SILKNOW

D8.10. Report about small museums becoming data providers for Europeana

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List of acronyms	
AAT	Art & Architecture Thesaurus
API	Advanced Programming Interface
CIDOC-CRM	International Council for Documentation - Conceptual Reference Model
EAF	Europeana Aggregators' Forum
EDM	Europeana Data Model
ENA	Europeana Network Association
IPR	Intellectual Property Rights

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This deliverable outlines the contents of the training and coaching designed for small textile museums in order to facilitate their incorporation as Europeana data providers. It offers an overview of the main issues to take into consideration in that process, mainly from the perspective of the museums themselves, but also taking into account those of other stakeholders.

1. INTRODUCTION

The SILKNOW project has aimed, among many other things, at improving the management of digital information in textile heritage institutions. Large parts of European historical silk are kept in small and medium-size museums, often lacking the funding, staff, expertise and technical means to take advantage of ongoing digital developments. 3D visualization usually appears as the main area in this regard, but issues related to data management are equally important: collection management systems, Linked Open Data, standards and interoperability…

The challenges involved in digital data management for museums were the subject of some workshops with textile museums, as reported in D8.9. Many of them already understand the importance of sharing information about their objects, making them available across the walls of institutions. In this case, those digital "walls" are the specifics built into each individual database: the cataloguing standard, vocabulary, and language used, among other features. The result is a huge amount of scattered, heterogeneous, siloed information, that is barely accessible to the average European citizens, and is used only by specialists. Larger national museums do have policies and resources in place to share openly their information, and some of them are already doing so. Undertaking such efforts, however, is often outside the question for smaller institutions, that day after day must face far more pressing needs.

For many reasons (see section 3 below), open repositories of cultural information have become an excellent answer to the challenges just outlined. Enabling cultural institutions to participate and benefit from them is one of the goals for SILKNOW. For many good reasons, Eu-

ropeana ranks first among those repositories. It is based on the holdings of European institutions, it is built on a philosophy of open access, and it has a solid technical background. Providing small textile collections with training and computational tools to map and export their registers towards universal standards is the most sustainable and effective way to preserve and disseminate the information kept and generated by these institutions.

In this regard, the repository built by the project was designed, among other things, as a testing and training ground for the processes usually involved in contributing to open repositories. It incorporates all the procedures required: granting of permissions or any other legal provisions, creation or use of an appropriate ontology, data mapping and exporting into a knowledge graph, establishment of the technical infrastructure (servers, applications, API and SPARQL access point), and end user interface through an exploratory search engine (ADASilk).

Afterwards, a most logical step forward for museums collaborating with our project would be to provide their data to Europeana, without relying on SILKNOW, but taking advantage from our training, expertise, and coaching. The best practices gathered thanks to these collaborations will be a valuable starting point for many other institutions, thus multiplying the impact of the project well beyond its duration and initial scope.

In order to build this network of collaboration, we attended the EuropeanaTech Conference held in Rotterdam on 15 and 16 May 2018, at the very beginning of SILKNOW, establishing some initial contacts with Europeana staff. By that time, we had already formed our External Advisory Board, one of whose members is Antoine Isaac, Research and Development Manager at Europeana Foundation. At some point of the ensuing conversations, we even discussed the possibility of becoming the organizers of one Europeana Conference in Valencia, in 2020 or 2021, in coordination with the rest of the consortium members.

In this regard as in many others, COVID-19 entailed some adjustments to our original plans and expectations. Initially, a good number of textile museums and collections had expressed their willingness to collaborate with SILKNOW and, eventually, share their data through our repository. In spring 2020, by the time we could show a first operating version of ADASilk and thus demonstrate the concept and its possibilities, the pandemic radically altered the priorities (in fact, the sheer possibilities) for everyone. All European museums closed their doors,

and many of them ceased operations completely for months, while their staff faced cutbacks and furloughs[1]. The situation was particularly severe for small museums, whose funding is often much less stable than that of bigger, more established institutions. In this context, everything but the basic operations was postponed in favor of more urgent obligations.

We have been able to maintain a reduced form of collaboration with these museums. Some of them participated in round tables during our "Weaving Europe" online conference in December 2020, providing valuable insights on their current situation[2]. Many others, together with independent scholars, also participated in the workshops on collections' digital data management, as reported in D8.9.

However, our original plans -incorporating their data into our repository, working together with them through the process, and training them so that they could follow the same path with Europeana- had to be dropped. For the vast majority of the museums we had been in contact with, it all was simply beyond their possibilities, during 2020 and 2021[3]. Needless to say, the idea of taking a Europeana conference to Valencia also came to nothing, in the midst of stringent public health measures across Europe and delay in the calls necessary to obtain additional funding.

Thus, since we lack demonstrable experience and lessons learnt in the process of training and coaching textile museums towards sharing their collections on Europeana, in this deliverable we are presenting an outline of the contents of the training and coaching that we intended to provide to them. It is based on the existing literature and also on our participation in some recent events organized by Europeana, such as the Aggregators' Fair held online in 16 and 17 June 2021[4].

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[1] NEMO, the Network of European Museum Organisations, has published some reports and continues to provide up-to-date information on this critical situation; see https://www.ne-mo.org/advocacy/our-advocacy-work/museums-during-covid-19.html
All URLs in this document are valid as of 30 August 31, 2021.

[2] Available at https://www.youtube.com/channel/UC8tdL-X9xJOtxPw-2UXFvEQ

[3] This problem is well known among EU institutions, as attested in the 8th meeting of the Expert Group on Digital Cultural Heritage and Europeana (28 October 2020): "many institutions do not yet possess the adequate infrastructure, facilities or qualified personnel to make this transition [i.e., digital transformation] under pressure [from the consequences of COVID]": Recommendations for a European Member States and Commission supported digital aggregation strategy, October 2020, p. 3. https://docs.google.com/document/d/1VonT4AhHy_dT60DuYJy8jfZgFCpR8cppN2wfujAtRr8/edit and https://digital-strategy.ec.europa.eu/en/library/eighth-meeting-european-commissions-expert-group-digital-cultural-heritage-and-europeana-dche

[4] Full programme and video recordings available at https://pro.europeana.eu/event/europeana-aggregators-fair

As a final note for this introduction, let us just remark on the high degree of alignment between SILKNOW and Europeana's new strategy (2020-2025), as exemplified by the solutions associated with their three new priorities[5]:

Priorities

Priority #1: Strengthen the infrastructure
Challenge: Inefficiencies in technical infrastructure make it harder for institutions to share their collections online effectively.
Solution: The Europeana Initiative will invest in supporting innovation activities that keep the infrastructure aligned with state-of-the-art tech.

Priority #2: Improve data quality
Challenge: The lack of sufficient high-quality content and metadata highly affects the access to and visibility and reusability of digital content.
Solution: The Europeana Initiative will invest resources in activities related to metadata and content improvement. It will use new technologies like machine-learning algorithms to enrich metadata records.

Priority #3: Build capacity
Challenge: The needs of cultural heritage institutions are many and varied, so it's difficult to achieve consistency in digital output and mindset across the sector.
Solution: The Europeana Initiative will support institutions in their digital transformation. It will showcase the importance and added value of digitisation, adoption of standards, best practice and common solutions.

Figure 1. Main challenges and solutions in Europeana's 2020-2025 strategy.

All three solutions are a part of SILKNOW's activities, tasks, and outcomes, as originally designed upon preparation of the project proposal, and carried out to the extent that an unpredictable environment has allowed.

