Deployment and Maintenance of Europeana DSI core services - SMART 2017/1136

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This deliverable contains original unpublished work except where clearly indicated. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

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Abbreviations

Consortium participants

EF	Europeana Foundation (Coordinator), The Netherlands
AIT-Graz	AIT Angewandte Informationstechnik Forschungsgesellschaft mbH, Austria
AIT-Vienna	AIT Austrian Institute of Technology GmbH, Austria
APEF	Archives Portal Europe Foundation, The Netherlands
AthenaRC	Athena Research and Innovation Center in Information Communication and Knowledge Technologies, Greece
BL	The British Library Board, United Kingdom
CARARE	Connecting Archaeology and Architecture in Europe, Ireland
CLARIN	CLARIN ERIC, The Netherlands
DEN	Stichting Digitaal Erfgoed Nederland, The Netherlands
DIF	Deutsches Filminstitut - DIF e.V., Germany
DNB	Deutsche Nationalbibliothek, Germany
eFashion	European Fashion Heritage Association, Italy
EUN	EUN Partnership AISBL, Belgium
Euroclio	Euroclio European Association of History Educators, The Netherlands
F&F	Facts & Files Historisches Forschungsinstitut Berlin Drauschke Schreiber Partnerschaftsgesellschaft Archiv-, Geschichts- und Literaturwissenschaftler, Germany
INESC-ID	INESC-ID, Instituto de Engenharia de Sistemas e Computadores - Investigação e Desenvolvimento em Lisboa, Portugal
KL	Stichting Nederland Kennisland, The Netherlands
Lovegrove	James Lovegrove SPRL, Belgium
MCA	Michael Culture AISBL, Belgium
NISV	Stichting Nederlands Instituut voor Beeld en Geluid, The Netherlands
NTUA	National Technical University of Athens, Greece
Photocons	International Consortium for Photographic Heritage Photoconsortium, Italy
PSNC	Instytut Chemii Bioorganicznej Polskiej Akademii Nauk - Poznańskie Centrum Superkomputerowo-Sieciowe, Poland
SPK	Stiftung Preussischer Kulturbesitz, Germany

Other

CHIs	Cultural Heritage Institutions
CH	Cultural Heritage
DC	Dublin Core
DPS	Data Partner Services
EDM	Europeana Data Model
ELF	Europeana Licensing Framework
ENA	Europeana Network Association
EPF	Europeana Publishing Framework
IIIF	International Image Interoperability Framework
R&D	Research & Development

Introduction

The periodic report describes the work carried out under Europeana DSI-4 from 1 January 2019 until 28 February 2019, according to the implementation plan (B.1 deliverable, M1). The work is organised in nine work packages (WP):

- WP 1: Operating, maintaining and developing Europeana DSI as the pan-European online cultural platform
- WP 2: Content supply
- WP 3: Fostering reuse of digital cultural heritage resources
- WP 4: Communication and Dissemination
- WP 5: Animate and further enlarge the Europeana Network Association
- WP 6: Studying the impact of digitisation and reuse of cultural heritage
- WP 7: Governance
- WP 8: Phasing-in and phasing-out periods
- WP 9: Project and Programme Management

Highlights

Platform development

Metis: A new version of the Media Service (service responsible for technical metadata extraction and thumbnail generation) was developed. The new media service currently creates technical metadata and thumbnails for all datasets that do not have these data. We are working on an estimate for how long the process is going to take to get a full set of technical metadata for the entire database. This will result in a exact overview of the tier statistics according to the EPF.

Europeana Licensing Framework (ELF): To support the correct implementation of the ELF, research that evaluated the accuracy of rights statements in Tier 3 & 4 data was undertaken by KL. Based on the findings EF will design a rights accuracy campaign to address a variety of issues.

Europeana Newspapers: We extended features to improve the user experience on the newspaper interface (e.g. searching in full-text and metadata in a separate index, highlighting of search keywords in the search results, ability to filter and facet by date). Once these features are done, we will more prominently feature Europeana Newspapers.

Market and audience outreach

European Citizens market: January marked the start of our Women's Season with the publication of Pioneers: Trailblazing women in the arts, sciences and society, an online exhibition highlighting the lives and achievements of 8 remarkable European women in the arts, sciences and society. Every Friday up and until International Women's Day (8 March) we will publish a new chapter of the exhibition. The exhibition is performing well with over 10,000 visitors in the first month of publication and excellent audience reviews.

Europeana Education: The Europeana Teachers Ambassadors finalised their learning scenarios, using Europeana resources. During December 2018 and January 2019, the 13 Ambassadors also successfully carried out trainings for the User Group teachers they coordinate. Furthermore, the Ambassadors started carrying out webinars on national level. Eight webinars (Italy, Greece, Croatia, Romania, Portugal, Spain, Poland and European Schools) took place during this reporting period.

The learning scenarios of the Europeana Teachers Ambassadors were also woven into the 'Europeana in your classroom: building 21st-century competencies with digital cultural heritage (Rerun)' MOOC (Massive Open Online Course). The updated MOOC in English was launched on 14 January and ran till 28 February. The MOOC was well received among

teachers in Europe, with 2974 course registrations and 1666 educators starting the first module. The top three countries are Turkey, Croatia and Italy.

Europeana Research: EF contributed to a Virtual Hackathon Series and presented relevant newspaper dataset as a resource for experimentation to hackathon participants. For this purpose, EF made metadata and full-text of datasets available for bulk download as compressed files on large scale.

Europeana Network Association
In January the Members Council elected six new Management Board members.

Work package 1: Operating, maintaining and developing Europeana DSI as the pan-European online cultural platform

Work package 1 maintains and continuously improves Europeana DSI's main functionalities and delivers the web user interfaces of the Europeana DSI. Improvements and proposed changes towards functionalities and interfaces will be based on user feedback, advice and analysis according to the change management process.

Task 1.1. Maintenance and continuous improvement of the Europeana DSI's main functionalities

Requirement A.1. Metadata repository (EF, PSNC, INESC-ID, DNB)

Number and quality of datasets per category (Tiers)

Since the launch of Metis at the end of last year, we have updated about 0.5 million records in Europeana Collections. These updates had no significant impact on the number and quality of datasets per category over the entire database - the figures below are calculated from a representative sample.

Tier	February 2019[1]
non-compliant to EPF	16.0%
Tier 1	35.5%
Tier 2	24.5%
Tier 3	4.0%
Tier 4	20.0%

As reported earlier, it is still a challenge to measure tier progress automatically. Our previous media service has not created a full set of technical metadata for all 58 million records, which is a necessary prerequisite to measure tier progress. The new media service of Metis currently creates technical metadata and thumbnails for all datasets that we are processing. We are working on an estimate for how long the process is going to take, to also reprocess the legacy data, to get a full set of technical metadata for the entire database.

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[1] These numbers were calculated from a representative sample in August/September 2018.

Data and aggregation infrastructure, the ingestion system Metis

A new version of Metis was released on January 23rd (V1.1[2] and eCloud V.1.2[3]). This release consisted mainly of:

- *A new version of the Media Service:* the first version of the Media Service was developed separately from the other Metis services and was prone to errors (mostly memory issues). The back-end was redesigned to be aligned with the other services. The processing of media resources is now done resources by resources instead of by batch of resources which makes the system more robust.
- *Several improvements on the Metis user interface (UI) which contribute to a better user experience:* the code base behind the Metis UI was extensively reviewed: unit tests were added and a full assessment of the Metis UI protections mechanisms against common web-application vulnerabilities run.

EF and PSNC are now working on redesigning the Link Checking service[4], on the same architecture design than the media service. Some additional features are added such as the possibility to run the service on a full dataset or only a sample of records.

Progress was made in the consolidation of the infrastructure behind Metis (including the Europeana Cloud (eCloud) component):
- back-ups procedure for main databases were defined and are now tested,
- a second IIIF image server is being set-up to ensure the high availability of the Newspapers images upon the official launch of the new thematic collection.

The current features of the Metis user interface continue to be improved: improvements of the error messaging or report mechanisms within the system, usability features such as the choice of a white or black background for data samples viewing.

Developments towards new harvesting processes

EF continued its work on new data acquisition channels. In January and February we analyzed a dataset from the Rise of Literacy project, which can be harvested via Schema.org Linked Data. We also experimented with identifying possible sources of new IIIF content via Wikidata, by searching for the Europeana objects that are described in Wikidata and have been attached to IIIF resources. We found that a couple of thousands of Europeana objects could thus be enriched. In this period, we also developed a metadata completeness measure that reflects recent progress (by the Data Quality Committee) on defining a metadata component (quality tiers) for the Europeana Publishing Framework.

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[2]Release notes at https://github.com/europeana/metis-framework/releases/tag/v1.1.0 and https://github.com/europeana/metis-ui/releases/tag/v1.1.0
[3] Release notes at https://github.com/europeana/Europeana-Cloud/releases/tag/v1.2.0
[4] Service responsible for checking the links to media resources and webpages referenced in the data edm:isShownAt, edm:isShownBy, edm:hasView and edm:object fields in EDM.

