for, we implemented an advanced search. It allows people to search for keywords in specific EDM fields making it easier to narrow down the results with more precision than with the regular filters. It also enables people to create advanced search queries where people can choose to include and exclude search terms from their query. See the advanced search feature on the search results page of the website.¹⁸¹

Search within subtitles (FT-F5) - we added a functionality to allow people to search for keywords within video subtitles. This functionality is available as part of the advanced search. To access it one needs to select 'fulltext' as the field, 'contains' as the modifier and type in a search term. To limit the results to only video subtitles select 'video' in the 'type of media' filter.¹⁸²

Reinstating search logs and associated evaluation metrics (EVAL-5, EVAL-6, EVAL-7) - following our search strategy, we have identified data-based search performance metrics and requirements in terms of logging search-related user actions, which will enable us to (1) refine our evaluation of deployed search features; (2) acquire data for developing future (AI-based) improvements. A first

¹⁸¹ <https://www.europeana.eu/en/search?query=&view=grid>

¹⁸²

<https://www.europeana.eu/en/search?page=1&q=fulltext%3A%28rabbit%29&qf=TYPE%3A%22VIDEO%22&query=&view=grid>

set of the required signals are now logged from the website, which will enable us to start acquiring data and compute some of the metrics identified.

Search relevance and performance maintained (bi-annual update) - several improvements were made in different areas of search in this period, most of them reported as specific outcomes as part of the PM. Implementation plan (Activity 4.1.2.). Specifically, this includes changes in the ranking to boost the contents in the title of the records (M-F14), the availability of an advanced search functionality that allow users to search using different fields (M-F8), the availability of subtitles for search (FT-F5) together with newspapers and transcriptions (functionality now included in advanced search), and the first iteration to reinstate search logs (EVAL-5/6/7) to measure search effectiveness and usage. Besides these improvements, we have also improved the documentation of the infrastructure, as well as the search guidelines (not published yet) for users of our portal and API.

Tooltips introduced - across the website we added tooltips to various functionalities to clarify what the functionality does, which should make it easier for people to interact with the website. The tooltips are labelled with an 'i' for information and are available in all languages of the website. One can find the tooltips on the search results page, item page and in the 'my profile' section which is behind login. We will continue to add tooltips to new functionalities that benefit from further clarification.

Further evaluation and integration with the eTranslation service completed - in this period, we had discussion with eTranslation on how the service can be integrated in the data space services, for both on-the-fly and asynchronous translation. eTranslation will seek to incorporate the data that was used to train the Europeana Translate engine. EF has also examined the documentation and specification for the eTranslate services, identified and communicated requirements and current blockers (esp. the essentially asynchronous nature of the service) and opportunities (using eTranslation's language detection feature).

Multilingual search infrastructure expanded with search results translation (in the context of the Spanish pilot) - the feature has been implemented in the website and the underlying API. We enabled multilingual search with real-time translation of search queries and search results in the context of the Spanish pilot¹⁸³. We will monitor usage and be ready to take mitigation actions, should the requests exceed the translation quota (e.g. restricting translations to logged in users).

ENA/EAF engaged to support validation of static translations on europeana.eu (bi-annual update) - In May 2023 we contacted EAF members asking for support in making europeana.eu more accessible in their language. The majority (95%) of these aggregators responded positively and provided translations of the most common terms we use on the website. The received terms have been updated across the website accordingly.

¹⁸³ <https://www.europeana.eu/es>

Multilingual coverage of editorial content increased (bi-annual update) - editorial stories on the Europeana website are available in all 24 EU languages. In Y1, we added 45 stories in at least two EU languages, including 8 stories in all 24 EU languages. Additionally, EF curated 6 galleries in all 24 EU languages and 11 galleries in more than one language. In Y1, this amounted to 38% of stories published in more than one language, and 7% of stories published in all EU languages.

In Y1, we piloted a new approach to multilingual editorial which will be consolidated in Y2. Stories are currently translated in three ways: internally, inviting colleagues to validate machine translation via eTranslation; externally, inviting authors with multilingual skills to provide their stories in English and their own languages, as well as working with some aggregators to validate machine translation via eTranslation; and paid translations from professional translators, using the Translated.com agency.

Maintain user interface translations in supported languages (bi-annual update) - the website is available in 25 European languages (the 24 official EU languages and Basque). We translate all new functionalities in all languages to ensure that the website is fully multilingual. To improve the accuracy of the translations we simplified and unified the English terms that we use - we asked our aggregators to review and correct the translations of the most common terms we use on the website and updated the website accordingly.

Compliance with data protection maintained (bi-annual update) - we ensured compliance of our websites with the IDPR by maintaining a cookies system that is respectful of our websites visitors' privacy, and updating forms and privacy statements where necessary.

Current feedback mechanism is consolidated and extended to other data space's products - we started the process by reviewing all the channels in our organisation for collecting user feedback. Then we consolidated the backend infrastructure that supports the user feedback mechanism. Now all user feedback is collected using the Jira service desk application. This makes it easier to streamline how we process, reply and analyse the user feedback across the organisation.

Reporting metrics: deliver high-performing Europeana website

No.	Description	Measured by	Frequency	Target	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023
KPI 4.1	Traffic to the website	Number of visits per year (cumulative)	Monthly	6.5 million	3.8 million	4.3 million	4.8 million	5.2 million	5.7 million
KPI 4.2	User satisfaction rate with Europeana website	Total % of 'satisfied' and 'completely satisfied' responses on a 5-point Likert scale	Bi-annually	75%	-	71%	-	-	-

RM 4.1	Multilingual coverage of editorial content	Percentage of stories (blogs and exhibitions) published in more than one language during contract year	Annually	-	-	-	-	-	38%
RM 4.2	Multilingual coverage of editorial content	Percentage of stories (blogs and exhibitions) published in all 24 EU languages during contract year	Annually	-	-	-	-	-	7%
RM 4.3	User participation: accounts	Number of account holders (cumulative)	Quarterly	-	24,170	-	-	-	27,549
RM 4.4	User participation: accounts	Number of items liked by users (cumulative)	Quarterly	-	27,985	-	-	-	31,760
RM 4.5	User participation: galleries	Number of user-created galleries (cumulative)	Quarterly	-	6,559	-	-	-	7,267
RM 4.6	Downloads on the Europeana website	Total number of downloads (cumulative)	Quarterly	-	114,486	-	-	-	200,884
RM 4.7	Average of initial response time to user feedback	Number of hours	Quarterly	-	10.5	-	-	-	5.5
RM 4.8	Average of total resolution time to user	Number of hours	Quarterly	-	19.1	-	-	-	11.7

feedback (excl. user feedback where the responsibility lies outside of Europeana DS consortium)									
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Task 4.2. Engage audiences with digital cultural heritage

Partners: EF, DS AGG

Under this task, EF will expand digital opportunities for the public by driving participation with cultural heritage (Activity 4.2.1) in and around the data space. EF will work with consortium members, cultural heritage institutions and other partners to produce impactful content on pan-European themes and perspectives (Activity 4.2.2). EF will promote engaging, high-quality cultural heritage and editorial content on the Europeana website, via its social media channels, newsletters and on external platforms (Activity 4.2.3).