2. EUROPEANA AND MUSEUMS: A STATUS REPORT.

As will be explained below, Europeana is based on information and collaboration from many cultural heritage institutions, not just museums. Libraries were the first and main contributors to the platform. However, archives, museums and collections of cultural heritage at large have come to play a much more important role within it. In fact, Europeana usually names its data providers as "Cultural Heritage Organizations" or "Cultural Heritage Institutions", not paying much importance to their typology, naming, or institutional characterization.

It is important to keep in mind this lack of any specific focus on museums for Europeana, while the training and coaching intended as a part of SILKNOW was addressed to small museums.

[5] Europeana Strategy 2020-2025, p. 5.

2.1. HISTORICAL AND CONCEPTUAL OVERVIEW.

Europeana was launched as a prototype in November 2008, and its first official version went online in February 2009. The project, developed within the Directorate of Information Society and Media[6], was built on strong political support from some EU member countries such as (initially) France, Germany, Spain, Italy, Poland, and Hungary. It was also built thanks to the expertise acquired through previous projects such as Telematics for Libraries and the European Digital Library Network (EDLnet)[7]. The very names of these initiatives clearly indicate that the origin and focus for them came from the environment of libraries. In fact, it was originally publicized as the EU answer to Google Books, although very soon it became a different kind of service, gathering content from libraries, museums, archives and audiovisual collections[8].

As of this writing, Europeana Collections holds 62,556,949 records[9]. It is more difficult to know how many institutions are providing information to it, directly or otherwise. In 2020, their latest strategic document stated that: "over 58 million cultural heritage items from around 4,000 institutions across Europe are available via Europeana online"[10]. The following figures show its historical growth and the relative weight of European countries' participation in it, by number of records provided to the platform[11].

[6] Currently, it is one of the European Union's Digital Service Infrastructures (DSI), funded under the Connecting Europe Facility (CEF). From 1 April 2021, this funding instrument is run by the European Health and Digital Executive Agency (HaDEA). From September 2022, it will be cofinanced by the Digital Europe Programme (DEP). It is led by the Directorate-General for Communications Networks, Content and Technology, DG CONNECT.
[7] https://en.wikipedia.org/wiki/Europeana#History
[8] See, for instance, https://www.ip-watch.org/2009/08/28/digital-library-europeana-said-to-be-europe%E2%80%99s-answer-to-google-books-settlement/
[9] Information provided in the homepage for the "classic" search interface: https://classic.europeana.eu/portal/
[10] Europeana Strategy 2020-2025, p. 7.
[11] Both graphs taken from Recommendations for a European Member States and Commission supported digital aggregation strategy, October 2020, https://docs.google.com/document/d/1VonT4AhHy_dT60DuYJy8jfZgFCpR8cppN2wfujAtRr8/edit, that does not reference a source for the information.

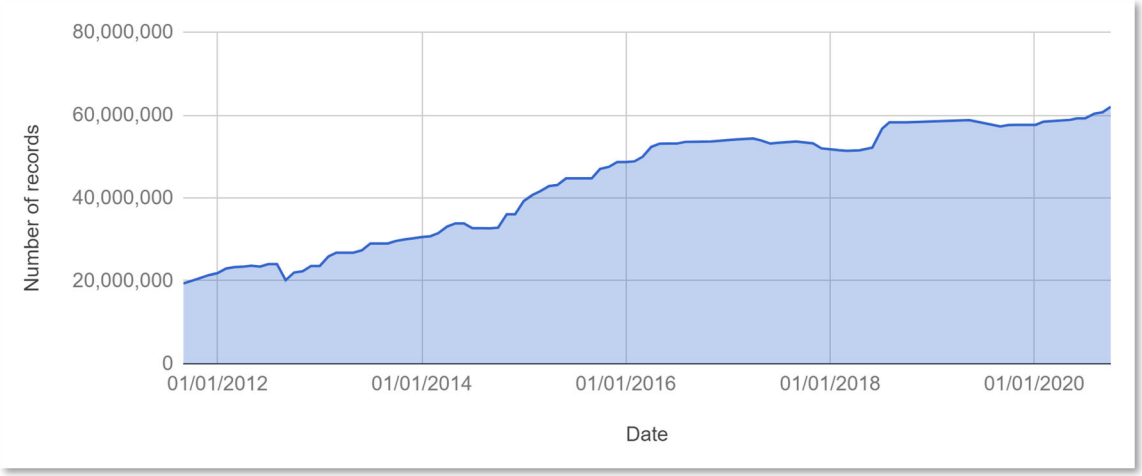

Figure 2. Historical graph of the growth in Europeana's records, between 2012 and 2020.

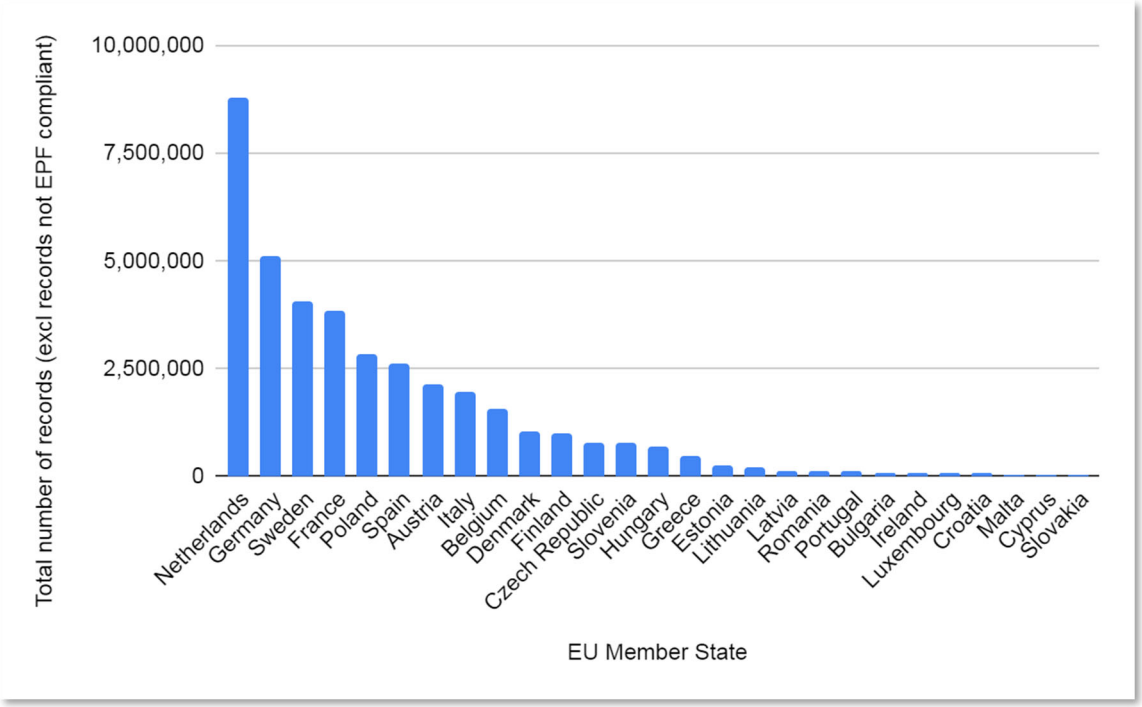

Figure 3. National participation as data providers to Europeana.