We plan to use this measure as an indicator of the quality of potential data sources identified in new data acquisition channels explored in this task. In January, we also contributed to a W3C Group Note[5] on data exchange, which serves as base for developing new technology that we plan to employ and features Europeana as a use case.

Requirement A.2. Metadata and content quality (EF, KL, APEF, BL, CARARE, AthenaRC, MCA, eFashion, DIF, NISV, AIT-Graz, PhotoCons)

Data Partner services

Publication of new data with Metis is slowly progressing, but not many datasets were published in this year to share a good amount of new high quality datasets.

Media processing is a key part of our publication workflow. The media service accesses all the media behind the links in our data (isShownBy, edm:object, etc.) and returns technical metadata and thumbnails. This technical metadata is stored in our metadata repository and allows users to search for technical information about the media, e.g. resolution of images or videos, colours in images, file types of the media.

The media service we used in the past was not working very well and has resulted in a large number of records that have no technical metadata and no thumbnail (until the release of Metis, technical metadata and thumbnails extraction happened after publication of the data). As of February 2019 we have about 24 million records in 1,650 datasets that have no technical metadata stored in the metadata records. Not all records within the 1,650 datasets are affected by missing technical metadata (see figure below), but getting to 100% of technical metadata in the Europeana database still requires reprocessing of all the 1,650 datasets, summing up to a total of 56 million records, which is almost the entire database. This is a significant task that can likely not be completed within this year.

Europeana Publishing Framework and Publishing Guide

Work on the metadata component of the Europeana Publishing Framework[6] continued as part of the work of the Data Quality Committee[7], with most aggregator partners participating (AIT Graz, BL, CARARE, DIF, eFashion, NISV, Photocons). We completed the work on metadata criteria and thresholds and are going to measure how all our datasets score against the new metadata tiers.

Europeana Data Model

The EuropeanaTech community of the ENA approved a new task force on interoperability of annotations and user sets. The task force aims to synchronize requirements and to agree on solutions for an EDM extension usable by the Generic services projects that develop features and services related to annotations, user galleries, etc.

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[5] https://www.w3.org/TR/dcat-ucr/
[6] https://pro.europeana.eu/post/publishing-framework
[7] https://pro.europeana.eu/project/data-quality-committee

A new task force '3D content in Europeana' was launched with the goal of fostering provision of more and richer 3D content into Europeana, and whose recommendations may have an impact on how to identify 3D representations within EDM.

We have written and submitted a paper to the Conference on Language, Data and Knowledge (LDK) on the EDM extension for full-text, which was made to met the requirement of the Europeana Newspapers collection.

Europeana Licensing Framework and RightsStatements.org

To support the correct implementation of the Europeana Licensing Framework (ELF), research[8] that evaluated the accuracy of rights statements in Tier 3 & 4 data was undertaken by KL. This research showed that from Tiers 3 & 4, 38% of data was accurate. The remainder of the data is not necessarily inaccurate, but we cannot guarantee its accuracy at this time. EF will design a rights accuracy campaign to address a variety of issues.

This campaign, implemented by EF in February, addressed issues in the data in a staged approach. For example, datasets which were determined to contain a mixture of accurate and inaccurate statements are dealt with by directly contacting the data partner and raising the issue with them in order to reach a solution. In other cases, wider scale inaccuracy suggests that the level of knowledge around correct rights labelling needs to be improved, training materials and resources will be developed to address this. Additionally, EF is investigating how to meaningfully report the progress of the campaign.

To support the implementation of rightsstatements.org Spanish and Finnish translations of the rights statements were published and are available for data partners to use. Swedish, Finland-Swedish, Polish and French translations are currently being undertaken by partners and members of the Network.

In relation to efforts on aligning data practices, the RightsStatements.org technical working group gave feedback on an update to the MARC specifications[9] (the major standard for library metadata records) which is being devised to enable the use of RightsStatements.org among other licensing standards. The working group also gave feedback on a proposal for property to represent links to RightsStatements.org in Wikimedia's Wikidata project.

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[8] https://www.kl.nl/publicaties/research-paper-a-look-at-the-accuracy-of-edmrights-in-the-europeana-database/
[9] http://www.loc.gov/marc/mac/2019/2019-01.html

Data quality work plans by aggregating partners

Aggregating partners progressed towards the objectives identified in the data quality work plans. For more details on achievements per individual institutions by aggregating partner, see the Data quality & content supply sheet[10].

AIT Graz (OpenUp!) has researched possible solutions for integration of map information for uninhabited places in Europeana Collections and forwarded to EF a test set that contains openstreetmap URIs for uninhabited places in edm:Place.

BL (Europeana Sounds) is very confident that with the new data partners and new content coming in, the targets of 20% tier 2 and 5% tier 3 being met on Europeana Sounds. As examples, work has continued with the Biblioteca Nacional Catalunya and Muziekweb to map their wax cylinder collections to EDM. The collections will be tier 3 and 2 respectively. BL has launched a survey[11] asking for institutions to give details of online audio collections.

eFashion finalised the extraction of person names (creators) and geographical names from all their records. Now they work with NTUA to add the mapped URIs from Geonames and Wikidata to the records in MINT. Worth mentioning is the ModeMuze network in the Netherlands that is in the process of providing new content to eFashion.

MCA and NTUA (for MUSEU) are making significant progress in having the records geolocated, with meaningful conceptual entities and with the inclusion of vocabularies in dc:type. Furthermore, the LIDO to EDM mapping is being updated, in particular for the edm:currentLocation field.

NISV (EUscreen) finalised the publication of the EUscreen core content (a curated subset of EUscreen data). With this publication, among other improvements, the migration tag was added for a selection of EUscreen records to show on Europeana Migration.

Photocons is continuously promoting the need for tier upgrade to the content providers who published in tier 1, a time consuming part of the work. Divadelny Ustav ad ANC (GENCAT), MHF and Società Geografica recently agreed to update their content which will be implemented in the coming reporting period.

The ingestion freeze before the implementation of Metis and some bugs in Metis delayed the publication of some datasets of Europeana DSI-4 partners. Now that Metis is operational, data publication is progressing.

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https://docs.google.com/spreadsheets/d/1WAEW1RJCdmfdgiR5D9QLIXIbWfFQ5ooQpdx0mi-hDyQ/edit#gid=115
8063986
11 https://www.surveymonkey.co.uk/r/VBRSS7H

NTUA advised Photocons and eFashion via which route enhanced Thesaurus information can be added to existing records and how Mint will process this information. Work was done to move all aggregating partners to an updated Mint platform. This is necessary to add code for including new thesaurus information in the EDM output of Mint during the publication phase of dataset preparation. Partners reported roadblocking bugs that were fixed or are in the process of being fixed in the updated platform.

Requirement A.3. Quality of service (QoS), data security and disaster recovery (EF, PSNC)

The following table summarizes performance of our products[12] (APIs[13] and Europeana Collections):

Product	Load (rpm[14])	Response times (seconds)	Uptime[15]
Europeana APIs: Search	268 rpm	0.19	99.77%
Europeana APIs: Record	378 rpm	0.22	99.79%
Europeana Collections: Homepage	647rpm	1.23	99.9%
Europeana Collections: Record page	647rpm	1.42	99.88%
Europeana Collections: Search results	647rpm	2.64	99.82%

Requirement A.4. Mechanisms for probing broken links (EF)

EF applied several mechanisms for probing broken links. Broken links were tested during ingestion to Europeana and were also part of the work on datasets with records that are not compliant to the EPF.[16] EF and PSNC were also working on redesigning the Link Checking service (see requirement A.1 → Data and aggregation infrastructure, the ingestion system Metis).

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[12] Figures reflect status of current production services. Figures are average response times taken from figures recorded in the period 1 January - 19 February 2018.
[13] The Search API and Record API are the APIs used the most on Europeana, information on other APIs can be provided on request.
[14] Rpm: response per minute.
[15] With a high-availability architecture design, the services aims to be available 24x7 with uptime 99.5% (excluding scheduled outages). This includes Europeana Collections and APIs.
[16] An overview on the evolution of number and nature of broken links identified on the platform, rectification of broken links by aggregator and by content providers, as well as improvement measures planned will be reported on in the A.1 Platform report (M10).

Requirement A.5. Log files on user behaviour and usage analytics (EF)

The infrastructure includes a repository of log files that capture and time-stamp every single action performed by users. EF also employs Google Analytics, as the state-of-the-art web analytics tool. EF will report on use and usage statistics and analytics, major changes observed in use of the platform as well as improvement measures taken and planned in the C.2 User and usage report (M10).

Requirement A.6. Application Programming Interface (API) (EF, AIT-Vienna)

The platform provides multiple API endpoints for software clients to interact with the platform. EF and AIT-Vienna maintained and improved the technical distribution mechanisms towards our target markets education, academic research and creative industries.[17]

Europeana Newspapers
As reported on earlier, EF expanded its API offer with three new APIs specifically tailored for newspapers which are now documented in their own section on Europeana Pro[18]. We will continuously update this page based on new developments and received feedback from users.