Overview of outcomes: engage audiences with digital cultural heritage

Partner	Outcomes	Progress	Due date
Activity 4.2.1. Drive participation with cultural heritage			
EF	GIF IT UP organised	Completed	Oct 2022
EF	Digital Storytelling Festival organised	Completed	Jun 2023
EF	Europeana website (incl. account functionality, user-created galleries) promoted	-	Ongoing
EF	High-quality open access data promoted, including 3D	-	Ongoing
EF	Digital Storytelling Festival Online Creative Residency	Completed	Aug 2023
EF	World Festival of Cultural Diversity	Completed	May 2023
Activity 4.2.2. Broaden impact of cultural heritage by expanding pan-European themes and perspectives			
EF, DS AGG	Editorial content (exhibitions, blogs, and galleries) ¹⁸⁴ published and promoted	-	Ongoing

¹⁸⁴ Editorials from data space supporting projects contribute to this outcome.

EF	Collaborations with European Union initiatives sharing cultural heritage promoted	-	Ongoing
Activity 4.2.3. Communicate the data space for cultural heritage activities			
EF	Newsletter and social media posts (Facebook, Twitter, Instagram, Medium, Pinterest) published ¹⁸⁵	-	Ongoing
EF	Compliance with data protection maintained	-	Ongoing

Digital Storytelling Festival organised - this year saw the third edition of the Digital Storytelling Festival¹⁸⁶, an international event encouraging cultural heritage professionals, educators, creatives, and students from Europe and beyond to boost their storytelling skills and tell stories exploring culture. This year's event attracted over 800 registrations from 51 countries (top countries being Greece and Romania). The event ran over two days, with nine sessions and 16 external speakers, along with a team from EF. Sessions covered multi-sensory storytelling, Black history, LGBTQ+ archives, storytelling for mental health and well-being and artificial intelligence in storytelling. 440 unique participants joined in total, 200 of whom responded to the post-event survey, giving a combined event satisfaction rate of 79.65%.

*Digital Storytelling Festival Online Creative Residency*¹⁸⁷ - this year, EF worked with a small group of participants in our first Digital Storytelling Festival Online Creative Residency (which saw 45 applications). The programme brought together eight students and new professionals who wanted to gain storytelling skills in a professional setting together with four experts in a range of formats - writing/creative writing, animation and social media. Together, the group produced content exploring LGBTQ+ and celebrating queer stories, narratives and cultural heritage from all around Europe to be shared by Europeana as part of our contribution to Pride month in June 2023.¹⁸⁸ For participants, this wasn't just an opportunity to have their work published, it was a chance to explore queer culture, and for some, to feel accepted within that culture. One participant told us that, '*Being part of the queer narrative through a creative process made me feel part of queer culture, and doing so made me feel more comfortable with my queer identity and my sexuality. In the end, feeling you have a queer heritage is very important.*'

World Festival of Cultural Diversity - the event was a global, synchronised celebration of cultural diversity organised by the Khalili Foundation with a programme of events and activities leading up to the UN World Day for Cultural Diversity for Dialogue and Development in May 2023. EF took part by sharing stories relating to diversity in European culture and created a special section on

¹⁸⁵ Editorials from data space supporting projects are promoted.

¹⁸⁶ <https://pro.europeana.eu/event/digital-storytelling-festival-2023>

¹⁸⁷

<https://pro.europeana.eu/post/digital-storytelling-festival-online-creative-residency-boosts-students-and-professionals-storytelling-skills>

¹⁸⁸ See

<https://pro.europeana.eu/post/animations-social-media-stories-and-new-writing-created-with-digital-storytelling-festival-online-creative-residency>

the Europeana website dedicated to the festival. Each week between Feb and May 2023, we published regular stories highlighting Europe's diverse cultures through the themes of the festival: cross-cultural exchange, under-represented cultures and European cultural expressions. The dedicated festival page on Europeana.eu, as well as the stories featured in the festival, were visited more than 27,000 times between Feb and June 2023.

Europeana website (incl. account functionality, user-created galleries) promoted (bi-annual update) - this year, we supported the editorial translation efforts with multilingual promotion. During Jul and Aug 2023, we promoted the 'Stories' landing page in seven languages with the most translated content (Romanian, Polish, Italian, French, Spanish, Dutch, German). For languages with a smaller number of translated pieces, we promoted individual blogs and exhibitions. The promotion of the account and the gallery making functionality became embedded in our various activities. We featured two galleries created by users in our monthly newsletter alongside a call to action to create your own. We also added a call to action to create galleries while promoting galleries on social media. Gallery creation was also promoted during reuse and storytelling online events and workshops: GIF IT UP, Digital Storytelling Festival Creative Online Residency, Hatathon 4.0: Ukraine Heritage Edition.

High-quality open access data promoted, including 3D (bi-annual update) - new high quality datasets were featured in the GIF IT UP featured collections section¹⁸⁹, encouraging people to use them in their animations. We created a series of animated stickers and cards on GIPHY¹⁹⁰ around various topics: Christmas, Easter, Pride Month, Dutch King's Day, Summer, Spring flowers. In Jan and Feb 2023, three artworks from Albertina were featured in DailyArt App, celebrating the museum putting their collection in public domain.

Editorial content (exhibitions, blogs, and galleries) published and promoted (bi-annual update) - editorial content was published during this period connecting history and culture across borders to contemporary themes and events, such as social issues, historical anniversaries and current events. In total, 118 new editorials were published in Y1: 110 blogs (e.g. 5 buildings that have been both mosques and churches¹⁹¹, Seven pioneering women authors from Spain¹⁹²) and 8 exhibitions (e.g. Napoleon and botany¹⁹³, Humans of Crafts¹⁹⁴). In addition to EF, the editorials were created by 52 different organisations and individuals across Europe and editorial was contributed by 9 data space supporting projects or generic services projects (ARMA, CRAFTED, Enrich Europeana +, EUreka3D, Europeana Sport, Jewish History Tours, Migration in the Arts and Sciences, Europeana Subtitled, WEAVE).