As already mentioned above, it is not possible to know how much data is coming from museums or similar collections, and how much originates in other institutional settings: archives, libraries, research centers, cultural foundations… In fact, most data providers supply datasets that are quite heterogeneous in themselves, blurring classifications even more.

This heterogeneity has led over the years to a mixed approach, in Europeana, combining thematic and typological classifications. It is a perfectly reasonable choice: most users of such

an aggregate resource do not really care about the kind of institution that houses the cultural objects. Usually, that information is only interesting for scholars and professionals. Instead, the most basic common denominator for cultural objects are, on the one hand, their themes, a very broad understanding of their contextual function and meaning; and, on the other hand, a basic typological classification. Europeana currently offers these "collections", as its most general setup[12]: 1914-1918, Archaeology, Art, Fashion, Industrial Heritage, Manuscripts, Maps and Geography, Migration, Music, Natural History, Newspapers, Photography, Sport.

Some of those collections are evidently typological, based on the formal features of the objects recorded in it (e.g., "Newspapers", "Art"). Some others are clearly thematic, such as "Sport" or "Migration". Finally, some others can be considered as mixed: "Fashion" includes records dealing with fashion objects, such as clothes or fabrics, but also records about fashion as a social or knowledge topic, such as photographs from haute-couture catwalks or historical texts on fashion.

Of course, this mixed approach risks some inconsistencies: the same record could be classified as "1914-1918" and as "Manuscripts", while another could be considered both "Art" and "Photography", depending on the criteria employed in its ingestion into Europeana. In the end, all attempts at classifying something as diverse as human culture are bound to fail, when we expect all objects or practices to fit squarely within any given structure. The current "Collections" are just another attempt to make such a huge body of information more accessible and intelligible. Providing some sort of guidance and representative narratives is the best way to go; otherwise, Europeana risks becoming a warehouse of sorts, containing a little, unpredictable bit of everything and large expanses of nothing, given the irregular coverage imposed by its decentralized ingestion of content.

In fact, the website implemented in March 2020 pays more attention to thematic and functional features, and less to the organization of knowledge. The main functionality lies now in connecting records through innovative storytelling, "[bringing] together blogs, galleries and

[12] Taken from the "classic" search interface: https://classic.europeana.eu/portal/ The new interface implemented in March 2020 (https://pro.europeana.eu/post/introducing-the-new-europeana-collections-website) does not offer such a clear list of collections, moving instead towards a cloud of tags associated with each term, some of which are the former collections, together with many other thematic ones.

exhibitions on a diverse range of topics, helping audiences discover new content and showcasing the material shared through the site"[13].

When it comes to silk heritage, it goes without saying that the "Fashion" collection[14] offers a very convenient framework for SILKNOW's objects of interest: historical fabrics woven in silk, as well as related objects, such as technical drawings, clothes, decorative objects, furnishings, etc. (Textile museums are often stronger in one or two typologies, while at the same time they usually hold other kinds of objects, even if in much smaller amounts.) The "Fashion" collection is mostly built from records brought into Europeana by the European Fashion Heritage Association[15], a content aggregator, as will be explained shortly. The collection is a good example of the mixed approach to content, encompassing both objects of fashion and about fashion.

In terms of content, the Content Strategy set forth in 2017 provides fundamental rules on what information is worth of inclusion in Europeana. It is superbly explained and presented, so we will just include some excerpts from this document, now[16]. Its guiding principles are:

- *"Quality instead of quantity*
    - *Use the Europeana Publishing Framework (EPF) to define high-quality content and encourage institutions to open their data.*
    - *Prioritise the improvement of existing published data over adding new data.*
    - *Remove existing non-compliant data as specified by the Europeana Publishing Guide.*
    - *Showcase high-quality data in Europeana Thematic Collections. […]*
- *Demand-driven content acquisition and publication.*
    - *Analyse statistics of content accessed via Europeana Collections and Europeana APIs.*
    - *Conduct surveys and interview users to establish their content needs.*
    - *Evaluate new content against relevance to Thematic Collections and EPF compliance."*

[13] https://pro.europeana.eu/post/showcasing-europe-s-cultural-heritage-through-europeana-collections
[14] https://www.europeana.eu/en/collections/topic/55-fashion or https://classic.europeana.eu/portal/en/collections/fashion
[15] https://fashionheritage.eu/
[16] https://pro.europeana.eu/post/europeana-content-strategy, pp. 6-8.

These principles are then translated into some criteria:

"Type of content.

Europeana is not in a position to decide on a definition of 'cultural heritage'. Therefore, it will continue to be inclusive and in principle publish all types of content that museums, libraries, archives, and audiovisual institutions, based on their respective digital strategies, consider important enough for publication in Europeana. However, Europeana will, based on experience, discuss with data partners if publishing certain types of content is worth the effort.

Date range.

Europeana is inclusive of the cultural heritage from centuries long past to modern times. Making 20th century content accessible is important to avoid limiting the value of our services; for example, when engaging with the education sector. It is at the discretion of the cultural heritage institutions to determine what is old enough to be deemed cultural heritage.

Geographic.

Europeana focusses on content that is about Europe, Europeans, created in Europe, or owned by a European institution. Most of the material in Europeana will come from European institutions. But in cases where it would strengthen our themes and the sources are Tier 2 or higher, Europeana may actively pursue content from non-European sources.

Non-digital objects.

Metadata records in Europeana always need to point to a freely accessible digital object. […]

Access to digital objects.

Our users also need to be able to access the digital objects without authentication, passwords or filters on geographical location.

Masterpieces and lesser known collections.

Europeana is unique in offering a discovery service for lesser known collections, and therefore will not give special preference to masterpieces in the content acquisition process unless there is a specific demand; for example, when specific masterpieces are important for a thematic collection." […]

Let us now turn to a presentation on the meaning and requirements of collaborating with Europeana, by sharing information with and through the platform.

2.2. PROVIDING CONTENT TO EUROPEANA: THE DATA PROVIDERS' PERSPECTIVE.

Cultural heritage institutions that agree to share their content on Europeana are called Data Providers. As mentioned before, neither their typology (normally, they will be museums, libraries, archives, or audiovisual institutions) nor their legal status (public entities, or privately owned) are relevant in this regard. The essential issue in order to become a Data Provider is to have information about your collection (objects, holdings, etc.) already in digital form and somehow available online. Obviously, it must be related to Europe, in a broad sense[17] and be aligned with the general principles of the Europeana Content Strategy mentioned in the previous section. That Content Strategy is complemented and made operative by two further documents: the Europeana Publishing Framework[18] and the Europeana Publishing Guide[19]. When wanting to collaborate with Europeana, decentralized aggregation is a key concept. This means that Data Providers do not engage directly with the platform's central office; instead, they connect with intermediaries known as aggregators. The reasons are many. On a practical level, no single office could effectively handle thousands of contributing partners. A political argument is also valid here, favoring EU Member States' participation and co-responsibility on such an important cultural resource. In terms of expertise building, "ingesting" content of a specific type from a single entry point allows specialization of the corresponding operators (instead of having them handle widely differing contributions) and thus provides higher efficiency.