Besides the development of the features needed for the MVP such as to sort and facet on dates reported on in the last period, EF has added support for full-text highlighting to the Newspapers Search API. EF also continued to solve several issues related to the full-text display reported to us from users (misalignment of words on the image due to resizing and the full-text being placed outside the boundaries of the page).

EF made metadata and full-text of datasets available for bulk download as compressed files (see IIIF API documentation page[19]). The datasets were part of the Europeana Newspapers project and are part of the Newspapers thematic collection. For this purpose, EF set-up a dedicated server. This effort is a first step towards offering bulk access to Europeana data on large scale. This work resulted from the need to supply quick and large access to Newspapers data for the participants of the hackathon in Vienna[20] (see Subtask 3.1.2. Engage with educational communities).

As next step, EF will focus on complementing and improving some of the features based on initial feedback from user evaluation.

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[17] Detailed activities towards APIs outreach will be reported on in the C.3 Content supply and reuse report (M10). This will include usage metrics of the API, access statistics from the various clients (at a minimum: number of requests, type of requests, type of client, timeline, country the data was accessed from) and how these relate to its efforts to encourage reuse of the platform resources by developers and third party applications, as well as improvement measures taken and planned.
[18] https://pro.europeana.eu/resources/apis/iiif
[19] https://pro.europeana.eu/resources/apis/iiif
[20]
https://www.google.com/url?q=https://www.oeaw.ac.at/acdh/detail/event/acdh-virtual-hackathon-series/&sa=D&ust=1551085906024000&usg=AFQjCNHfJo1j2nbpLJIBqqTzxPAydx4UpA

Organisations on the Entity API
Following the release of Organisations in the Entity API, EF continued the work on improving/expanding the information offered by adding an image of the organisation (besides the logo). This image can be presented to the user when a logo is not available. We also added geo coordinates associated to the address. Besides this, EF dedicated significant time on upgrading the access to Zoho to support version 2 of its API. We set up a daily update between Zoho and the Entity API so that information of Organisations is available faster on the API. This work is still ongoing and will be paused temporarily due to other priorities.

OAI-PMH
The new version of OAI-PMH that was built and used for the Metis migration, was updated for the new production set-up and is now ready for external clients to use. Both versions of the service will be kept running until the official release planned for March. CLARIN started to evaluate the service and provided positive feedback.

SEO
As part of improving SEO, EF finished developing a sitemap for Entities and focused on the development of the Schema.org support on the Entity API. Once done, EF will deploy them together and point search engines to this new sitemap. We will monitor the change. Schema.org output for Europeana items was also revisited to fix issues reported by the Google Schema.org validator.

Authentication and Authorization (SSO)
PSNC and EF resumed the development of the authentication and authorization service to offer a centralized security layer but also centralized user management to Europeana's internal services. The first service to be integrated with the Auth service will be the Annotations API driven by the requirements from the Generic Service projects.

Task 1.2. Continuous improvement of service functionalities and the user interfaces

Requirement B.1. Search and user guidance (EF)

Under Europeana DSI-4, EF focuses on improving the search functionality (effectiveness, completeness, and accuracy) and browse options.[21]

In this period, we begun working on expanding the current limitation on the number of searches browsable on the Europeana Collections portal, for queries with many results (currently Europeana Collections shows up search results up to 80 pages). We have also refined the search functionality for Europeana Newspapers, adding Serbian and Yiddish as supported languages for the full-text search.

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[21] Activities towards the development of the search interface will be reported in the C.2 User and usage report (M10) including search metrics and performance as well as improvement measures taken and planned.

We re-implemented scripts to evaluate search performance (mostly based on user logs). We have now a firmer grip on how the data is interpreted (and more insights on some limits of the method). Most metrics were updated for deliverable C.2[22] showing that performance of search was stable in the past months, in spite of changes in the ranking algorithm. We started developing processes to extract queries for Europeana from Google Analytics, getting full reports about them, and relating them to the Entity Collection in order to evaluate its coverage in a more complete way.

Requirement B.2. Visualisation and display (EF)

EF offers various visualisation interfaces for data held by Europeana including the search results page, the item page and the newly developed entity pages.[23]

Developments on Europeana Collections

Europeana Newspapers

EF further developed the following features in support of the Europeana Newspapers thematic collection[24]:
- Searching in full-text and metadata in a separate index
- Highlighting of search keywords in the search results
- Ability to filter and facet by date
- IIIF player with display of full-text
- Curatable browse pages allowing display of newspapers by country of A-Z

New item page

EF launched the new item page in December 2018. The item page is designed to increase connectivity with other areas of Europeana such as entities, blogs, exhibitions and galleries. It also contains the new IIIF player critical for Newspaper content display. Over the coming months, we will review the new item page for possible improvements.

Redevelopment of Europeana Collections

In order to focus EF's efforts on design and user experience we are going to simplify the technology stack. EF decided to establish a CMS which is maintained and hosted externally. This CMS will replace three CMS platforms currently maintained in-house, increasing the capacity of EF to focus efforts on producing features with external value.

Guidelines for accessibility and performance were established and investigation is currently taking place how to integrate the external CMS with our application.

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[22] Users and usage report, M5. See project documentation section on the Europeana DSI-4 project page. https://pro.europeana.eu/project/europeana-dsi-4
[23] Number and nature of suggestions received, satisfaction metrics (e.g. NPS or Likert scale), as well as improvement measures taken and planned towards the user interface will be reported on in the C.2 User and usage report (M5 and M10).
[24] https://www.europeana.eu/portal/nl/collections/newspapers

Editorial contributions on Europeana Collections

In the reporting period, EF published eighth blogs (e.g. The Watersnoodramp: the Dutch battle against water in moving images[25]) and five galleries (e.g. Alphabets[26]). We also published several chapters for the new exhibition 'Pioneers: Trailblazing women in the arts, sciences and society'[27], an online exhibition highlighting the lives and achievements of eight remarkable European women in the arts, sciences and society (see also [Task 4.2. Run a series of activities showcasing the value of digital cultural heritage to a variety of audiences](#)).

EF measures user satisfaction on Europeana Collections three times a year. The last measurement was in December 2018 with an NPS score of 36[28]. The next will be done in April 2019. EF also measures the average NPS score for exhibitions published under Europeana DSI-4 (since September 2019). Exhibitions received an NPS score of 49.

Requirement B.3. User feedback mechanism (EF)

The platform offers a user feedback mechanism allowing visitors to directly leave comments on the website - every page on Europeana Collections and Europeana Pro has a feedback button. EF will report on the insights drawn from user contributions received via the feedback button in the C.2 User and usage reports (M10).

Requirement B.4. Applications of third parties (EF)

Applications developed by third parties are encouraged through free use of the Europeana APIs by commercial and non-commercial organisations, by researchers, creatives, developers and educational publishers. Data access for app development can also be via SPARQL Endpoint, OAI-PMH or Linked Data. EF will report on applications developed by third parties in the C.3 Content supply and reuse report (M10).[29]

Requirement B.5. Data Exchange Agreement and licensing assistant (EF, KL)

EF manages the Data Exchange Agreement (DEA). EF provided licensing assistance by providing standardised use of rights statements as well as interoperable (across member states and the wider world) machine readable mechanism for rights related information such as the Europeana Licensing Framework and Rightsstatements.org. These pieces of

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[25] http://blog.europeana.eu/2019/01/the-watersnoodramp-the-dutch-battle-against-water-in-moving-image/
[26] https://www.europeana.eu/portal/en/explore/galleries/alphabets
[27] https://www.europeana.eu/portal/en/exhibitions/pioneers
[28] A NPS that is positive (e.g. higher than zero) is felt to be good while an NPS of +50 is excellent.
[29] Applications developed by third parties including usage metrics of third party applications, number and nature of queries served via third party applications, evolution in active third party applications, as well as measures taken and planned.

work are continually reviewed and updated (see Requirement A.2. <u>Europeana Licensing Framework and Rightsstatements.org</u>).[30]

As part of Europeana DSI-3, a new DEA was developed which will be implemented under Europeana DSI-4 with new data providers. EF is currently preparing to publish and implement the new DEA on Europeana Pro, including guidance specific to existing data partners and new data partners.

Requirement B.6. Content management system for editorial content (EF)

EF maintained and improved the content management system for editorial content for internal (EF) use. Activities towards the development of the content management system are reported on in section Requirement B.2. <u>Developments on Europeana Collections</u>.

Requirement B.7. Multilingual capabilities (EF)

The user interface of Europeana Collections supports internationalisation and localisation.

Automatic translation

The experiment for applying automatic translation from the eTranslation DSI to selected virtual exhibitions was piloted on the 'Ecstasy of Beauty' exhibition, and performed together with the Generic services partners (Rise of Literacy and Migration in the Arts and Sciences). A report will be published soon. We have also liaised with the EnrichEuropeana project, which did similar work experimenting with eTranslation on texts to evaluate its potential in an automatic data enrichment process.