¹⁸⁹ <https://gifitup.net/en/art/>

¹⁹⁰ <https://giphy.com/europeana/vintage-xmas-stickers>, <https://giphy.com/europeana/vintage-christmas-cards>

¹⁹¹ <https://www.europeana.eu/blog/5-buildings-that-have-been-both-mosques-and-churches>

¹⁹² <https://www.europeana.eu/blog/seven-pioneering-women-authors-from-spain>

¹⁹³ <https://www.europeana.eu/exhibitions/napoleon-and-botany>

¹⁹⁴ <https://www.europeana.eu/exhibitions/humans-of-crafts>

In Mar, Jun and Jul 2023 respectively, EF organised editorial campaigns on women's history, LGBTQ+ history and histories of people with disabilities. Between Feb and May 2023, EF ran an editorial campaign to support the World Festival of Cultural Diversity (detailed above).

Collaborations with European Union initiatives sharing cultural heritage promoted (bi-annual update) - Built with Bits¹⁹⁵, contributed to the New European Bauhaus movement by inviting students and educators to design spaces with Mozilla Hubs (reported under Activity 3.6.1. Engage with educational communities).

Newsletter and social media posts (Facebook, Twitter, Instagram, Medium, Pinterest) published (bi-annual update) - this year, we rolled out multilingual activities on social media: targeting specific language speakers on Facebook and inviting them to explore translated content on our website. We also started the process of multilingual tagging of GIFs and stickers on GIPHY to make them findable by speakers of various languages. We continued using Facebook events as a way to promote events to wider audiences as well as new Instagram reminder posts. We also started using the new functionality of collaborative posts together with generic service projects, to increase their reach and better align messaging.

Compliance with data protection maintained (bi-annual update) - we ensured compliance of our activities with the IDPR, including by maintaining and updating privacy statements, ensuring that the third party tools we rely on are compliant, and setting up the necessary processes.

Communication and dissemination activities

Partner	Name of event	Activity	Location	Date
Deutsche Nationalbibliothek Leipzig	International Association of Music Libraries, Archives and Documentation Centres (IAML) Congress	Panel on digital and physical music exhibitions – tools and experiences, presentation ‘Connecting with audience - digital storytelling at Europeana’ ¹⁹⁶	Cambridge, United Kingdom	01/08/2023
House of Europe, Goethe-Institut Ukraine, and Digitizing.Space	Hatathon 4.0: Ukraine Heritage Edition ¹⁹⁷	A workshop about curating and storytelling exploring Europeana’s gallery creating functionality and 7 storytelling tips.	Online	26/07/2023

Reporting metrics: engage audiences with digital cultural heritage

No.	Description	Measured by	Frequency	Target	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023

¹⁹⁵ <https://pro.europeana.eu/page/built-with-bits-designing-virtual-spaces-for-the-future>

¹⁹⁶ <https://iaml2023.org/programme-outline/>

¹⁹⁷ <https://hatathon.houseofeurope.org.ua/en>

KPI 4.3	Audience satisfaction with editorial (exhibitions, blogs)	Total % of 'satisfied' and 'completely satisfied' responses on 5-point Likert scale (cumulative)	Quarterly	80%	82%	-	-	-	89%
KPI 4.4	Social media reach	Total number of impressions on social media (Facebook, Pinterest, GIPHY, Instagram, Twitter, Medium, LinkedIn) (cumulative)	Monthly	425 million	275.3 million	306.1 million	346.8 million	390.0 million	431.8 million
RM 4.9	Participation in Digital Storytelling Festival	Number of registered participants for Digital Storytelling Festival events	Annually	-	-	-	-	440	-
RM 4.10	Participation in GIF IT UP	Total number of submitted GIFs	Annually	-	-	-	-	-	-
RM 4.11	Traffic to exhibitions and blogs	Number of visits to all exhibitions and blogs (cumulative)	Quarterly	-	851,496	-	-	-	1,425,936
RM 4.12	Social media engagement	Total number of likes, shares, comments per month (Facebook, Twitter, Pinterest, Instagram, Medium, LinkedIn)	Monthly	-	217,012	319,659	255,141	420,096	302,981

Work package 5: Programme management

EF will provide high-quality programme management of the data space for cultural heritage, including continuous progress monitoring and reporting (task 5.1). We will work closely with the European Commission, the Commission Expert Group on the Common European Data Space for Cultural Heritage (CEDCHE) and its subgroups to review activities and developments of the data space for cultural heritage (task 5.2.).

We will coordinate the relations with the projects funded under the Digital Europe, Horizon 2020 and Horizon Europe programmes and ensure the smooth integration of their results into the data space for cultural heritage (task 5.3.).

Finally, EF will support phasing-out and transfer processes to a successor contractor if a contract takeover is required (task 5.4.).

Task 5.1. Ensure continuous progress monitoring and reporting

Partners: EF

Under this task, EF will manage and coordinate the programme as described in the tender and in the work package sections of this implementation plan. [Annex: Progress on deliverables](#) provides an overview of completed and upcoming deliverables.

Major changes in staff

Since July 2023, Europeana DS consortium partner AIT Vienna has new managing directors.¹⁹⁸

Risk management

Risk management is an essential part of the data space programme management. EF has a risk management approach in place for managing risks throughout the contract that nominates relevant people responsible¹⁹⁹. [Annex: Risk log](#) includes an assessment of risks with risk responses and other relevant details. The Risk log will be updated periodically and an updated version will be provided to the EC via the PM. Periodic reports and/or ad hoc via direct communication (for example, via email, if needed).

Balance of efforts

The table below provides an overview over the balance of efforts for Y1 (Sep 2022 - Jul 2023²⁰⁰) of the data space. It states the foreseen and actual percentages of resources allocated to each of the five work packages and its related tasks.

¹⁹⁸ <https://www.ait.ac.at/kontakt/managing-directors>

¹⁹⁹ A RACI (Responsible, Accountable, Consulted, Informed) approach will be used for this purpose.

²⁰⁰ The final balance of efforts, with numbers up until the end of Aug 2023, will be added to a revised version of this report (once numbers are available).

Work packages & tasks	Foreseen % of the full contract value	Actual Jul 2023
WP 1: Development and operation of the data space infrastructure	25.4%	24.9%
Task 1.1 Provide reliable data space infrastructure and quality of services	22.7%	22.2%
Task 1.2 Foster innovation, interoperability & compliance with other data spaces	2.7%	2.7%
WP 2: Integration of high-quality data	17.8%	19.3%
Task 2.1 Develop and manage data governance mechanisms	3.6%	4.4%
Task 2.2 Data acquisition and data improvements	10.9%	11.3%
Task 2.3 Automated approaches towards data quality	3.3%	3.6%
WP 3: Capacity building and fostering reuse	30.6%	31.1%
Task 3.1 Enhance cooperation throughout the Data Space	4.4%	5.6%
Task 3.2 Identify needs of user groups	1.7%	1.4%
Task 3.3 Build awareness and engagement	6.9%	6.5%
Task 3.4 Develop capacity building as a service	3.9%	3.7%
Task 3.5 Facilitate the provision of high quality data	4.4%	4.8%
Task 3.6 Facilitating the reuse of high quality data	9.3%	9.1%
WP 4: Digital services for the public	18.7%	18.2%
Task 4.1 Deliver high-performing Europeana websites	11.8%	10.4%
Task 4.2 Engage audiences with digital cultural heritage	6.9%	7.8%
WP 5: Programme management	7.5%	6.5%
Task 5.1 Ensure continuous progress monitoring and reporting	6.0%	5.5%
Task 5.2 Governance	0.6%	0.4%
Task 5.3 Manage relations with other EU-funded projects	0.7%	0.6%
Task 5.4 Phasing-in and phasing-out periods	0.2%	0.05%
TOTAL	100%	100%

Task 5.2. Governance

Partners: EF

Under this task, EF will report regularly to the European Commission and, by invitation, to the Commission Expert Group on the Common European Data Space for Cultural Heritage (CEDCHE) on the status of the data space activities and developments, risks and performance indicators.