The intermediaries tasked with the actual job of dealing with Data Providers are the Europeana Aggregators[20]. They are organized by subject ("Domain & Thematic") or ("National & Regional"). The first group "define their scope by cultural sector (such as museum, archive or library) or by topic and theme (such as fashion)", regardless of geographical location. Currently, this group includes 13 aggregators:

[17] This means that the collection must be "about Europe; made by a European or a European community; or owned by a European institution"; see https://pro.europeana.eu/share-your-data/process
[18] https://pro.europeana.eu/post/publishing-framework
[19] https://pro.europeana.eu/post/publication-policy
[20] https://pro.europeana.eu/page/aggregators

Archives Portal Europe Foundation	Archival Finding Aids and Inventories
CARARE	Archaeology
European Fashion Heritage Association	Fashion Heritage
Europeana Sounds	Audio Heritage
EUscreen	Audiovisual Heritage
Jewish Heritage Network	Jewish Heritage
Manuscriptorium	Manuscripts
MIMO - Musical Instrument Museums Online	Musical Heritage
MUSEU-HUB	Museum Collections
OpenUp!	Natural History
PHOTOCONSORTIUM	Photography
Technische Informationsbibliothek - AV Portal	Scientific Videos
The European Film Gateway	Film Heritage

A second type of aggregators ("National & Regional") is based on geographical location: in almost all cases, each EU Member State has a national aggregator[21]:

Aggregator for Europeana	Serbia
CulturaItalia	Italy
Cyprus Ministry of Education and Culture	Cyprus
Czech Digital Library / Česká digitální knihovna	Czech Republic
Digital Repository of Ireland	Ireland
Digitale Collectie	The Netherlands
Heritage plus.be	Belgium
Estonian e-Repository and Conservation of Collections	Estonia
Europeana Local Austria	Austria
Digital Libraries Federation	Poland
Formula Aggregation Service of the National Library of Finland	Finland
Forum Hungaricum Non-profit Ltd.	Hungary

[21] France has two aggregators: Gallica (Bibliothèque National de France), and Moteur France. Malta has no national aggregator so far.

Gallica	France
German Digital Library	Germany
Greek Aggregator SearchCulture.gr	Greece
Hispana	Spain
Kulturpool	Austria
Latvian National E-content Aggregator	Latvia
LT-Aggregator Service National Library of Lithuania	Lithuania
Moteur Collections	France
MuseuMap	Hungary
National Heritage Institute, Bucharest	Romania
Public Library Pencho Slaveykov, Varna	Bulgaria
National Register for Digital Objects	Portugal
Slovenian National E-content Aggregator	Slovenia
Ministry of Culture of the Republic of Croatia	Croatia
Swedish Open Cultural Heritage	Sweden

Aggregators are becoming more and more important within Europeana. They are increasingly perceived as a key element in the platform's value chain, ensuring content quality control, information updates, and outreach to Data Providers. In the current strategy, a recently created organization, Europeana's Aggregators Forum, is one of the three main bodies tasked with developing community, contents and tools for the platform[22]. On 16 - 17 June 2021, it organized the first Aggregators' Fair, aiming at a higher visibility and for networking within and outside this network.

Therefore, when a museum desires to become a Data Provider for Europeana, usually their first step will be to choose the Aggregator they wish to work with. Depending on many circumstances, it might be a national one, or a domain one, or a thematic one. Again, for textile museums and collections it will make perfect sense to work with Europeana Fashion. Another interesting option would be MUSEU-HUB, focused on museums. Alternatively, in many cases

[22] Together with the Europeana Network Association (ENA) and the Europeana Foundation.

the easiest option might be to reach out to the corresponding national aggregator. The Aggregator will require the museum to sign a Data Exchange Agreement, covering all legal issues of intellectual property (more on this in section 4.1).

Concerning the information to be published, Europeana aims at allowing users to discover and reuse digital information about cultural objects, providing data with different levels of richness and depth. The important concepts to understand in this regard are:

- Content: the digital object itself, as published by the Data Provider, usually in its own website or digital resource. "Europeana defines a digital object as a digital representation of an object that is part of Europe's cultural and/or scientific heritage. The digital object can also be the original object when born digital"[23]. The intellectual property rights for the digital object should always be in accordance with the copyright status of the work, and stipulated by one of the standardized rights statements adopted by Europeana[24].
- Metadata: the data about any given digital object, as published in the Europeana Collections website or its API. The level of depth and richness of this information can vary greatly, depending on the provider's goals and resources. Europeana's minimum requirements in this aspect are very much within reach, for any museum, but at the same time it invites Data Providers to supply as much information as possible. This metadata can be used freely by anyone for any purpose, since they are published under the Creative Commons 0 license.
- Preview: Europeana generates a preview of the object representation (usually, a thumbnail image) and stores it in its servers. It is intended as finding aid, illustrating search results on Europeana Collections' website. The preview image can be used by visitors to Europeana Collections under the same legal conditions specified for the content.

Depending on the quality and depth of the information provided, it is characterized within the following levels or "tiers", in Europeana's terminology. They are cumulative: each tier includes the features and benefits of the previous ones. Data Providers are invited to aim for higher

[23] Europeana Publishing Guide, p. 17.
[24] https://pro.europeana.eu/page/available-rights-statements

tiers, under the general principle "the more you give, the more you get". The following excerpts have been taken from the Europeana Publishing Framework[25].

- For content:

Tier 1. Europeana as a search engine: 'I want to search and browse collections online'. Audiences view the full digital object on your website, not on Europeana Collections. You can expect referrals to your website.

Tier 2. Europeana as a showcase: 'I want to be guided through collections online'. Audiences see good-quality versions of your collections on Europeana Collections, without navigating to a different website. Europeana can present your objects in a context that better guides users, for example in the Europeana Art or Europeana Music thematic collections. You can expect greater exposure on Europeana Collections.

Tier 3. Europeana as a distribution platform: 'I want to find, view and use collections in my own non-commercial projects'. Audiences see high-quality versions of your objects on Europeana Collections, without navigating to a different website. Europeana can incorporate your collections into existing projects and partnerships operating in sectors like education (e.g. Historiana) and research (e.g. CLARIN). To do this, the collection must be made available under a rights statement that allows some reuse. Your collections could be used in non-commercial websites, apps, and services.

Tier 4. Europeana as a free re-use platform: 'I want to find, view and use collections in whatever way I choose'. Europeana can incorporate your collections into existing projects and partnerships operating in the creative industries (e.g. Memories Retold video game, Birdie memory app). Your data can also be used on open platforms such as Wikimedia, shared with the social media hashtag #OpenCollections and promoted in hackathons. To do this, the collection must be made available under a rights statement that allows free reuse. You can expect wide reach of your content, increased brand recognition and reputation, and greater exposure on and beyond Europeana Collections. Your collections could be used in commercial and noncommercial websites, apps, services, and products.

- For metadata:

Tier A. Europeana Collections as a basic search platform: 'I want to find the specific object I'm looking for'. Audiences will be able to find a specific object when they know precisely

[25] Version 2.0, pp. 8-12, https://pro.europeana.eu/post/publishing-framework

how to search for it (e.g. using the correct title of a book, a painting, or a catalogue identifier). Audiences can find your objects by filtering search results by the people, places, types or subjects associated with them. You can expect referrals to your website.

Tier B. Europeana Collections as an exploration platform: 'I want to browse and explore even if I'm not sure what I'm looking for'. Audiences will be able to find your objects by searching for a more general type, subject or place and also find objects that have more specific types, subjects and places (e.g. looking for 'painting' also finds objects indexed with 'watercolour'). Collections can be presented in context, for example in the Europeana Art or Europeana Music thematic collections. Europeana can improve the findability of objects (via a multilingual search) and present them in context on our 'entity' pages. These pages group and present all information about a specific place, organisation, subject, type or person. Collections receive greater exposure on and beyond Europeana Collections. With richer information, it will become easier for audiences to illustrate their stories on their own platforms using content from Europeana Collections.