Requirement B.8. Helpdesk (EF)

EF performs helpdesk activities for Europeana Collections users and data users (API-users) (see also Requirement B.3 <u>User feedback mechanisms</u>). Developments towards helpdesk activities will be reported on in the C.2 User and usage report (M10).

Task 1.3. General conditions for delivery of the requirements

Activities towards general conditions for delivery of the requirements will be reported on in the A.1 Platform report (M10) including the use of free and open source software and maintaining and further developing the platform infrastructure. Information towards hosting of the platform infrastructure including technical aspects on how to set-up, configure, operate and monitor the platform will be reported on in C.1 Technical documentation (M9).

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[30] EF will report on patterns discovered with respect to licensing conditions and interoperability between licenses as well as measures taken and planned in the C.3 Content supply and reuse report (M10).

Work package 2: Content supply

Work package 2 delivers the organisational and expertise knowledge needed to ingest the data into Europeana DSI. Europeana DSI-4 will support the content providers directly and assist them to prepare high-quality datasets for inclusion in the Europeana DSI platform. This will be done through training programmes, support for mappings, and by promoting the uptake of multilingual vocabularies and of Europeana frameworks and guidelines.

Task 2.1. Promote organisational and technical requirements for publication of cultural heritage data and the uptake of frameworks (EF, APEF, BL, CARARE, AthenaRC, MCA, eFashion, DIF, NISV, AIT-Graz, PhotoCons)

EF and aggregating partners supported and assisted content providers and aggregators to ingest content to the Europeana DSI Platform via outreach events and workshops (directly and via aggregators), and by one-to-one support.

Under Europeana DSI-4 the aggregating partners worked to date with a total of 105 different institutions from more than 24 countries eventually affecting more than 9 million records in Europeana Collections. Support activities include assistance in preparing data, working on IPR related questions, advise on metadata mapping (incl XSLT transformations), advise on use of vocabularies, processing/ingesting of data, etc.

AIT Graz (OpenUp!), CARARE, NISV (EUscreen) and Photocons are in preparation of their annual network meetings or conferences[31]. NTUA is organising a workshop on social innovation in cultural heritage. EF is in preparation for the Europeana Aggregators' Forum meetings in 2019 (3-4 April, The Hague; October, Stockholm) and four national workshops are about to be scheduled for 2019 (Germany, September; Sweden, October; 2 more not confirmed). Alongside the next Europeana Aggregators' Forum meeting in April a train the trainer event is planned (enriching metadata for Europeana).

Task 2.2. Develop and maintain interaction with potential user groups (EF)

EF will report on interactions with potential user groups in the three focused markets education, academic research and creative industries in Work Package 3: Fostering reuse of digital cultural heritage resources and in the C.3 Content supply and reuse report (M10).

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[31]
https://docs.google.com/spreadsheets/d/1WAEW1RJCdmfdgiR5D9QLIXIbWfFQ5ooQpdx0mi-hDyQ/edit#gid=1613890381

Task 2.3. Ensure that mappings between metadata schema are maintained (EF, APEF, BL, CARARE, AthenaRC, MCA, eFashion, DIF, NISV, AIT-Graz, PhotoCons)

Maintenance and improvements of mappings are an important element to achieve data quality improvements as specified in the data quality work plans.

APEF is working on adapting the EDM conversion as provided in the Archives Portal Europe's back-end. It was on hold during the past months due to significant staff changes at the Archives Portal Europe Foundation with a new Technical Coordinator only coming in in January 2019. Work is in progress with two suppliers (National Archives of Hungary, Archive of the Berlin-Brandenburgische Akademie der Wissenschaften) to manually adapt their data in order for it to be ingested.

AthenaRC (CARARE) is working on two microservices, one that will update rights information to consider the rs.org statements and another one about the integration of language attributes. CARARE is working on fine-tuning the mapping between the CARARE schema and EDM to reflect the new metadata framework in the EPF with a focus on integrating language attributes.

BL (Europeana Sounds) expects that the target of 10,000 MIMO-linked records is reached by the current ingestion of data into Europeana (taking place mid-February).

DIF (EFG) has reviewed the mapping from the EFG schema to EDM and instructions for mapping adaptations have been communicated to the technical subcontractor. Mapping adaptations mainly focus on fixing syntax issues and on integrating links to controlled vocabularies and language attributes.

NISV (EUscreen) published the EUscreen core content, which includes an update on the mapping between the EUscreen metadata model and EDM for e.g. the addition of extended descriptions for this data to dc:description and the mapping to URIs instead of literals for edm:rights. That work was supported by NTUA.

Task 2.4. Promote the use of controlled vocabularies and terms from multilingual thesauri (EF, APEF, BL, CARARE, AthenaRC, MCA, eFashion, DIF, NISV, AIT-Graz, PhotoCons)

Aggregating partners promoted the use of controlled vocabularies as part of their outreach actions or via helpdesk activities. CARARE and MCA (MUSEU) are promoting the use of AAT terms to partners indexing their collections. BL (Europeana Sounds) continued adding VIAF and dbpedia terms to existing and new datasets. BL is also inviting data providers to import existing geographical metadata from their own sites to enhance their content on Europeana. DIF (EFG) compiled a set of terms from AAT, Wikidata and Geonames to

automatically enrich dc:type, dc:subject and dcterms:spatial in all datasets when converted from the EFG schema to EDM. A list of the URLs used in the EFG datasets was sent to the Europeana ingestion team to facilitate dereferencing.

eFashion prepared the enrichment of both geographic values (e.g. dcterms:spatial) and agents (dc:creator and dc:contributor). For geographic enrichment the results of the mapping are available[32]. There were 2,919 distinct values in the dcterms:spatial properties in the eFashion collection (486.957 values in total). After manual validation, 921 valid matches (31,52%) were accepted; of the 486.957 values in total, over 483.446 (99,28%) now have a Geonames URI. For the enrichment of Agents the result of the mapping is available[33]. There were >1.000.000 values for creators & contributors in Europeana Collections (20.640 distinct values). Of the 20.640 distinct values, 1.971 (9,55%) could be mapped to Wikidata; of the 1.034.317 values, 729.565 (70%) were mapped.

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[32]
https://docs.google.com/spreadsheets/d/1-gM6w0tV6TmjI-LwYaZBeoOq5jToqwG-e9jU1cjfKMc/edit#gid=3876802 6
[33]
https://docs.google.com/spreadsheets/d/1U4bQ_FzqTAczlnfjT5PgLmT0qjlKDd9AE6dDu1X7MC0/edit#gid=16536 61454

Work Package 3: Fostering reuse of digital cultural heritage resources

Work package 3 fosters reuse of digital cultural heritage by community engagement as well as markets and audiences outreach.[34]

Task 3.1 Engage with the communities interested in reuse (EF, EUN, Euroclio, CLARIN, AthenaRC)

EF builds up market-specific communities to bring together various stakeholders on the three reuser markets education, academic research and creative industries. EF serves its reuser communities via dedicated online spaces on Europeana Pro (creative industries[35], education[36] and academic research[37]). For even stronger engagement, we work with selected market partners on cross-promotion and joint community outreach campaigns.

Subtask 3.1.1. Further develop Europeana Pro, for the continuous engagement of communities (EF)

EF will continue to maintain and develop Europeana Pro as a main element of the Europeana DSI. In this period, we focused on three main areas: information architecture, design and branding. We reworked the information structure on our website focusing on our priorities such as aggregating data and raising its quality. We also refreshed the design of the website and played around with some branding elements that would convey the value of Europeana.

Subtask 3.1.2. Engage with educational communities (EF, EUN, EUROCLIO)

EF, EUN and EUROCLIO engaged with teachers in secondary education to raise their awareness about the educational value of digital cultural data and to increase the use of digital learning resources with Europeana content in their classrooms and other educational projects.