The Commission and EF will meet monthly in Operational Management Board (OMB) meetings to review and discuss deliverables, operational matters, contractual matters, coordination and other implementation aspects.

A CEDCHE meeting was held on 4-5 July 2023²⁰¹ with EF representing the common European data space for cultural heritage.

Task 5.3. Manage relations with other EU-funded projects

Partners: EF

EF maintains regular contact with the funded Europeana Generic Services (GS) and projects supporting the data space (e.g. via Basecamp groups) and assist them with ingestion of content and metadata (if applicable), consultation on the Europeana frameworks, policy and development guidelines, tool integration into the data space and dissemination of the project results. The table below shows the progress against Annex 4 of PM. Implementation plan M1 of all project outcomes that contribute to the data space for cultural heritage in Y1 (Sep 2022 - Aug 2023).

During this period two EU projects concluded:

1. Jewish History Tours²⁰², concluded on 30 June 2023 and its validation meeting was on 27 July 2023. The project developed the Tour Creation Platform for organising and managing cultural content, enabling captivating online tours. It also created an automatic geographical enrichments pipeline that dereference coordinates and entities from Wikidata vocabularies. The project delivered 40,000 new high-quality records and updated 30,000 records to Tier 2+, it enriched records with 26,000 geospatial enrichments and 40,000 translations. It crafted 130 self-guided tours and 6 editorials on both Europeana websites. Additionally, it enhanced cooperation between Europeana and the Cultural Routes of the Council of Europe, leading to a Memorandum of Understanding (under

²⁰¹

<https://ec.europa.eu/transparency/expert-groups-register/screen/meetings/consult?lang=en&meetingId=48308&fromExpertGroups=3800>

²⁰² <https://pro.europeana.eu/index.php/project/jewish-history-tours>

review) and practical recommendations²⁰³ for stakeholders in cultural heritage and tourism organisations.

2. The CRAFTED project²⁰⁴ ended on 30 June 2023, and it is expected that its validation meeting will be held in October 2023. The project connected the previously created image and video analysis tools, MINT aggregation tool, CrowdHeritage and SAGE to enhance analysis, enrichments and the validation of crafted heritage. It introduced a visual tag on Europeana.eu to facilitate clear differentiation between original metadata crafted by data providers and metadata generated as a result of the enrichment process. It organised four crowdsourcing campaigns and 5 edit-a-thons to improve more than 100 Wikipedia pages. It hosted three workshops, published resources on how to work with the enrichments and validation tool and created a dedicated manual for the education community demonstrating how these tools can be employed in crafts-centric lectures and assignments for students. Finally, the project partners created 3 online exhibitions, 23 blogs and 10 galleries plus the Making Culture feature page.

Finally, a new project funded under HORIZON-CL2-2023-HERITAGE-01-03²⁰⁵ call of the Horizon Europe programme has been awarded funding. The '*DIGICHer*' - *Digitisation of cultural heritage of minority communities for equity and renewed engagement project*²⁰⁶, is set to start in February 2024 and will run for 36 months. The consortium consists of 8 beneficiaries, including Europeana Foundation and is led by Vilnius Gediminas Technical University.

²⁰³https://pro.europeana.eu/files/Europeana_Professional/Publications/europeana_cultural_routes_cooperation_recommendations_and_best_practices.pdf

²⁰⁴ <https://pro.europeana.eu/index.php/project/crafted>

²⁰⁵ [Funding opportunities HORIZON-CL2-2023-HERITAGE-01](#)

²⁰⁶ <https://pro.europeana.eu/project/digicher>

Overview of progress: Projects against Annex 4 (project start - end of the current reporting period)

Note that this table only reports on actions/outcomes/milestones of the projects funded within Y1 of the data space for cultural heritage contract (as outlined in Annex 4 of PM. Implementation plan M1). The table will be updated once the final grant agreements of the newly funded projects are ready and signed.

Supporting Europeana Generic Services (CEF-TC-2020-1) call ²⁰⁷						
Partner	Outcomes	DSI contribution	Due Date	Progress	Status	Comments
Jewish History Tour ²⁰⁸²⁰⁹						
GS	30,000 new records with enrichments (incl. 5,000 newly digitised records in Tier4) available on Europeana.eu	Task 2.2 Data acquisition and data improvements	Jun 23*	100%	Done	A total of 76,030 new and updated records were delivered. 42,735 new records in Tier 2+ and 33,073 in Tier B+, from which 5,466 newly digitised content in Tier 4. A total of 31,943 records were updated, from which 30,346 in Tier2+. Additionally, 26,880 geospatial enrichments were performed in 26,436 records, and 40,826 automatic translation in 10,107 records were delivered.
GS	Validation methodology for enrichments is ready	Task 2.3 Automated approaches towards data quality	Mar 23*	100%	Done	
GS/DS	Enhancement of Europeana API with geospatial querying	Task 1.1 Provide reliable data space	Nov 22 ²¹⁰	100%	Done	

²⁰⁷ All projects funded under (CEF-TC-2020-1) call end after the end of the reporting period DSI-4 Y4.

²⁰⁸ <https://pro.europeana.eu/project/jewish-history-tours>

²⁰⁹ The project was officially extended until 30 June 2023. Deadlines extended are marked with a *.