Tier C. Europeana Collections as a knowledge platform: 'I want to search and browse in a more precise way, by named authors, specific subjects or topics'. Because you've provided contextual metadata, a rich network of linked knowledge opens up. Audiences will find your collections through the relationships between collections and entities. This is what we call inspiration-oriented search and creates a sense of serendipity. Collections can be reused in projects and in Europeana partnerships in sectors like education (e.g. Historiana), research (e.g. CLARIN), and the creative industries (e.g. Memories Retold video game, Birdie memory app). Rich, accurate and contextualised information can be used in classes, studies and applications. This will result in a wide reach, increased brand recognition and reputation, and greater exposure on and beyond Europeana Collections.

2.3. **USING CONTENT FROM EUROPEANA: THE USERS' PERSPECTIVE.**

This overview would be incomplete without some considerations about the users of the platform, its *raison d'être.* In quantitative terms, they are a substantial amount of people. The following dates correspond to the period between September 2019 and August 2020[26].

[26] EUROPEANA DSI-4 Annual report, August 2020, p. 7. Available at https://pro.europeana.eu/post/europeana-dsi-4-annual-report-2019-2020

Total visits	6,093,829
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Pages per visit	3.3
Downloads	441,546

In qualitative terms, Europeana's approach to cultural heritage emphasizes active participation in culture, going beyond mere contemplation or passive appreciation, or sharing and liking in social media. The focus lies in reusing cultural information: "Digital means 'usable'. Europeana provides the impetus, expertise and tools to support cultural heritage institutions in harnessing digital to open up their collections - to make them available to be used in new ways. Content and technology need to be accessible. They need to be easy-to-use and open, or the reach of any social or economic impact will be limited".[27]

While this approach is, from a theoretical point of view, certainly praiseworthy, the results still lag far behind the expectations, and Europeana is not shy about admitting it. "Both the quantitative research, based on surveying thousands of users, and the more focused qualitative research, based on interviewing about a dozen, clearly show that our data and the way we serve it does not meet audience demand sufficiently. In particular, people find it hard to find the source material or the contextual information they're interested in. On Europeana Collections, the resolution of the previews and images is often too low, and people can't always perform the actions they want, like downloading the object they've found".[28] On the other hand, lots of effort are clearly going into this area, like the growing emphasis on narrative content, thematic collections, educational materials and partnerships, etc., going beyond the Europeana catalog itself[29].

[27] Europeana Strategy 2020-2025, p. 11.
[28] Europeana Publishing Framework, version 2.0, p. 14
[29] "Europeana will introduce a new approach to reach end-users. The Europeana Thematic Collections are a key element of this approach. They show a filtered view of the Europeana database based on broad themes to encourage a deeper engagement with the Collections. The decision to develop a new thematic collection depends on four factors: content base, proven demand, community of partners for curating and sustaining the collection, and a strong concept." Europeana Content Strategy, p. 15.

In any case, it is difficult to specify fully who Europeana's target users are. Such a large resource is (and must be) open to many different communities. From the perspective of the European Commission, a few basic requirements are clear. Europeana must be free to use **for all**; facilitating access to European cultural heritage should serve "as appetisers for the would-be **tourist**"; both **educators** and **students** should be able to use it in their projects (our emphasis)[30]. Of course, this is about as inclusive and broad as it can be, and with every good reason.

When trying to learn about audiences whose demands should be catered to, Europeana's Content Strategy indicates some categories[31]: audience we serve now, audience we want to serve, and audience we might want to serve. Obviously, this approach moves from engaged towards non-engaged users. An additional fourth category is "Trending", aimed at taking advantage of random or time-specific opportunities, such as Christmas, the Olympic Games, anniversaries, and the like.

Any given museum may not need to worry directly about who are the likely users for the information they are willing to share on Europeana. To a certain degree, it is a gambit, like any attempt at trying to obtain attention from a very general audience, within a highly heterogeneous repository. In a way, it parallels the ordinary experience of online cultural content providers. Instead of resorting to SEO techniques (as one would do on the web), some strategies are feasible in Europeana, in order to gain visibility and make our contents findable and usable by as much people as possible. The quality of content, of the metadata provided to the repository, is the obvious first option. Users will be attracted by understandable, complete and updated records, and thus will want to know more about the contributing museum. Curating that content, by taking advantage of the Thematic Collections' features, is another path to follow. Finally, engagement with the Aggregator and the communities of researchers and educators around Europeana should provide partnerships and strategies that will prove fruitful in the long term.

[30] As indicated by the Directorate-General for Communications Networks, Content and Technology (DG CONNECT) in https://digital-strategy.ec.europa.eu/en/policies/europeana
[31] Europeana Content Strategy, pp. 14-15.

2.4. **DATA QUALITY.**

From the proposal conception and writing stage, it was obvious that SILKNOW should encourage museums to collaborate with Europeana, as part of its overall promotion of digital data sustainability and open access practices. At the same time, it is clear that the service provided by the platform still has many important challenges ahead. The Europeana initiative is very open about those weaknesses, in any case:

- *"User satisfaction of the website and other services like the API leaves a lot to be desired. The data does not work for education, research or new applications that Europeana is trying to publish data to on your behalf".*[32]
- *"Out of our 51 million published items on Europeana, 32 million are from accredited aggregators. The other 19 million come from non-accredited partners, many of whom are inactive partners that Europeana Foundation has no contact with. Moreover, a total of 18 million records (ingested both from accredited aggregators and other partners) have not been updated since 1 Jan. 2017".*[33]
- *"Data quality control: a substantial part of the digitisation work in the last 10 years is no longer useful and needs to be redone - an example is the tier 0 content*[34] *in Europeana. To avoid waste of resources and efforts, quality control should be part of any sustainable digitisation strategy".*[35]

This frank openness about problems is the first step towards overcoming them. Data quality is certainly a great challenge for Europeana. By completing and moving existing records into higher "tiers" and ensuring a consistent level of quality in new incorporations, the current strategy is more focused on improving information quality than on adding large amounts of records.

[32] Europeana Publishing Framework, version 2.0, p. 14
[33] Minutes of the Eighth meeting of the Expert Group on Digital Cultural Heritage and Europeana (DCHE) 28 October 2020, pp. 4-5. Available at https://digital-strategy.ec.europa.eu/en/library/eighth-meeting-european-commissions-expert-group-digital-cultural-heritage-and-europeana-dche
[34] In Europeana, tier 0 content is that of insufficient quality, such as items with broken links or very low-resolution information.
[35] Recommendations for a European Member States and Commission supported digital aggregation strategy, October 2020, p. 4.