Following communication and dissemination activities were undertaken in the reporting period:

Partner	Name of event	Activity	Location	Date

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[34] The outreach plans to the re-user communities are presented in D.1 Communication and dissemination plans (M9).
[35] https://pro.europeana.eu/post/europeana-labs
[36] https://pro.europeana.eu/what-we-do/education
[37] https://pro.europeana.eu/what-we-do/academic-research

EF	Europeana Pro	Blogpost[38] to announce the two national languages versions of the Europeana Education MOOC	Online	22/02/2019
EF	Europeana Pro	Blogpost 'We asked educators how they want to use digital cultural data and this is what they told us'[39]	Online	05/02/2019
EUN	2nd Spanish Scientix National Conference[40]	Presentation (170 participants)	Madrid, Spain	02/02/2019
EF	Kick-off meeting[41] Erasmus + KA2 project 'Crowddreaming: youth co-create digital culture (CDDC)'	Participation as associate partner. EF will support the project with access to resources for educators and dissemination of the project results.	Rome, Italy	31/01/2019
EF	National Education Exhibition[42] (NOT)	Representation of Europeana and its offer for education at the the largest event for Dutch teachers (460+ exhibitors and 500 workshops/sessions)	Utrecht, The Netherlands	24/01/2019
EF	Critical thinking with Europeana[43]	Webinar within the updated MOOC (100 participants)	Online	23/01/2019
EUN	I Encontro Regional STEM meeting[44]	Presentation (150 participants)	Funchal, Madeira	18/01/2019
EF (CulturaItalia, Italian teacher	#HackCultura19 Webinar[45]	Joint presentation to promote Europeana resources among Italian educators and invite them to participate in our challenge #imparaconEuropeana (50 participants)	Online	11/01/2019

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[38] https://pro.europeana.eu/post/new-spanish-and-portuguese-versions-of

[39] https://pro.europeana.eu/post/we-asked-educators-how-they-want-to-use-digital-cultural-data-and-this-is-what-they-told-us

[40] https://intef.es/Blog/ii-congreso-nacional-scientix-2019-conclusiones-y-certificacion-de-la-actividad-formativa/

[41] https://www.statigeneralinnovazione.it/online/crowddreaming-goes-to-europe/

[42] https://www.not-online.nl/nl-NL/Bezoeker/Cookies.aspx?returnUrl=%2fnl-NL%2fBezoeker.aspx

[43] https://www.europeanschoolnetacademy.eu/login

[44] https://digital.madeira.gov.pt/interagir/Forma%C3%A7%C3%A3o/tabid/212/mid/805/m494f/c355l0-1ic522li1864-449/Default.aspx?ctl=Crud.Acoes&ContainerSrc=%5BS%5DContainers%2FGRM_Interagir_CntLaranja%2FCnt_Inf_D1_Edicao

[45] https://www.eventbrite.co.uk/e/critical-thinking-with-europeana-webinar-the-use-of-primary-sources-as-an-effective-technique-to-tickets-56477549872?aff=erelexpmlt

ambassad or)				

Europeana resources for education were featured as a separate module in the French MOOC HG[46] (HG stands for Histoire-Géographie) in the last week of January. The Europeana module was created by three teachers who have been already working with Europeana within the Europeana DSI-3 and DSI-4 projects, all of them from the Académie de Dijon. The MOOC is supported by the French Ministry of Education and is open to all the educational districts in France. MOOC HG5 is the fifth edition and got 1166 registrations this year.

During this period the Europeana Education Linkedin group has increased to a total of 465 members, or 22% increase in comparison to the previous reporting period.

European Schoolnet[47]

EUN will coordinate a network of Europeana teacher ambassadors to deliver learning scenarios integrating Europeana resource, update and rerun the Europeana MOOC, and create and maintain a dedicated Europeana teacher blog space.

Organise a network of Europeana Teacher Ambassadors
The 13 Europeana Teachers Ambassadors from Croatia, Finland, France, Greece, Hungary, Italy, Malta, Poland, Portugal, Romania, Spain, Turkey and the European Schools[48] finalised their learning scenarios, using Europeana resources. These learning scenarios were published on the Future Classroom Lab (FCL) repository[49] and shared on the Teaching with Europeana blog[50]. Furthermore, the 14 Europeana learning scenarios were woven into the 'Europeana in your classroom: building 21st-century competencies with digital cultural heritage (Rerun)'[51] MOOC (Massive Open Online Course).

During December 2018 and January 2019, the 13 Ambassadors successfully carried out a training for the User Group teachers they coordinate. The Ambassadors presented the Europeana DSI-4 project to User Group teachers, prepared them for their tasks and guided them through creating their own Europeana learning scenarios.

Furthermore, the Ambassadors started carrying out webinars on national level. Each Ambassador will carry out two webinars on the national level per project year, see the

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[46] http://histoire-geographie.ac-dijon.fr/spip.php?article946
[47] http://www.eun.org/
[48] https://www.eursc.eu/en
[49] http://fcl.eun.org/directory
[50] http://teachwitheuropeana.eun.org/
[51]
https://www.europeanschoolnetacademy.eu/web/europeana-in-your-classroom-building-21st-century-competences-with-digital-cultural-heritage-rerun-/course

webinar dates in the FCL calendar[52]. Eight webinars (Italy, Greece, Croatia, Romania, Portugal, Spain, Poland and European Schools) took place during this reporting period.

Organise the Europeana Teacher User Group
In this reporting period, 125 User Group teachers were accepted and introduced to the project. Following an agreement with EF, EUN opened up the call to teachers from four new countries: Bulgaria, Serbia, Slovenia and North Macedonia. The updated open call was disseminated on EUN social media channels, the EUN website and the Future Classroom Lab website. Teachers from the four additional countries will join two international User Groups, coordinated by the French and the Finnish Europeana Ambassadors. EUN is looking to recruit the remaining five User Group teachers.

Update and rerun the Europeana MOOC
The updated Europeana MOOC in English (Rerun[53]) was launched on 14 January and ran till 28 February. The MOOC was well received among teachers in Europe, with 2974 course registrations and 1666 educators starting the first module. The top three countries are Turkey, Croatia and Italy. Final engagement statistics will be available after course completion.

The 'Europeana in your classroom: building 21st-century competencies with digital cultural heritage' MOOC is currently being translated to Portuguese and Spanish. Participants can register to both courses as of 11 February 2019. The courses will start on 18 March 2019 and run until the beginning of May.[54]

Both the English and the translated versions of the MOOC will feed both the creation of learning scenarios and promotion of the use of Europeana resources in classes. EUN expects a minimum of 50 new learning scenarios including Europeana resources to come out of each MOOC (i.e. about 150 per project year).

The Facebook Group[55] for the Europeana in your classroom MOOC (rerun) has now 1.101 members.

'Teach with Europeana' blog

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[52] http://fcl.eun.org/calendar
[53]
https://www.europeanschoolnetacademy.eu/en/web/europeana-in-your-classroom-building-21st-century-competences-with-digital-cultural-heritage-rerun-/course
[54] Promotional materials are available on the EUN website:
http://www.eun.org/europeana-mooc-rerun-promo-pack-es and
http://www.eun.org/europeana-mooc-rerun-promo-pack-pt. The landing pages of the courses can be found
https://www.europeanschoolnetacademy.eu/web/europeana-es and
https://www.europeanschoolnetacademy.eu/web/europeana-pt
[55]
https://www.facebook.com/login/?next=https%3A%2F%2Fwww.facebook.com%2Fgroups%2FEuropanaMOOCrerun%2Fmembers%2F

EUN finalised the content for the 'Teaching with Europeana' blog, which will be hosted at http://teachwitheuropeana.eun.org, and feature the following sections:

1. A catalogue of new learning scenarios created with Europeana resources. These resources will come from the Europeana User Group.
2. Blog posts with stories of implementations from teachers using their own scenarios or those of other colleagues in classes.

The 'Teaching with Europeana' blog will launch on 4 March 2019.

Dissemination materials
In February 2019, EUN started to prepare a brochure promoting Europeana resources and activities for and with educators. The brochure will provide a short introduction to Europeana, teachers' involvement and the use of Europeana learning resources and digital cultural heritage in the classroom, including examples of learning scenarios. The brochure is intended for online use only and will support European Schoolnet's dissemination throughout Europeana DSI-4.

Until August 2019, EUN aims to deliver four dissemination videos. The first dissemination video[56] was published at the end of December 2018. EUN is currently working on the second dissemination video, due in March 2019, which will introduce the results of the English version of the Europeana MOOC (Rurun) and call for participants to join the two translated versions.

EUROCLIO

EUROCLIO continues to publish digital learning resources with Europeana content on Historiana to raise general awareness of the existence of Europeana as an educational resource in their network of history teachers across Europe.

Source collections & eLearning activities
During this reporting period, EUROCLIO worked on the development of the first set of Europeana source collections. The following source collections are now ready for review by the historical content team of Historiana: Napoleon's Legacy; Maths and Magic; Medicine and Anatomy; Precursors of the Renaissance.

The historical content team of Historiana met in February to discuss the draft source collections and divide the responsibilities for the editing of the collections and a procedure for the selection of the new themes. The team also agreed on a schedule for the drafting of new source collections.[57]

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[56] https://www.youtube.com/watch?v=Hx_1rdTiU5o
[57] 4 source collections (March 2019 - April 2019); 4 source collections (May 2019 - June 2019); 4 source collections (September 2019 - October 2019); 4 source collections (November 2019 - December 2019); 4 source collections (January 2020 - February 2020).

EUROCLIO also started to develop an exemplar guide on how to use visual sources to promote historical thinking, making use of the source from the Europeana source collections that are developed in this and previous projects.

EUROCLIO prepared and confirmed the following workshops for history educators to work with the teacher training kit:

- A workshop for trainee teachers at Groningen University (The Netherlands) on 11 March 2019.
- A workshop for trainee teachers at Fontys (The Netherlands) on 24 April 2019.
- A workshop for teachers at the EUROCLIO Annual Conference in Gdansk (Poland) in 2019.
- A eTwinning Seminar in April 2019.