²¹⁰ The original deadline was July 22 but it was extended by project partners to November 22 to meet all requirements. The new deadline is within the project scope.

		infrastructure and quality services				
GS	Tours available on Europeana.eu via oEmbed	Task 4.2 Engage audiences with cultural heritage	Jun 23*	100%	Done	
GS	Impact assessment study	Task 3.4 Develop capacity building as a service	Oct 22	100%	Done	
GS	Multilingual package of training materials (at least 3 EU languages)	Task 3.5. Facilitate the provision of high quality data	Jun 23*		Done	
GS	Recommendations on the cooperation of European Initiative and Cultural Routes of the Council of Europe Programme	Task 3.1. Enhance cooperation throughout the data space	Jun 23*	100%	Done	Available on Europeana Pro ²¹¹
GS/DSI	Editorials on Pro	Task 4.2 Engage audiences with cultural heritage	June 23	100%	Ongoing ²¹²	5 project entries available on Europeana pro.
EnrichEuropeana+²¹³²¹⁴						
GS	100,000 new records	Task 2.2 Data acquisition and data improvements	Dec 22	100%	Done	In total 175,574 new and updated records were delivered. From the 142,640 new records, 141,995 are in Tier2+ and 141,612 are in

²¹¹

https://pro.europeana.eu/files/Europeana_Professional/Publications/europeana_cultural_routes_cooperation_recommendations_and_best_practices.pdf

²¹² This outcome will continue after the DSI-4 Y4 contract as more editorials are expected after August 2022 and until the end of the project.

²¹³ <https://pro.europeana.eu/project/enricheuropeana>

²¹⁴ The project was extended for 6 months.

						Tier B+. 32,934 records were upgraded.
GS/DS	Records with enrichments (translations, transcriptions, semantic enrichments)	Task 2.2 Data acquisition and data improvements	Mar 23	100%	Done	More than 30,000 records were enriched with the following enrichments: 15,656 crowdsourced enrichments, including manual transcriptions and metadata enrichments accepted in the original collections. 24,023 items provided with English translations (34,635 text values for dc:description) 32,173 items provided with language tags (48,581 language tags for dc:description) 62 items (books), including 28,186 pages.
GS	Validation of enrichments criteria agreed with EF	Task 2.3 Automated approaches towards data quality	Mar 23	100%	Done	
GS	Integration Transcribathon platform and Europeana CSP by implementing single sign-on on Transcribathon platform	Task 1.1 Provide reliable data space infrastructure and quality services	Mar 23	100%	Done	
GS	Call to action button on Europeana.eu	Task 1.1 Provide reliable data space infrastructure and quality services	Mar 23	100%	Done	
GS	Automatization of the selection of data on Europeana.eu to be	Task 1.1 Provide reliable data space	Mar 23	10%	Done	

	enriched on the Transcribathon tool	infrastructure and quality services				
GS	2 webinars for CH professionals	Task 3.4 Develop capacity building as a service	Nov 22	100%	Done	2 webinars held
GS	3 workshops CHIs and educational institutions	Task 3.4 Develop capacity building as a service	Mar 23	100%	Done	11 capacity building activities (5 workshops and 6 online training sessions)
GS	3 transcribathons events	Task 3.6. Facilitate the reuse of high quality data	Nov 22	100%	Done	3 transcribathon events and 1 online run were held.
GS/DS	16 editorials pieces on Pro and/or editorials on Europeana.eu	Task 4.2 Engage audiences with cultural heritage/ Task 3.3 Build awareness and engagement	Mar 23	100%	Done	10 editorials have been published (5 on Europeana Pro and 5 on Europeana.eu)
GS	Impact assessment	Task 3.4 Develop capacity building as a service	Feb 23	100%	Done	

CRAFTED - Enrich and promote traditional and contemporary crafts²¹⁵

GS	189,660 new records and 26,300 upgraded records.	Task 2.2 Data acquisition and data improvements	Jun 23 ²¹⁶	75%	Delayed	By mid-August 23, the ingestion process is still ongoing.
GS	100,000 records enriched	Task 2.2 Data acquisition and data improvements	Jun 23	80%	Delayed	By mid-August 23, the ingestion process is still ongoing.
GS	Extension to handle and display	Task 4.2 Engage	May 23	100%	Done	

²¹⁵ <https://pro.europeana.eu/project/crafted>

²¹⁶ The original deadline was October 22 but it was extended by project partners to June 23 to meet all requirements. The new deadline is within the project scope.

	enrichments on Europeana.eu	audiences with cultural heritage				
GS	Human-in-the-loop methodology for the enrichment of CH metadata	Task 1.1 Provide reliable data space infrastructure and quality services	Sep 22	100%	Done	
GS	Crafted toolset	Task 1.1 Provide reliable data space infrastructure and quality services	May 23	100%	Done	
GS	Human-in-the-loop methodology and Crafted toolset evaluation	Task 1.1 Provide reliable data space infrastructure and quality services	May 23	100%	Done	
GS	Crafted guidelines and documentation materials for CH professionals	Task 3.4 Develop capacity building as a service	May 23	100%	Done	
GS	Crafted training resources on AI and crowdsourcing technologies for education	Task 3.6. Facilitate the reuse of high quality data	Jun 23	100%	Done	
GS	24 editorials available on Europeana.eu (incl. 3 exhibitions and 9 blog posts using the media player)	Task 4.2 Engage audiences with cultural heritage	Jun 23	100%	Done	A total of 37 editorials on Europeana.eu were created. Incl. 3 online exhibition, 1 feature page, 23 blogs and 10 galleries. Moreover, 7 collection pages were enhanced.
GS	Project entries on Pro	Task 3.3 Build awareness and engagement	Jun 23		Done	8 project entries on Europeana Pro.

GS	3 edit-a-thons campaigns	Task 3.5. Facilitate the provision of high quality data	Jun 23	100%	Done	5 edit-a-thons have been conducted.
GS	3 workshops for CH professionals	Task 3.5. Facilitate the provision of high quality data	Jun 23	100%	Done	3 workshops have been organised.

Other GS projects with outcomes to be integrated in Data Space

Europeana Translate²¹⁷

GS	Niche-sourcing campaigns and experts evaluation completed (3 campaigns; selected translated fields from 500 records to be evaluated per language by linguist experts; near human quality (over 89% score on average) for the majority of languages)	Task 2.3 Automated approaches towards data quality	Jan 23	100%	Done	
GS	Cultural heritage-related datasets with 10 million records (multilingual and monolingual metadata records) sourced from Europeana API, processed and tagged. Resources will cover the 24 EU official languages. All resources have a free reuse licence (CC0)	Task 1.2 Foster innovation, interoperability and compliance with other data services Task 2.3 Automated approaches towards data quality	Jan 23	100%	Done	

²¹⁷ <https://pro.europeana.eu/project/europeana-translate>

GS	Toolset for processing the multilingual cultural heritage metadata and publishing it to the Europeana platform (23 translation engines deployed)	Task 1.1. Provide reliable data space infrastructure and quality of services Task 1.2 Foster innovation, interoperability and compliance with other data services Task 4.1. Deliver high-performing Europeana website	Mar 23	100%	Done	
GS	Impact Assessment report prepared	Task 3.4 Develop capacity building as a service	Apr 23	100%	Done	
GS	Dissemination report prepared	Task 3.3 Build awareness and engagement Task 3.4 Develop capacity building as a service	Apr 23	100%	Done	
GS	Sustainability plan prepared	Task 1.1. Provide reliable data space infrastructure and quality of services Task 4.1. Deliver high-performing Europeana website	Apr 23	100%	Done	