However, this will not happen through an increased commitment and efforts from the Europeana initiative actors: the Foundation, the Aggregators Forum and the Network Association. EU Member States must step up and make a real commitment with Europeana:

> *"The core issue is the lack of national and/or regional digital strategies, without which the aggregation effort is not sustainable. The digitisation targets set by the Commission recommendation on the digitisation and online accessibility of cultural material and digital preservation (2011/711/EU) have not been reached by all member states. Only about 10-20% of the estimated heritage holdings have in fact been digitised, and only a fraction of this material is available in usable quality through the Europeana portal (2015 statistics). There is a huge imbalance in the representativity of the Europeana collections: not all member states have reached the same level of digitisation and, for some countries, only a limited amount of objects is accessible. There is a growing demand to better represent the diversity of European citizens, their communities and their intangible heritage".*[36]

The same document makes proposals in answer to these challenges, the following being just a few among them:

- *"We are convinced that it would be beneficial for at least one institution in each member state/region to be endowed with the explicit mission to aggregate to Europeana. […]*
- *Set clear targets for digitisation in terms of quantity as well as quality. […] In terms of quality, it is important that metadata also correctly take into account cultural diversity.*
- *Encourage Member States to ensure that all material digitised with public funding is made available through accredited aggregators and Europeana.*"[37]

This push towards national implication is highly indicative of the current crossroads for Europeana. While domain-specific projects like SILKNOW are not an adequate answer to that main problem, helping small heritage organizations to participate and benefit from the platform should also be part and parcel of any forward-looking strategy, also as an answer to the perceived lack of cultural diversity.

[36] Recommendations for a European Member States and Commission supported digital aggregation strategy, October 2020, pp. 1-2.
[37] Recommendations for a European Member States and Commission supported digital aggregation strategy, October 2020, p. 4.

3. ADVANTAGES OF PARTICIPATION IN EUROPEANA.

After the previous overview on Europeana and museums from a conceptual and operational perspective, let us now dig deeper on what such collaborations entail. First, in terms of advantages for the cultural institution. In the next section, on the requirements imposed upon it.

The general trend among museums and heritage institutions towards enabling open access to their collections is a large topic in itself, and one that will continue to generate specialized literature and debate for years. We will offer now a summary of the advantages in open content for museums, based on an excellent report from the French Institut National de l'Histoire de l'Art[38]. It divides the benefits from the move towards open access to digital data about museum collections in three groups: deontological, economical and professional.

Deontological benefits:

- *"A public service that better meets the needs of its users. […] A museum's core activities, such as conservation and engagement, directly benefit from the technological solutions put in place to support an effective digital strategy."*
- Quality control about online content. *"Sharing written and visual information around a collection and ensuring that it is of a sufficient quality is one of the basic responsibilities of a museum."* Those museums doing otherwise must *"accept that an abundance of poor quality images and data [about their works] will continue to circulate on the web."*
- *"Improved visibility for all collections [by sharing] works that would otherwise remain invisible, either because they are too fragile to exhibit, there is insufficient place to show them, or because the museum is temporarily closed for renovation."*
- Improved engagement with users, peers and community at large. As examples, *"Metropolitan [Museum's] collection items on Wikipedia are viewed seven times more than the same items on the museum website, in part as a result of their inclusion in articles in 28 languages. As for the Smithsonian, after just three months on Flickr, the platform clocked up more visitors than the institutional website had done over the past five*

[38] Martine Denoyelle et al., *Image rights, art history and society*, 2018, pp. 62-68, available at https://www.inha.fr/fr/actualites/actualites-de-l-inha/en-2018/rapport-final-du-programme-images-usages.html
For an updated and ongoing effort to explain and document the importance of open access for cultural heritage institutions, see also the initiative "Towards a Declaration on Open Access for Cultural Heritage" at https://openglam.pubpub.org/

years." Regarding collaborations with the community, *"these new relationships extend to public and civil groups that are not usually in contact with museums and their collections."*

- *"A springboard for innovation and creativity. […] By limiting access to their collections, museums hinder the very creativity they are designed to nurture, and run the risk of falling into the shadows while creatives and developers turn to open collections in search of works that can be manipulated, reinterpreted and enhanced."*
- *"Better understanding from users. […] Supporting users by clearly defining what is and what is not possible within the terms of the museum's image policy shifts responsibility onto the user and helps to build confidence between the institution and its audiences."*

Economic benefits:

- Greater visibility. *"The growth and diversity of uses stimulated by an open policy is instrumental in building the strength, the notoriety and the economic value of an institution's brand."*
- Clearer commercial relationships. *"Freed from the complex task of deliberating over whether use is commercial or non-commercial, institutions are free to concentrate their efforts on mission-led activities and the development of lucrative partnerships."*
- *"More efficient IT systems. […] Opting for a single asset management system and frontend cuts costs and simplifies associated workflows."*
- *"Access to new funding opportunities",* since most public and many private funders are increasingly establishing as a requisite that results from research funded by them be made completely public.

Professional benefits.

- *"Staff recognition. […] Freed from [administrative tasks like managing licences] professionals can turn to activities that are more in line with the institution's core missions. […] The move to open content has allowed staff to build digital skills that can be widely employed in a sector where they are still scarce."*
- *"A better understanding of audiences. […] the digital arena provides an exceptional tool for museum professionals to reach out to new audiences and encourage them to en-*

gage with the collection on their own terms and through their own perspective. [Museums] gain a deeper understanding of their audiences and strive to better meet the needs of a society that is more diverse than that for which museums were originally designed."

- *"A growth of partnerships and collaborations."* A practice of open knowledge *"brings with it a wealth of epistemological opportunities and revitalises the scientific missions of institutions".*

All these benefits can be attributed to any work done to enable and enhance open access to cultural heritage information, inside or outside museums and large repositories. A similar case has also been done for Europeana, of course[39]. Moreover, the Aggregators' Forum has recently made a summary of the advantages brought to museums and collections by giving free digital access to large parts of their holdings (our emphasis)[40]:

- *"This offers **coordination** benefits, helps to align objectives, grants minimum levels of **standardisation** and fosters **adherence to best practices**.*
- ***Sharing knowledge and expertise**: as has been proven by the very active tech, copyright and impact communities, Europeana is the place where people come together to share knowledge and expertise on digitisation in all its aspects.*
- *Collaboration with domain and thematic aggregators to **develop and refine specialized metadata**. Domain and thematic aggregators and their networks have been contributing to Europeana from the beginning. Not only do they bring specialized content and the metadata expertise that goes with it. They also stimulate **innovation** - such as 3D, AI, media viewers - and share their knowledge with national aggregators. In some cases, they deliver content to Europeana which is not covered by national aggregation, e.g. audiovisual collections.*
- *Joint **training and capacity building**, as witnessed by the success of Europeana, EAF [Europeana Aggregators' Forum] and ENA [Europeana Network Association] workshops and webinars in providing knowledge, skills and expertise at the European level complementary to what is available in the national context.*
- *Collaboration at the European level would also benefit the much needed efforts to **support multilingualism** in accessing and presenting cultural heritage content.*

[39] https://pro.europeana.eu/page/open-and-reusable-digital-cultural-heritage
[40] Recommendations for a European Member States and Commission supported digital aggregation strategy, October 2020, pp. 4-5.

- *Wide and open access to collections at the European level so as to **better represent dispersed communities and minorities** as well as a **shared European identity** embedded in our common history. This is an important and often underestimated advantage of Europeana. From its very beginnings, Europe has been a story of unity in diversity. Reflecting a history of shifting borders, waves of migration and cross-cultural exchange, heritage collections can be experienced in a broader and more representative panorama when presented through a common access point that allows for contextualisation and comparative study while keeping the link to the source object and its provider intact."*

On a similar note to these last reflections, minorities and underrepresented communities are not the only social profiles to benefit from their presence in large data repositories. In SILKNOW we are very much focused towards the needs of small and medium-size collections, as most textile museums are. Their needs and challenges are very specific, in many cases due to institutional vulnerability. Digital technologies seldom count among their priorities, that can be much more pressing and basic.