The results of these workshops will be used for the first update of the teacher training package.

eTwinning

The first online meeting of the Friends of eTwinning group took place in February and collected ideas for contributions in the eTwinning Spring campaign, annual book and conference in October 2019, all around the annual theme "Democratizing access". EF aims to support the campaign and the conference with webinars/workshops.

Subtask 3.1.3. Engage with creative industries communities

EF engages with creative audiences via Europeana Labs, newsletter and Twitter as well as community outreach campaigns with other creative industries partner channels (such as THE ARTS+ Festival) (see also subtask 3.2.3. Develop and maintain partnerships with the Creative Industries market). The annual Europeana Challenges also play an important role for growing the Europeana Labs community (see task 3.3 Facilitate the development of new products and services by reuser communities).

Subtask 3.1.4. Engage with academic research communities (EF, AthenaRC, CLARIN)

Europeana Research reached out to researcher audiences at several events during this reporting period.

Partner	Name of event	Activity	Location	Date

EF, CLARIN (Austrian Centre for Digital Humanities at the Austrian Academy of Sciences)	Virtual Hackathon Series[58]	Hackathon partner, representation of a relevant newspaper dataset as a resource for experimentation to hackathon participants	Vienna, Austria	14/02 - 02/03/ 2019
EF	Webinar "Discover the value of digital cultural data for research"	Joint presentation of Europeana and Library Lab of the Royal Library of Denmark	Online	07/02/ 2019

The @EurResearch Twitter increased to 2604 followers which amounts for ca. 5% increase to the previous reporting period.

EF submitted paper abstract proposals for two conferences which will introduce Europeana Research to relevant audiences:
- LIBER annual conference[59], Dublin, Ireland, 26-28 June 2019
- Digital Humanities 2019[60], Utrecht, The Netherlands, 9-12 July 2019

Also, EF in consultation with AthenaRC is working on a proposal for the DARIAH-EU Annual Event 2019[61], Warsaw, 15-17 May 2019. To facilitate engagement with the research community, AthenaRC is preparing a list of research references for future use and dissemination by Europeana.

A new task force within the Europeana Research community was proposed and approved. The task force aims to deliver recommendations for maximizing the impact of digital cultural heritage in research.

EF participated in the Parthenos Project[62] Foresight Study on the future of research infrastructures and methods in the humanities and cultural heritage, by contributing to an online interview in February 2019. The study represents a step forward on the workshop 'DH Foresight: The Future of DH methods and Infrastructures', organised by Parthenos in Pisa, in October 2018.

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[58] https://www.oeaw.ac.at/acdh/detail/event/acdh-virtual-hackathon-series/
[59] https://liberconference.eu/dublin2019/
[60] https://dh2019.adho.org/
[61] https://dariah-ae-2019.sciencesconf.org/
[62] http://www.parthenos-project.eu/

Task 3.2. Markets and audiences outreach (EF, EUN, Euroclio, CLARIN, AthenaRC)

EF aims to increase the visibility and reuse of Europeana data by professionals working in our target markets of education, academic research and the creative industries.

Subtask 3.2.1. Develop and maintain partnerships with the educational market (EF)

EF aims to embed relevant Europeana resources in various educational systems and increase awareness of Europeana as a resource for education. For this purpose, EF works closely with three types of partners: governmental (Ministries of Education), commercial and noncommercial educational partners. EUN and EUROCLIO are our key noncommercial partners (see subtask 3.1.2 Engage with educational communities).

EF was confirmed as a strategic partner of All Digital Week[63], 25 - 31 March 2019. This initiative is an annual digital empowerment campaign run at digital competence centres, libraries, schools, community centres and non-profits across Europe, bringing 100,000 Europeans every year in exciting online and offline events tackling digital transformation and its effects. Originally called Get Online Week, it has been organised since 2010 and has involved over one million people. The partnership will cover promoting Europeana educational resources and a webinar for fostering critical thinking with cultural data.

We started conversations with Moodle in order to create a Europeana community in their project MoodleNet[64]. This is a new open social media platform for educators focused on the collaborative curation of collections of open resources. We will participate in the second phase of the testing at the beginning March.

Subtask 3.2.2. Develop and maintain partnerships with the academic research market (EF, CLARIN)

EF and CLARIN continued to work together with selected partners to connect the cultural sector with digital humanities and research infrastructures to make cultural heritage data easily accessible to researchers.

In January, CLARIN and EF met at the Europeana offices to discuss technical aspects as well as application prospects of Europeana full-text content and services, with a particular focus on the newspaper collections. CLARIN carried out an evaluation of newspaper content and services as currently provided (in their non-final state) and assessed their usability and applicability from a social sciences and humanities research perspective. Their findings will be considered in the Newspaper collection and API development to be able to cater better to the researchers' needs.

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[63] https://alldigitalweek.eu/partners/
[64] https://new.moodle.net/

CLARIN started work on adapting their infrastructure components to the upcoming OAI-PMH provider hosted by EF and the enhancements to the metadata it releases. This work includes implementation of filtering, test-driving metadata retrieval and adapting metadata conversion.

CLARIN resolved issues with the accuracy of access and usage metrics, in particular the detectability of CLARIN as a source of traffic to Europeana's public portals via distributed metadata. The usage metrics will be used for the case-study which will be published latest August 2019.

The selection of new Europeana datasets to be integrated into CLARIN's VLO was narrowed down to 25 datasets with ca. 330,000 records. The evaluation will be concluded and the final numbers and topics, will be confirmed in the next reporting period.

EF continued to explore the possibilities of cooperation within the European Open Science Cloud (EOSC) and started working on a candidature to become an EOSC provider. In support of this, EF attended a workshop[65] organised by ESFRI[66] in London, 30 January 2019. The workshop was focused on the relationship between ESFRI Research Infrastructures (RIs) and the EOSC.

EF is also in conversation with OCLC[67] about the potential integration of Europeana Collections in their WorldCat[68] discovery services. At this stage, OCLC is performing analysis of selected Europeana content to evaluate the content suitability and assess integration feasibility.

Subtask 3.2.3. Develop and maintain partnerships with the Creative Industries market (EF)

EF develops partnerships with intermediaries e.g. high profile organisations, networks and initiatives in the creative industry market which can help us reach their communities fast and effectively (for example, THE ARTS+ Festival).

Task 3.3. Facilitate the development of new products and services by reuser communities

The Europeana Research Grant Programme 2018 winners started working on their research projects. One of them - Dr Elizabeth Benjamin, Coventry University - already focused on outreach activities related to the project 'Return to Sender'. She organised a workshop[69], set up a blog[70] as well as a project-specific Twitter account[71].

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[65] https://www.esfri.eu/esfri-events/esfri-ris-eosc-liaison-workshop
[66] https://www.esfri.eu/
[67] https://www.oclc.org/en/home.html
[68] https://www.worldcat.org/
[69] https://www.solent.ac.uk/events/2019/research-seminar-return-to-sender

The Europeana Challenge 2019 will focus on the intersection of education and creative industries and will aim to deliver educational resources using Europeana content on the STEAM topic (science/technology/engineering/arts/math). The Challenge will be launched in March 2019 on Europeana Pro.

Task 3.4. Work with major platforms and development of platform functionalities to increase use of Europeana content communities (EF)

EF places culture right where people are most likely to make use of it, on social media and third-party platforms such as Wikimedia, reaching them in their online activities and via their communities of interest.

At the beginning of February, we launched the 4th edition of Europeana Colouring Book. It has been promoted as part of #ColorOurCollections campaign, a week-long coloring fest on social media organized by libraries, archives, and other cultural institutions around the world, offering colouring books created from openly licensed cultural heritage content. The book will be promoted throughout the Women's History Month and a colouring session is planned on the International Women's Day in Atria, Institute on gender equality and women's history in Amsterdam.

Wikimedia
EF continued to incorporate Europeana blog posts as Wikipedia footnotes e.g. articles on Watersnoodramp[72], Jan Karski[73], Ice Follies[74]. This method serves to improve the quality of the third-party site while also increasing the reach of EF's own material.

With support and consultation[75] from EF staff, Wikidata now has a dedicated metadata property for "Rights Statements" (P6426[76]) - enabling greater use, visibility and cross-platform dissemination of this copyright documentation standard, of which EF is a founding partner.

Several Wikimedian volunteer community members accepted the invitation from EF to be featured as part of the 'Women in Culture & Technology' Pro profiles series. Investigations continue into how the launch of Europeana Newspapers can benefit, and benefit from, Wikidata integration and outreach - with advice from their experiences in this field from Trove.