GS	Metadata records with translations available to Europeana	Task 2.2 Data acquisition and data improvements Task 4.1. Deliver high-performing Europeana website	Apr 23	100%	Done	In mid-July, 29 million metadata records were translate from 22 EU languages to English. All records and translated metadata are available on Europeana.eu
WATCHLIKEAHIST - Watching videos like historian²¹⁸						
Erasmus+	Project entries on Pro	Task 3.3 Build awareness and engagement	Aug 23	30%	Ongoing	
Erasmus+	Impact assessment	Task 3.4 Develop capacity building as a service	Oct 22	100%	Done	This is a living document that will be updated to report on the metrics and adjust them if necessary
Erasmus+	Practitioner guide for AV collections holder available on Europeana Pro	Task 3.5. Facilitate the provision of high quality data	Jun 23 ²¹⁹	90%	Ongoing	The draft of the guide has been shared with the Europeana staff who are reviewing it. The final version will be submitted by the end of September.
Erasmus+	Contribution of Europeana education community to the toolkit	T3.3 Design, development and refining of the Toolkit	Aug 23	35%	Ongoing	Attendance to the ad hoc coordination meetings with the developer group to advice them in the design of the toolkit with our content.
Data Space - supporting projects						
5DCulture²²⁰						
DS	Project entries on Pro	Task 3.3 Build awareness and engagement	Aug 23	5%	On going	2 project entries available in Pro. This task will continue until the end of the project in December 2024.
De-Bias²²¹						

²¹⁸ <https://pro.europeana.eu/project/watching-videos-like-a-historian-watchlikeahist>

²¹⁹ This task was officially extended to end- September 2023

²²⁰ <https://pro.europeana.eu/project/5dculture-deploying-and-demonstrating-a-3d-cultural-heritage-space>

²²¹ <https://pro.europeana.eu/project/de-bias>

DS	Knowledge co-creation methodology	Task 3.5. Facilitate the provision of high quality data	Aug 23	100%	Done	First iteration of the knowledge co-creation methodology created by end August 2023.
DS	Project entries on Pro	Task 3.3 Build awareness and engagement	Aug 23	20%	On going	4 project entries available in Pro. This task will continue until the end of the project in December 2024.
Eureka3D²²²						
DS	Project entries on Pro	Task 3.3 Build awareness and engagement	Aug 23	5%	On going	2 project entries available in Pro. This task will continue until the end of the project in December 2024.
DS	Editorials on Europeana.eu	Task 4.2 Engage audiences with cultural heritage	Aug 23	10%	Ongoing	It is expected to have 4 blogs and 10 galleries by December 2024. One blog hqs been published so far. ²²³
AI4Europeana²²⁴						
DS	Project entries on Pro	Task 3.3 Build awareness and engagement	Aug 23	5%	Ongoing	2 project entries available in Pro. This task will continue until the end of the project in December 2024.

Task 5.4. Phasing-in and phasing-out periods

Partners: EF

As EF was the current Europeana DSI operator, no phasing-in period was required. The work related to the phasing-out and transfer processes to a successor contractor (i.e. a third party contractor awarded by the EC to continue the operation, in full or in part, of the data space) will start in the second contractual year if a contract takeover is required from 1 July 2024.

No activities in M09 - M12.

²²² <https://pro.europeana.eu/project/eureka3d-european-union-s-reconstructed-content-in-3d>

²²³ <https://www.europeana.eu/en/blog/3d-digitisation-its-history-and-future>

²²⁴ <https://pro.europeana.eu/project/ai4europeana-an-ai-platform-for-the-cultural-heritage-data-space>

Annex: Progress on deliverables

This table states progress on deliverables for Y1 (1 Sep 2022 - 31 Aug 2023).

Type	Name	Due month	Completed
PM.	Implementation plan	M01, M12	M01, M12
PM.	Risk management plan	M03	M03
PM.	Periodic report	M03, M06, M09, M12	M03, M06, M09, M12
PM.	Annual report	M12	M12
DS.	Data governance	M07	M07
DS.	Infrastructure report	M09	M09
DS.	Technical documentation	M10	M10
DS.	Stress test reports	M11	M11
DS.	Disaster recovery	M11	M11
DS.	Data supply and reuse report	M08	M08
DS.	Users and usage report	M06	M06
DS.	Communication and dissemination plan	M02, M11	M02, M11

Annex: Risk log

WP1: Development and operation of the data space infrastructure

WP1: Development and operation of the data space infrastructure													
Identify			Assess						Plan for and Control			Governance	
ID	Risk description	Activity	Date	Response	Type	Impact	Probability	Priority	Proposed action	Mitigation & Contingent plan	Informed	Consulted	Risk history
	<i>Brief summary of the risk cause, the risk event (either threat/opportunity), and the risk effect</i>	<i>Activity according to IP</i>	<i>Last reviewed/ updated</i>	<i>Overall risk response</i>	<i>Threat (negative impact) or Opportunity (positive impact)</i>	<i>Rate 1 (very low) to 5 (very high)</i>	<i>Rate 1 (very low) to 5 (very high)</i>	<i>Impact x probability (automatically filled)</i>	<i>(automatically filled)</i>	<i>Mitigation explanation and link to contingent plan (if needed)</i>	<i>Entity informed about the risk (if applicable)</i>	<i>Entity consulted about the risk (if applicable)</i>	<i>Information on risk history</i>
Task 1.1. Provide reliable data space infrastructure and quality of services													
R.WP1.1	High traffic in form of attacks can cause interruptions in the service	Activity 1.1.1. Extend and maintain platform infrastructure and services	2023-08-25	Reduce	Threat	4	2	Medium	Tolerable and Monitor	Anti-flooding mechanism are in place to limit the traffic to real users	N/A	N/A	N/A
R.WP1.2	The data space infrastructure is subject to cybersecurity attacks	Activity 1.1.1. Extend and maintain platform infrastructure and services	2023-08-25	Reduce	Threat	3	3	Medium	Tolerable and Monitor	The data space will deploy security mechanism to prevent Distributed denial-of-service DDOs attacks, security leaks at the level of user authentication/identity management system for internally developed software, code vulnerabilities etc	N/A	N/A	N/A
R.WP1.3	The data space services are unavailable to users due to infrastructure failure(s)	Activity 1.1.1. Extend and maintain platform infrastructure and services	2023-08-25	Reduce	Threat	5	1	Low	Acceptable	Disaster recovery and failover procedures are available to limit the impact on the public services	N/A	N/A	N/A
Task 1.2. Foster innovation, interoperability and compliance with other data spaces													
R.WP1.4	The recommendations and developments of the Data Space ecosystem services (Data Space support centre, Technical Framework, Simpl platform) will be developed during the contract and might impact the plans made as part of the tender offer	Activity 1.2.2. Synergies with other European data spaces	2023-08-25	Exploit	Opportunity	2	1	Low	Acceptable	The operator will use its agile development methodologies to seize opportunities and will align its infrastructure components to the recommendations. This means that some developments initially planned may have to be deprioritised.	N/A	N/A	N/A