Additionally, from the point of view of users' engagement, more benefits come to mind. Allowing the public to share, copy and modify the content without needing to seek permission (as long as they follow the conditions of the license used) lets people create new things by remixing digital cultural heritage. This is another area of continuous work within SILKNOW. We can attest to the immense value found in bringing historical textiles to the attention of fashion student designers[41].

A very specific area of interest for museums is the growth of semantic web applications within cultural heritage institutions. From a strategic point of view, however, it is very important, as it links internal and external information resources. In other words, transforming an internal database, such as the museum's catalogue or inventory, into online information like the one available in Europeana, is something increasingly based on semantic web technologies. These technologies provide the glue that brings together resources provided by different institutions. Otherwise, what the user gets is simply a huge accumulation of heterogeneous, idiosyncratic, disconnected records: mere text, but not information, let alone knowledge.

[41] See our deliverable D8.11.

Europeana facilitates the adoption of the interoperability standards the form the base of the semantic web. For instance, a domain-specific controlled vocabulary like the AAT[42], a universal data structure like Wikidata[43], or data models like CIDOC-CRM[44] or EDM[45]. If such resources are put in place, very interesting options become possible, like linking data across repositories, or making them available in different languages and platforms. Any museum collaborating with Europeana will have many examples, tools and learning resources allowing it to make its data interoperable and more useful for a vast array of agents, both machines and humans, both now and in the future.

For instance, using the AAT's identifiers instead of text strings allows for easy multilingual translation of specialized terms in English, Dutch, Spanish and Chinese, the four languages currently built into the AAT. This can be used both for the queries written by users themselves and for the results offered by the repository[46]. In fact, SILKNOW has developed a multilingual, specialized thesaurus on silk heritage, designed as an extension of the AAT in an area where it is not very much developed[47].

A budding attempt to bring these technologies even closer to museums in Linked Art, "a community of museum and cultural heritage professionals collaborating to define a metadata application profile (the model) for describing cultural heritage, and the technical means for conveniently interacting with it (the API)".[48] This resource attempts to facilitate the standards-based description of cultural heritage. Such possibilities are still not widely implemented in

[42] The Getty's Art and Architecture Thesaurus, the most-used thesaurus in the field of material cultural heritage. See https://www.getty.edu/research/tools/vocabularies/aat/ and https://www.getty.edu/research/tools/vocabularies/lod/

[43] "Wikidata is a free and open knowledge base that can be read and edited by both humans and machines. Wikidata acts as central storage for the structured data of its Wikimedia sister projects". See https://www.wikidata.org/wiki/Wikidata:Main_Page

[44] "The CIDOC CRM represents an 'ontology' for cultural heritage information i.e. it describes in a formal language the explicit and implicit concepts and relations relevant to the documentation of cultural heritage. The primary role of the CIDOC CRM is to serve as a basis for mediation of cultural heritage information and thereby provide the semantic 'glue' needed to transform today's disparate, localised information sources into a coherent and valuable global resource" – from http://www.cidoc-crm.org/node/202

[45] Europeana Data Model. See https://pro.europeana.eu/page/edm-documentation More on this in section 4.2

[46] As reported in https://pro.europeana.eu/page/europeana-aat

[47] See our deliverable D3.1. Our thesaurus is available at https://skosmos.silknow.org/

[48] https://linked.art/about/

European museums, but their adoption is growing quickly. The 2020-2025 Strategy from Europeana reports on that willingness[49], that should be supported by training and coaching like the one available from SILKNOW.

4. REQUIREMENTS.

If a museum is willing to collaborate with Europeana, some legal and technical requirements must be met. In this section we provide an overview of the issues that we consider most relevant for heritage institutions like the ones that constitute SILKNOW's primary target audience: i.e., small and medium-size textile museums and collections[50].

4.1. INTELLECTUAL PROPERTY RIGHTS (IPR).

Culture is based on communication, and like any communication process, it links senders and receivers. The acts of sending and receiving information involve human relationships, rights and duties, whose organization can be legally regulated. That task is usually accomplished through IPR, that aims to strike a balance between the rights of the senders (in cultural terms, the authors, interpreters, publishers…) and those of the receivers (the public: readers, spectators, audiences…). The former group demands protection of their creative work and any economic profits that might derive thereof, for instance against plagiarism. The latter group demands protection for the human right of access to and enjoyment of cultural manifestations.

In the majority of modern legislations, authors' rights are divided in two groups: moral and economic rights. The creator of a cultural product (and, under some circumstances, the collaborators and distributors involved in its creation, as well as the legitimate heirs) is awarded the exclusive right to exploit and get economic benefit from it. Such right is deemed valid only

[49] "Linked data is not yet a common standard among institutions because availability of useful linked data sources is limited and finding solution providers with the necessary skills or interest is difficult. However, there is a willingness within institutions in Europe to use the Resource Description Framework (RDF) to describe data, to publish data through SPARQL endpoints and to interconnect to other systems using Linked Data APIs". Europeana Strategy 2020-2025, p. 33.

[50] We have not followed the five steps indicated by Europeana itself in https://pro.europeana.eu/share-your-data/process This is motivated by practical reasons: namely, our wish to emphasize and tackle some issues before than others, but this obviously has no bearing on the accuracy of the issues we are showing here.

for a limited period of time, so that access to culture is not fully sacrificed for the sake of authors' rights. For instance, in the case of visual arts, that period usually lasts until 70 years after the death of the author. Moral rights have no economic effects and are imprescriptible.

A first kind of IPR is the one related to the historical objects themselves. IPR being limited in time, as already mentioned, it has ceased to be in effect for most (not all) objects produced before the 20th century. For example, in SILKNOW, since we had chosen to work about textiles from the 15th to the 19th century, the intellectual rights of the textile designers and manufacturers have expired, so we did not have to worry about those rights. Their designs have gone into the public domain: not the objects themselves (that continue to have legal owners), but the intellectual property rights derived from their creation.

A second kind of IPR relevant to this discussion consists of the rights on the descriptive information about the heritage objects. Usually, that information is made up of text records and visual documentation (photographs, most often). In the case of museums, it is kept in inventories, catalogues, or similar documentation resources. Their creators are museum professionals: catalogers, curators, registrars, sometimes external experts… Not much attention has been paid until recently to the authorship and IPR of this information. Since it has no creative value, it does not fit squarely within all IPR legislations, but it does have some degree of legal protection, that in some cases is claimed by the authors or, more often, their institutions (the museums themselves). IPR relevant in the context of Europeana are rights of this second kind, since the platform does not deal with the cultural objects themselves, but with the digital objects derived from them.

Before publishing any data on its Collections website, Europeana requires its Data Providers to sign a Data Exchange Agreement[51]. This document establishes two main rules:

1. *"All metadata submitted to Europeana will be published as open data under the terms of the Creative Commons Zero Public Domain Dedication (CC0).*

2. *Each digital object (which includes the associated preview) that is available via Europeana needs to carry a rights statement that describes its copyright status and informs*

[51] https://pro.europeana.eu/page/the-data-exchange-agreement

the users what they can or cannot do with the digital object. If an underlying material object is in the public domain, its digital surrogate should remain in the public domain".

As explained above (section 2.2), metadata is the data about any given digital object, as published in the Europeana Collections website or its API. It is the descriptive text the human user can read on the screen, plus other textual information only useful for computers. Giving a Creative Commons Zero Public Domain Dedication to all that information means that fully open access rights about it are granted: to any person, for any use, and for all time. The Data Provider is free to decide which or how much information it provides, of course. By providing it, however, the Data Provider gives away the rights it might have.