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[70] https://returntosendermap.eu/blog/2019/01/25/project-launched/
[71] https://twitter.com/returnsendermap
[72] https://en.wikipedia.org/wiki/North_Sea_flood_of_1953#Netherlands
[73] https://en.wikipedia.org/wiki/Jan_Karski#Resistance
[74] https://en.wikipedia.org/wiki/Ice_Follies
[75] https://rightsstatements.org/en/2018/12/where-statements-apply.html
[76] https://www.wikidata.org/wiki/Property:P6426

Several events for the latter half of the year are now in the active planning phase - including a Swedish 'small GLAMs Wikidata training' event, the 2019 edition of the biennial European GLAMwiki Coordinators meeting, a Nordic National Libraries + Wikidata workshop, and EF's participation in both Wikimania and WikidataCon.

Work Package 4: Communication and Dissemination

Under work package 4, EF undertakes communication and dissemination activities to raise awareness of and promote Europeana and its services in all target markets (cultural heritage institutions and aggregators, end-users (European Citizens), and re-users (education, academic research and creative industries). We also run an annual campaign showcasing the value of digital cultural heritage to a variety of audiences.

Task 4.1. Communication and dissemination of Europeana

The communication and dissemination strategy aims to increase new visits and re-visits to the Europeana Platform and promotes Europeana on high-impact channels, where the users already are. Communication activities function on channels that Europeana owns (e.g. Europeana Collections, Europeana Pro, Transcribathon.eu), through blogs, news articles and newsletters, as well as, external channels, such as social media and partnerships with third-party platforms. Specific communication and dissemination activities are reported on as part of the tasks/activities performed in the individual work packages.

Key performance Indicators (KPIs) related to our efforts are summarised in the table below:

January 2019	
413,876	Monthly visits to Europeana Collections
13,1%	Returning visitors to Europeana Collections
86,848	Items downloaded (total of Europeana DSI-4 until 31 January)
122,025	Click-throughs to partners websites on item pages (total of Europeana DSI-4 until 31 January)

EF continued to make strategic use of social media as a means of sharing cultural heritage material with European citizens in the promotion of Europeana Collections and thematic collections and to support pan-European campaigns.

January 2019	
65.0 million	Impressions on third parties (total of Europeana DSI-4 until 31 January)
55.5 million	Impressions on social media (Facebook, Twitter, Pinterest, GIPHY) (total of Europeana DSI-4 until 31 January)

Europeana Pro

In the reporting period, EF focused on the theme 'growth mindset' on Europeana Pro as a way to set the tone for Europeana's strategic focus in 2019 on promoting educational outcomes[77], supporting and promoting cultural heritage institutions[78], and sharing concrete outcomes (in the form of case studies[79], examples of open access best practice[80] and reuse activities[81]). Pageviews on Europeana Pro through January and February 2019 reached almost 183,000.

Task 4.2. Run a series of activities showcasing the value of digital cultural heritage to a variety of audiences

January marked the start of our Women's Season. On 18 January, Mariya Gabriel, European Commissioner for Digital Economy and Society, launched the first chapter of Pioneers: Trailblazing women in the arts, sciences and society[82], an online exhibition highlighting the lives and achievements of eight remarkable European women in the arts, sciences and society. Every Friday up and until International Women's Day (8 March) we'll publish a new chapter. The exhibition is performing extremely well with over 10,000 visitors in the first month of publication and excellent audience reviews.

The exhibition is the aperitif for March, when Europeana will mark International Women's Day (8 March) and #WomensHistoryMonth[83] with a month-long celebration[84] of female innovation, closely supported by Commissioner Gabriel:

- On Europeana Collections, we'll highlight the lives and achievements of historical women in a series of editorial features, including guest contributions from partners.
- On Europeana Pro, we'll run a series of profiles and interviews with leading women in the GLAM sector, highlighting their work and achievements. The featured women were selected for their contribution to the sector, broad reach, diverse roles and background.

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[77] https://pro.europeana.eu/post/new-spanish-and-portuguese-versions-of
[78] https://pro.europeana.eu/post/making-the-case-for-impact-at-smk
[79] https://pro.europeana.eu/post/we-asked-educators-how-they-want-to-use-digital-cultural-data-and-this-is-what-they-told-us
[80] https://pro.europeana.eu/post/open-access-arrives-at-the-cleveland-museum-of-art
[81] https://pro.europeana.eu/post/more-than-a-buzzword-why-transcribathon-exemplifies-the-need-for-digital-transformation-and-just-what-that-means
[82] https://www.europeana.eu/portal/en/exhibitions/pioneers
[83] https://twitter.com/search?q=%23WomensHistoryMonth&src=typd
[84] https://pro.europeana.eu/post/a-season-of-women-in-culture-and-technology

Work Package 5: Animate and further enlarge the Europeana Network Association

The Europeana Network Association (ENA) consists of more than 2,300 members from across Europe who give time and expertise voluntarily to achieve the Europeana strategy, and to strengthen the role of cultural heritage in our society.

Task 5.1. Support the ENA in attracting citizens, professionals and institutions with an interest in digital cultural heritage

Enlargement of the ENA by attracting citizens, professionals and institutions, while keeping it fully engaged and active, continues to the be our main objective. Comparing the ENA membership number with the previous reporting period, we can register 105 new members. The current ENA membership stands at 2340 members[85].

Members Council and Management board

Following the 2018 Members Council elections[86] in December, elections of the new Management Board[87] took place. Eleven Councillors came forward as candidates in December/January. In January the Council representatives elected six of them to form the new Board. We registered 86% turnout (31 out of 36 Councillors casted their vote).

The new Management Board[88] members had a one-day physical meeting in February in Leiden, Netherlands. The Board appointed Marco de Niet[89] the Chair, Georgia Angelaki[90] the Vice-chair, and Frederik Truyen[91] the Treasurer of the Board and the Association overall. They discussed vision, strategic direction and milestones for ENA to be addressed and achieved by the end of 2020. They also worked on preparing the upcoming Members Council meeting on 5-6 March 2019 and discussed various outstanding issues.

Task forces and working groups

EF supports the work of the task forces and working groups. Four working groups[92] are involved in ongoing activities: Library, #AllezCulture, Data Quality, and Copyright. Two more annual working groups will be most likely appointed during the Members Council meeting in March 2019: Governance, and 2019 AGM. The overall state of these working groups will also be re-assessed in March 2019.

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[85] https://pro.europeana.eu/network-association/network-members
[86] https://pro.europeana.eu/post/europeana-network-association-s-members-council-welcomes-28-re-elected-representatives
[87] https://pro.europeana.eu/post/new-management-board-to-lead-europeana-network-association
[88] https://pro.europeana.eu/network-association/management-board
[89] https://pro.europeana.eu/person/marco-de-niet
[90] https://pro.europeana.eu/person/georgia-angelaki
[91] https://pro.europeana.eu/person/frederik-truyen
[92] https://pro.europeana.eu/network-association/working-groups

EF is currently supporting the work of three task forces. A new task force '3D content in Europeana[93]' belonging to the EuropeanaTech community was approved and started working in January 2019. EuropeanaTech has also approved a task force on annotations and user sets, which will launch in March. A new task force on Europeana Research was also approved in the end of February.

Four task forces[94] that were functional in 2018 have ended their terms, but they still need to deliver their final recommendations and findings: Europeana Resource Citation and Object Identity Standardization, Creation and Governance of EDM mappings, profiles and extensions, Europeana Migration and Impact Assessment no.2.

Task 5.2. ENA Secretariat (EF)

EF reports on activities of the ENA Secretariat related to the memberships, meetings and events, elections to the Members Council, and Europeana Network Association related communication under task 5.1. and task 5.3. EF will report on Europeana Network communities under task 5.4. and activities of related to EU presidency events under task 5.5.

Task 5.3. Publication services for the ENA

EF engaged with ENA members through Europeana Pro blogs[95] (e.g. announcement of the new Management Board, January 2019[96]) and the newsletter referred to as monthly Network Update[97] (1288[98] subscribers). The blogs and newsletters are relayed through various communication channels such as LinkedIn, Twitter and Facebook.

EF also managed the Europeana LinkedIn Group[99] (4175 members) with updates and posts published on a daily basis. The group provides an easy way for the Network members and others to interact with each other and with the Europeana Foundation.

Task 5.4. Europeana Network Communities

EF coordinated and fostered activities of the ENA communities, where members come together to promote exchange of knowledge, experiences, and best practices around specific topics of common interest. Topics are related to technology, research and development, as well as education, copyright, impact, and outreach campaigns.

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[93] https://pro.europeana.eu/project/3d-content-in-europeana
[94] https://pro.europeana.eu/network-association/task-forces
[95] https://pro.europeana.eu/blog
[96] https://pro.europeana.eu/post/new-management-board-to-lead-europeana-network-association
[97] https://us3.campaign-archive.com/?u=ad318b7566f97eccc895e014e&id=db2972d221
[98] https://pro.europeana.eu/network-association/network-members
[99]
https://www.linkedin.com/groups?gid=134927&trk=vsrp_groups_res_name&trkInfo=VSRPsearchId%3A1260728
031426260127839%2CVSRPtargetId%3A134927%2CVSRPcmpt%3Aprimary

There are currently six active Europeana Network communities[100]: Europeana Tech, Europeana Impact, Europeana Copyright, Europeana Research, Europeana Education, and Europeana Communicators group. All of them are currently in process of creating activity plans for 2019, proposing and approving task forces, and (re-)appointing their chairs and steering group members.