WP2: Integration of high-quality data													
Identify			Assess						Plan for and Control			Governance	
ID	Risk description	Activity	Date updated	Response	Type	Impact	Probability	Priority	Proposed action	Mitigation & Contingent plan	Informed	Consulted	Risk history
	<i>Brief summary of the risk cause, the risk event (either threat/opportunity), and the risk effect</i>	<i>Activity according to IP</i>	<i>Last reviewed/ updated</i>	<i>Overall risk response</i>	<i>Threat (negative impact) or Opportunity (positive impact)</i>	<i>Rate 1 (very low) to 5 (very high)</i>	<i>Rate 1 (very low) to 5 (very high)</i>	<i>Impact x probability (automatically filled)</i>	<i>(automatically filled)</i>	<i>Mitigation explanation and link to contingent plan (if needed)</i>	<i>Entity informed about the risk (if applicable)</i>	<i>Entity consulted about the risk (if applicable)</i>	<i>Information on risk history</i>
Task 2.1. Develop and manage data governance mechanisms													
R.WP2.1	The data space requests the development of data governance mechanisms starting Y1. There are multiple data governance outcomes (including the cooperation agreement) that are dependent on a clear long-term vision and architecture for data-sharing in the data space. A lack of clarity in this area might lead to inadequate or incomplete rules for data governance.	Activity 2.1.1. Identify data governance requirements and objectives	2023-08-25	Reduce	Threat	3	2	Medium	Tolerable and Monitor	We develop the data governance mechanism (DGM) progressively, as we get more clarity on data sharing and architecture requirements, as described in the strategy and plan for the development of the DGM.	ENA/EAF & CEDCHE	ENA/EAF & CEDCHE	A data governance stakeholder working group (incl. European DS Consortium partners, ENA, EAF) has been set up (Jan 2023). The data governance strategy was shared with CEDCHE and a subgroup was set-up.
R.WP2.2	Insufficient capability (skills and knowledge) are available in stakeholders on key topics addressed by the Data Governance Mechanism leading to ineffective stakeholder engagement and implementation	Activity 2.1.1. Identify data governance requirements and objectives	2023-08-25	Reduce	Threat	2	3	Medium	Tolerable and Monitor	Working with the Capacity Building Working Group to develop requirements for the training programme to deliver training and knowledge transfer activities that support the advancement the capabilities of stakeholders relevant to the DGM	N/A	N/A	N/A
Task 2.2. Data acquisition and data improvements													
R.WP2.3	The data provided by consortium aggregators and data improvements on the platform are not sufficient to reach an annual 10% increase in high-quality data	Activity 2.2.2. Raise the quality and access to existing content and metadata	2023-08-25	Reduce	Threat	2	3	Medium	Tolerable and Monitor	Active participation from National Aggregators is essential to meet the targets (in line with Recommendations). EC and Member States will be informed regularly about MS contributions so that remedial actions can be taken sufficiently in time to meet the targets.	N/A	N/A	N/A
Task 2.3. Automated approaches towards data quality													
R.WP2.4	The chosen AI solution, image resolution enhancement can't be deployed at scale because of the complexity of the technical implementation	Activity 2.3.1. Use of AI to enrich metadata and content	2023-08-25	Reduce	Threat	3	1	Low	Acceptable	Another experiment focusing on the enhancement of content will be proposed for deployment instead.	N/A	N/A	N/A
R.WP2.5	AI activities are limited by copyright and need to be balanced out with political and ethical concerns.	Activity 2.3.1. Use of AI to enrich metadata and content	2023-08-25	Reduce	Threat	2	2	Low	Acceptable	Limitations for AI activities linked to copyright and/or data protection laws will be taken into account and investigated as part of the development of Data Governance. For the "chosen AI solution" above, we have decided to focus on the images that are less subject to policy issues (as they are covered by DEA and come from legacy providers and the results of sample evaluations were ok)	EAF	N/A	EAF aware of the risk (informed at the EAF meeting, Apr 2023)