A different situation applies to the previews or the digital objects themselves. Data partners grant Europeana permission to store and make available thumbnail images to illustrate search results. In other words, regarding the digital objects, their IPR must be accommodated within one of (currently) 14 standard licensing schemes (or "rights statements"), that indicate the copyright status and reuse conditions about the digital object. The ones provided by Europeana generally provide many rights to the users, but not necessarily all rights (as is the case with the CC0 dedication). Europeana used to have a number of licenses created for its own purposes, but years ago it collaborated with the Digital Public Library of America and other cultural repositories to provide this common set of licenses, so that they can be used as worldwide standards for the field, instead of having a myriad of case-specific licenses[52]. There is no need to get here into specifics, but this entire system has been built as a way to make IPR easier and clearer both for cultural heritage institutions and for their users, fostering a culture of free access and reuse, while also respecting many legal and reasonable limitations to it. Changes and adjustments will continue to be made, but the main framework of the Data Exchange Agreements and the rights statements associated with them is already a very stable one.

Providing a very basic information on IPR is one of the few absolute requirements for data to be incorporated into Europeana Collections. edm:rights is the mandatory metadata field in the Europeana Data Model (EDM, see next section) where Data Providers select one of the 14 possible rights statements, including the corresponding URI. Additional information can

[52] https://pro.europeana.eu/page/available-rights-statements

be provided in the non-mandatory dc:rights field. Which leads us to data technical specifications.

4.2. **DATA SPECIFICATIONS.**

Each museum manages data in its own, sometimes completely unrepeatable way. Cultural institutions tend to be very idiosyncratic in their data management practices, although standards are becoming more usual in the field. Software products are not as isolating as they used to be, and most of them incorporate some kind of data export or migration methods. Still, transferring any museum's data to an external repository, like Europeana, is still a demanding task, both in terms of information management and computing skills. Building in-house expertise is a pressing need for many cultural institutions. Luckily, training and support are more and more available in this area. As already mentioned, this is one of the goals for SILKNOW.

Europeana developed a first data model, named ESE (Europeana Semantic Elements). It was replaced by EDM in 2013. It provides an open, cross-domain, semantic web-based framework for Europeana's participation in the semantic web. Aggregators and data partners need to follow the specifications and guidelines for EDM as the metadata will automatically be validated according to this schema during the ingestion process.

In short, EDM provides a common structure for the metadata itself and for the standards that it might be following[53]. A simple way to understand what it does is to go through the EDM mandatory elements for any metadata to be included in Europeana[54]:

1) *Each metadata record must contain either a title (dc:title) or a description (dc:description). The values in these fields need to be unique and meaningful across the submitted dataset. All metadata records in the dataset cannot be given identical titles or descriptions that do not specify the cultural heritage object sufficiently because your object would consequently not be discoverable.*
2) *Each metadata record describing a text object (e.g. book, manuscript, letter) must provide the language of the document in the metadata (dc:language). […] This allows us to present more material in the user's own language.*

[53] https://pro.europeana.eu/page/edm-documentation
[54] As stipulated in section 3.2 of the Europeana Publishing Guide.

3) *Each metadata record must contain the type of digital object (edm:WebResource) specified in edm:type. This metadata field can only be populated with one of the following five fixed values: TEXT, IMAGE, SOUND, VIDEO, and 3D. Many users want to search according to media and accurate completion of this field allows them to do so.*

4) *Each metadata record must provide some context and details about the objects described by the metadata. This additional information can be either the subject of the cultural heritage object (dc:subject), its nature or genre (dc:type), the location or place the object depicts (dcterms:spatial), or the temporal topic of the object (dcterms:temporal). The more data you can provide here, the more opportunity the users have to find it using their search terms.*

5) *Each metadata record describing digital objects contributed by users (e.g. during a public digitisation campaign within the project Europeana 1914-1918) must show edm:ugc = true. This allows us to maintain Europeana Collections' reputation as an authoritative resource, conferred by the work of the cultural heritage institutions, separating user knowledge and curated or professional knowledge.*

6) *Each metadata record must contain the information of the cultural heritage institution that provides the data to an aggregator (edm:dataProvider). Users want to know where the data comes from, and we want to attribute properly.*

7) *Each metadata record must contain information about the data partner to Europeana (edm:provider). The value will be identical to the data provider information if the cultural heritage institution that owns the object also provides the digital representation of the object to Europeana. If the cultural heritage institution collaborates with an aggregator in order to deliver the data to Europeana, the data partner to Europeana is the aggregator.*

8) *Each metadata record must provide at least one link (URL) to the digital object either in the context of a cultural heritage institution or an aggregator's website or as a direct link. It is strongly recommended to provide a link to a web view of the digital object, which is a direct link to the actual file that is ready for download (e.g. jpg, mp3, pdf in edm:isShownBy). The data partner can also assign a link to the digital object in the context of the organisation's website or a link to a (book or image) viewer that shows the digital object (edm:isShownAt). We highly recommend that you provide*

both edm:isShownAt and edm:isShownBy along with the data, so that the user is more likely to use your data.

9) *Each metadata record must contain a valid rights statement for the object using edm:rights and the corresponding URI to the rights statement. […] A valid rights statement tells the user what they may or may not do with your digital objects. Rights statements are also machine-readable, which makes them fully searchable via the API.*

10) *Each resource (edm:ProvidedCHO, edm:WebResource, ore:Aggregation and each contextual entity) described in a metadata record must contain a unique and persistent identifier […] that will be used to generate the permalink to the record on Europeana Collections as well as the Europeana identifier for both Europeana Collections and the APIs. The persistence of this identifier will guarantee that the links to each object remain when the metadata record is updated, which, again, will improve user experience and likelihood of your material being used.*

Please note that the elements mentioned are labelled according to different metadata schemas or "namespaces": dc or dcterms (as per the Dublin Core, https://dublincore.org/specifications/dublin-core/dcmi-namespace/), rdf (from the Resource Description Framework, https://www.w3.org/TR/rdf-syntax-grammar/), and edm (the Europeana Data Model itself). Thus, it transcends domain-specific metadata standards, yet it also serves a wide range of community standards, be they from museums, archives or libraries.

An important and demanding step in the process is the "mapping" between the source data structure (usually, the fields in the internal database of the museum) and the EDM elements or "properties". Matching fields and elements is essential in order to keep all valuable information from the original records and transfer it to Europeana, without loss of details. The EDM's Mapping Guidelines offer a detailed discussion on the issue[55].

[55] Available at https://pro.europeana.eu/page/edm-documentation

5. CONCLUSIONS.

Training and guiding textile museums in the process of becoming Data Providers for Europeana was envisioned as a key element in the long-term impact of SILKNOW's activities, helping to transform the cultural heritage sector from the inside, precisely in one of its most abundant yet most endangered agents: small and medium-size institutions. Although the pandemic has greatly impeded the actual realization of that initial design, its validity has been totally confirmed by the evolution in Europeana's strategies and practices since then. The needs and the main ways to solve them remain the same. This deliverable will continue to provide a useful template for the effective implementation of these training and coaching activities, when circumstances allow.

On Europeana's side, challenges to its further development are important, but there is also much to build from: more than a decade's worth of experience and service to users. Equally important is the fact that the technological evolution of the internet leads cultural organizations (among many others) increasingly towards semantic web tools and contents. Europeana is an unparalleled resource for any European museums willing to walk that path. Anything that helps them to take advantage of such a great opportunity is worth the efforts.

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