EuropeanaTech community
Further progress was made on defining an activity on 3D, a more specific task force on the same subject (3D content in Europeana) and a task force on interoperability of annotations and user sets are currently being launched. EuropeanaTech set its activity plan for 2019, and the EuropeanaTech Data Quality Committee Working Group has also defined its roadmap for 2019. The EuropeanaTech task force on EDM governance started to write its final report.

Europeana Impact community
A newsletter updating members on recent case studies published using the impact playbook was circulated in December 2018. A new chair and vice-chair of the community will be appointed in March 2019 following the Members Council meeting.

Europeana Copyright community
In November 2018, a newsletter was sent to the community. A new chair and vice-chair will be appointed in March 2019 following the Members Council meeting and will contribute to refining the terms of reference and work plan for 2019 of the community.

Europeana Research community
The community steering group was working on activity planning for the first half of 2019, and submitted a proposal for a dedicated research & cultural heritage task force. The European Commission launched a new platform for Innovators in Cultural Heritage[101]. Europeana Research is setting up its own space and will use it as a communication tool within the newly born Europeana Research Community.

Europeana Education community
The community steering group was working on putting the general terms and conditions into practice, as well as on specifying the community profile by sending a short survey to all confirmed members in January 2019. Europeana Education has currently 462 members in its LinkedIn channel and 1.101 in its Facebook group.

Europeana Communicators group

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[100] https://pro.europeana.eu/network-association/special-interest-groups
[101] https://www.innovatorsinculturalheritage.eu/

Europeana Communicators developed a comprehensive action plan, which was shared with the community via the LinkedIn group[102] and the newsletter 'Let's Talk Culture'[103] and their input was incorporated into the plan. This democratic approach has led to the cementing of goals and actions, which was agreed upon in a general meeting via skype in January 2019. The community, which was launched in September 2018, has now amassed 81 members on LinkedIn, 90 newsletter recipients (with an open rate of 60.2% and click rate of 14.8%).

Task 5.5 Europeana EU presidency events to connect to member states

The Europeana meeting under the Romanian Presidency on 17-18 April 2019 aims to highlight the impact of exposing cultural heritage online, and to provide a platform to examine the importance of national aggregation infrastructures to the digital transformation of cultural heritage sector using Romania as a case study. The participants to this two-day discussion will include cultural policy makers from EU member states, Romanian cultural policy makers, Romanian cultural heritage institution decision makers and representatives of the European Commission. EF will facilitate the meeting with support from inspirational speakers and experts from the Europeana Network and work in collaboration with the Romanian Ministry of Culture and National Identity.

Under Finland's presidency of the Council of the EU during the second half of 2019, EF and the Finnish Ministry of Education and Culture will jointly hold a meeting on multilinguality to identify and provide insights into the different aspects of the needs and expectations of the digital cultural heritage sector. Further information on the Finnish Presidency Europeana meeting will be included in the next periodic report.

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[102] https://www.linkedin.com/groups/13611314
[103] https://mailchi.mp/59d6ab8cb418/digital-culture-news-from-europeana-518957?e=6b33e76b44

Work Package 6: Studying the impact of digitisation and reuse of cultural heritage

Work package 6 contributes to the study of impact of digitisation and reuse of cultural heritage by investigating the status of digitisation in Europe and by researching the added economic value of opening up cultural heritage resources for reuse.

Task 6.1. Statistics on digitisation of cultural heritage in Europe and study on the cost and funding (per MS) of digitisation of cultural heritage

Costs of digitisation were one of the four themes of the ENUMERATE framework. Statistical data on costs and their development over time are available as a result of four core surveys (2012-2017), including funding, and used to indicate the economics behind digitisation of cultural collections in Europe.

In order to develop a successful new ENUMERATE core survey as well as new ways to present sound statistical data on the economics, the process of the survey itself will be evaluated. A first inventory of topics to be addressed is made. DEN´s network of national coordinators will be invited to participate in a series of short sets of questions (Q2 and Q3 2019).

To improve our knowledge on costs and funding sources of digitisation a further study is needed. First contacts were made with key players for cultural statistics in the Netherlands like the CBS (Central Buro voor de Statistiek) and Boekman Foundation (Institute for arts, culture and related policy). Their input and an inventory of their references combined with the feedback from the network will be important in locating relevant information sources on national costs and funding programs (Q2 and Q3 2019).

The conclusions of the study will be disseminated to various stakeholders via the ENUMERATE thematic network and be used to improve the ENUMERATE framework.

Additional outcomes are foreseen in a better understanding of the complementary roles of Europe and national governments in funding cultural activities, as well as a more valuable ENUMERATE observatory and strengthening of the ENUMERATE network. Insights on the costs and funding of digitisation are expected for the second year of the contract (M20).

Task 6.2. Develop a report on 10 cases on the impact of opening up high quality cultural heritage in terms of reuse and economic benefits

To bring more depth to the Impact Framework and the analysis of the statistics of ENUMERATE, DEN and EF are developing a methodology to select ten examples or case studies which demonstrate the economic impact of digital heritage.

Currently, cases have been selected for a feasibility review that broadly represent the principle opportunities where Europeana services deliver impact to and within the European cultural sector. Within those, 3-4 products, services or initiatives are proposed as the subject of an impact study as follow:
- Products & Services: Tech Community, National Workshops, Network Association
- Market Focus: Education, Research
- User Focus: Driving open data, moving towards multilingualism, rights labelled data and pioneers season.

Each subject will need to be tested for feasibility e.g. what is the scope for each study, do we have access to the resources needed to collect data within the budget and timeframe, and what are the risks factors in undertaking research into the subject.

Outcomes of these work are expected for the second year of the contract (M22).

We deliberately want to make the connection with the case studies developed in the context of the Europeana Impact Framework, to support the further development of the range of perspectives on impact in the Impact Framework. The impact framework consists of various tools (the Europeana Impact Playbook, reports, a community) that enable heritage institutions to assess the impact of their activities. Application of these methods enable the development of measurements that can help benchmark progress towards objectives and the use of the platform for its target markets.

Task 6.3. Cost-benefit analysis

The activity has not started while outcomes are expected for the second year of the contract (M24).

Work Package 7: Governance

Work package 7 states activities related to DCHE/subgroup. Its objective is to report on the status of the Europeana DSI platform, activities and developments as well as to re-prioritise developments of the platform based on received feedback and validation with users.

Task 7.1. Report to the Advisory Committee

EF, as the coordinator of the Consortium, will report to the DCHE/subgroup. EF presented the updated Europeana DSI-4 implementation plan (B.1 deliverable, M6) to the DCHE/subgroup in a meeting in February 2019.

Task 7.2. Re-prioritise and re-assign resources based on the received advice

EF will report on the re-prioritisation and reassignment of resources based on feedback received by DCHE/subgroup. EF will update the new implementation plan, based on the input of the Subgroup and Commission. The implementation plan also explains activities towards aligning Europeana with the outcomes of the independent evaluation of 2018.

Work Package 8: Phasing-in and phasing-out periods

Since this contract is performed by the current operator of the Europeana DSI, no phasing-in period is required (task 8.1). EF will report to the European Commission on assets and liabilities related to Europeana DSI (task 8.4., 8.5.) and to test phasing-out and transfer processes to a successor supplier (task 8.2., 8.3.) in the deliverables E.1 Transfer of assets and liabilities reports (M1 and M10), E.2 Transfer process report (M1 and M10), and E.3 Employed staff reports (M1, M6 and M12).

Work Package 9: Project and Programme Management

Work package 9 provides high-quality project and programme management for Europeana DSI-4 and manages good relations with Europeana DSI Generic Services projects.

Task 9.1. Project management of Europeana DSI-4

EF coordinated Europeana DSI-4 as described in the implementation plan. More information on progress towards objectives, updates of milestones, progress on KPIs, balance of efforts, progress on deliverables, communications and dissemination activities, risk assessment registry, and pre-existing rights to material used by Europeana DSI-4 participants, is provided in the Activity report (B.3 deliverable, M6).

In this reporting period, EF updated the implementation plan (B.1 deliverable, M6). The new implementation plan also introduced a new task structure. We will use the new structure of the implementation plan as reporting template starting in the next periodic report. The updated structure aims to make reporting more efficient (avoiding overlap and redundancy of information) and more specific by introducing concrete metrics towards the individual activities to evaluate performance.

Task 9.2. Relations with Europeana DSI Generic Services projects

EF maintains relations with the Europeana DSI Generic services projects and facilitates the integration of their results into the Core Service Platform. EF will report on activities and developments towards the integration of the projects into the Core Service Platform in the A.1 Platform reports (M10).