WP3: Capacity building and fostering reuse													
Identify			Assess						Plan for and Control			Governance	
ID	Risk description	Activity	Date updated	Response	Type	Impact	Probability	Priority	Proposed action	Mitigation & Contingent plan	Informed	Consulted	Risk history
	<i>Brief summary of the risk cause, the risk event (either threat/opportunity), and the risk effect</i>	<i>Activity according to IP</i>	<i>Last reviewed/ updated</i>	<i>Overall risk response</i>	<i>Threat (negative impact) or Opportunity (positive impact)</i>	<i>Rate 1 (very low) to 5 (very high)</i>	<i>Rate 1 (very low) to 5 (very high)</i>	<i>Impact x probability (automatically filled)</i>	<i>(automatically filled)</i>	<i>Mitigation explanation and link to contingent plan (if needed)</i>	<i>Entry consulted about the risk (if applicable)</i>	<i>Entry consulted about the risk (if applicable)</i>	<i>Information on risk history</i>
Task 3.1. Enhance cooperation throughout the data space													
R.WP3.1	The coordination to enhance the cooperation of stakeholders in the data space is slow and impacts progress.	Activity 3.1.1. Develop methods of cooperation	2023-08-25	Reduce	Threat	2	3	Medium	Tolerable and Monitor	We collaboratively prioritise developments in cooperation based on the needs of the stakeholders and regularly meet and evaluate progress.	ENA & EAF	ENA & EAF	ENA & EAF discussions are underway
R.WP3.2	The enhanced accreditation scheme does not lead to a positive change in the engagement and participation of aggregators in the EAF.	Activity 3.1.2. Provide secretariat for Europeana Aggregators' Forum (EAF) and Europeana Network Association (ENA)	2023-08-25	Reduce	Threat	2	3	Medium	Tolerable and Monitor	We will iteratively develop and test enhancements to the scheme, utilising user research and feedback gathered.	EAF	EAF	EAF discussions to be scheduled
R.WP3.3	Insufficient engagement of ENA members, results in low levels of knowledge transfer, and satisfaction.	Activity 3.1.2. Provide secretariat for Europeana Aggregators' Forum (EAF) and Europeana Network Association (ENA)	2023-08-25	Reduce	Threat	3	3	Medium	Tolerable and Monitor	Engagement of ENA members will be further developed as part of the outcome 'Strategy for ENA/EAF outreach and engagement developed' (Jun 2023). Improved CRM and user research functionalities will steadily enable a greater understanding of needs and the ability to respond to and measure the impact of the response.	ENA & EAF	ENA & EAF	ENA & EAF discussion to be scheduled
Task 3.2. Identify needs of user groups													
Task 3.3. Build awareness and engagement													
R.WP3.4	Development and implementation of increasing numbers of platforms for professional audience engagement complicates, reduces user satisfaction and drives down user visits to websites like Europeana Pro.	Activity 3.3.3. Engage professional audiences	2023-08-25	Reduce	Threat	3	3	Medium	Tolerable and Monitor	We will regularly evaluate the available data to assess the impact of changes made and the performance of platforms. We have started working on a platform strategy (expected Aug 2024) that aims to provide more clarity on ownership, aims and audience for each platform and provide simpler processes to follow to improve user journeys.	N/A	N/A	N/A
Task 3.4. Develop capacity building as a service													
R.WP3.6	Low uptake for participation of professional audience in training programme realised.	Activity 3.4.2. Manage and develop mechanisms for the training programme	2023-08-25	Reduce	Threat	3	1	Low	Acceptable	User and impact research is undertaken to define and validate stakeholders' needs and informs the motivation and engagement model to increase the product/market fit of the training programme (related IP outcome: Impact pathway for training programme developed, Feb 2023)	N/A	N/A	N/A
Task 3.5. Facilitate the provision of high quality data													
R.WP3.7	The demand for expertise to deliver training and engage in knowledge transfer activities is greater than the supply. External expertise is needed to create, maintain and improve training material and deliver training.	Activity 3.5.1. Deliver training programme for aggregators and data partners	2023-08-25	Reduce	Threat	3	2	Medium	Tolerable and Monitor	Outreach and engagement plans for ENA/EAF consider methods to catalogue and connect with expertise within networks to ensure a repository of potential expertise is identified.	EAF	EAF	EAF was informed about the proposed priority areas for training.
R.WP3.8	To reach more professionals across Europe working on the digital transformation of the cultural heritage sector, there is a need for multilingual training offers, but currently, multilingual coverage of tools and resources is not available (only in English). This limits accessibility and the potential impact of training.	Activity 3.5.1. Deliver training programme for aggregators and data partners	2023-08-25	Reduce	Threat	3	2	Medium	Tolerable and Monitor	In 2023 a Learning Management will be selected and the first courses will be offered through this LMS. Multilingualism is one of the requirements of an LMS, both the interface of the LMS and the automatic translation of the training content. In this way, the LMS will support multilingualism better than the current situation. Apart from the technical solutions, there is also a need for contributions from native speakers (possibly ENA and EAF members) to translate and localise offers.	ENA & EAF	ENA & EAF	This is discussed as part of the Capacity Building Working Group.
Task 3.6. Facilitate the reuse of high quality data													

WP4: Digital services for the public

Identify			Assess						Plan for and Control		Governance		
ID	Risk description	Activity	Date updated	Response	Type	Impact	Probability	Priority	Proposed action	Mitigation & Contingent plan	Informed	Consulted	Risk history
	<i>Brief summary of the risk cause, the risk event (either threat/opportunity), and the risk effect</i>	<i>Activity according to IP</i>	<i>Last reviewed/ updated</i>	<i>Overall risk response</i>	<i>Threat (negative impact) or Opportunity (positive impact)</i>	<i>Rate 1 (very low) to 5 (very high)</i>	<i>Rate 1 (very low) to 5 (very high)</i>	<i>Impact x probability (automatically filled)</i>	<i>(automatically filled)</i>	<i>Mitigation explanation and link to contingent plan (if needed)</i>	<i>Entity informed about the risk (if applicable)</i>	<i>Entity consulted about the risk (if applicable)</i>	<i>Information on risk history</i>
Task 4.1. Deliver high-performing Europeana website													
R.WP4.1	Expectations regarding the deployment of multilingual services are higher than what available technology and resources enable the Europeana DS consortium to implement.	Activity 4.1.4. Expand multilingual coverage to include all EU official languages	2023-08-25	Reduce	Threat	3	3	Medium	Tolerable and Monitor	We regularly evaluate and communicate the results of evaluation to stakeholders. Adapt plans to the performance level of technology.	N/A	N/A	N/A
R.WP4.2	The eTranslation service is unable to support internationalisation and localisation in all EU official languages.	Activity 4.1.4. Expand multilingual coverage to include all EU official languages	2023-08-25	Accept	Threat	3	3	Medium	Tolerable and Monitor	Europeana DS will diversify its sources to obtain translations. The new translation broker API will allow for the DS to be more flexible and more efficient towards the use of translation services (First version of a Translation API is established, Aug 2023).	N/A	N/A	N/A
Task 4.2. Engage audiences with digital cultural heritage													

WP5: Programme management

Identify		Assess						Plan for and Control		Governance		
ID	Risk description	Date updated	Response	Type	Impact	Probability	Priority	Proposed action	Mitigation & Contingent plan	Informed	Consulted	Risk history
	<i>Brief summary of the risk cause, the risk event (either threat/opportunity), and the risk effect</i>	<i>Last reviewed/ updated</i>	<i>Overall risk response</i>	<i>Threat (negative impact) or Opportunity (positive impact)</i>	<i>Rate 1 (very low) to 5 (very high)</i>	<i>Rate 1 (very low) to 5 (very high)</i>	<i>Impact x probability (automatically filled)</i>	<i>(automatically filled)</i>	<i>Mitigation explanation and link to contingent plan (if needed)</i>	<i>Entity informed about the risk (if applicable)</i>	<i>Entity consulted about the risk (if applicable)</i>	<i>Information on risk history</i>
Task 5.1. Ensure continuous progress monitoring and reporting												
R.WP5.1	A larger staff turnover and longer-term sickness of experts can affect the execution of tasks and the delivery of committed outcomes in time.	2023-08-25	Accept	Threat	3	3	Medium	Tolerable and Monitor	The Europeana DS consortium re-plans and reorganises the work internally; we keep EC up-to-date on any delays and impact on any other data space commitments.	N/A	N/A	N/A
R.WP5.2	A potential personal data breach that occurs, which will jeopardize the GDPR/IDPR compliance	2023-08-25	Reduce	Threat	5	2	Medium	Tolerable and Monitor	In case of a data breach EF will inform the EC DPA as soon as possible, but within 72 hours after the breach.	N/A	N/A	N/A
Task 5.2. Governance												
Task 5.3. Manage relations with other EU-funded projects												
R.WP5.3	Changes in the implementation of data space-supporting projects might affect the execution of the Europeana DS consortium tasks and activities	2023-08-25	Reduce	Threat	2	3	Medium	Tolerable and Monitor	Monthly internal team meeting for better coordination and risk mitigation. Continuous collaboration with project partners to flag and mitigate possible risks.	N/A	N/A	N/A
Task 5.4. Phasing-in and phasing-out periods												