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Interim Analysis of the Environmental Sustainability Practice Survey

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Introduction

This document is an interim report on the results of the pan-European survey conducted by the [Environmental Sustainability Practice Task Force](#) of the Climate Action Community within the Europeana Network Association (ENA) of the Europeana Initiative. The survey ran from July to October 2023, targeting digital professionals working in Cultural Heritage Institutions (CHIs), or being part of a CHI IT team, or involved in any way in the digital preservation or management of digital content within a CHI.

Survey Purpose

The Task Force of the Climate Action Community was put together with the aim of systematically understanding the environmental sustainability of digital preservation practices of Cultural Heritage Institutions (CHIs), in order to mitigate the sector's environmental impact and to inform the [deployment](#) of the common European data space for cultural heritage by the Europeana Initiative.

More specifically, supporting the [Europeana Climate Action Manifesto](#), the research primarily seeks to understand current practices that are used during the full cycle of digital preservation of cultural heritage by CHIs, (i.e. selection, preservation, accessibility).

This interim report presents our initial takeaways from the survey, organised in five chapters according to the respective survey sections. Five sections of 32 questions in total aim to provide sufficient data to create a complete picture of both the contextual, sector-related factors, and the ad-hoc research objects.

This initial report touches upon results that stand out following a first analysis of the rich raw data from the survey. Further work will be then developed and other activities will be undertaken by the TF in order to more thoroughly analyse the data and reveal more details about trends and practices in cultural heritage institutions.

Then, this knowledge will be taken further, informing the advocacy actions for climate-conscious working practices to minimise the environmental impact of the digital cultural heritage sector.

General Information about respondents

The survey was completed by 108 respondents from 24 European countries and 6 respondents from other countries worldwide (Figure 1). Given the wide geographical coverage of the Europeana network, the survey was not delimited to EU countries only, although responses and the analysis that will follow focus mainly on European CHIs.

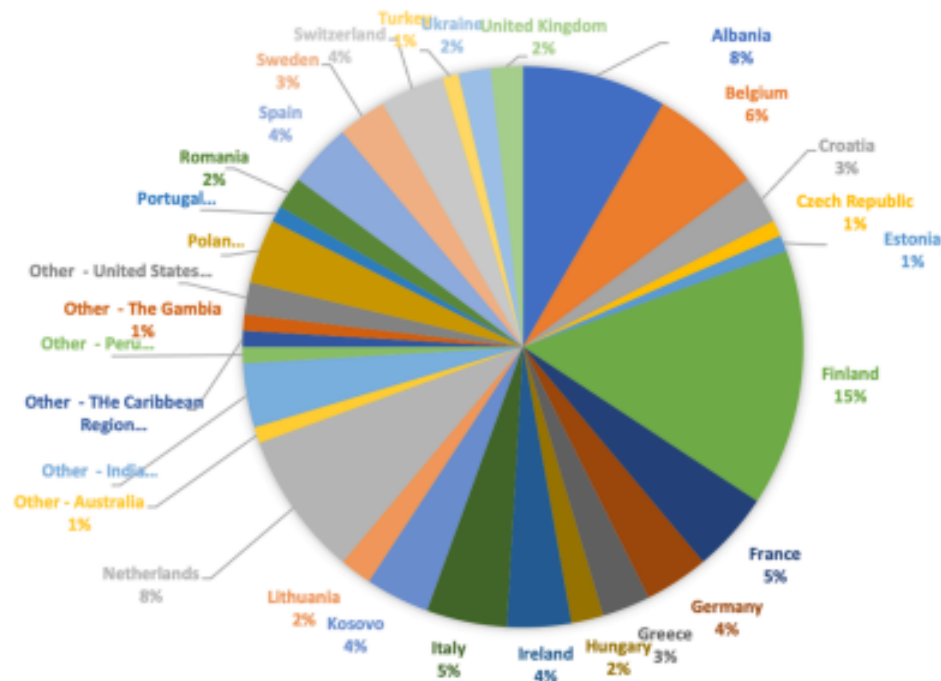


Figure 1. Distribution of respondents by country

51.4 % of the respondents answered on behalf of their organisation and 48.6 % shared their own views on the topic. The high percentage of people responding on behalf of themselves and not for their institutions illustrates the high level of personal interest in digital sustainability in the cultural heritage sector.

As for institutional type the most responses came from libraries (33%) and academic/ research institutions (23.15%) followed by museums (11.11%). Responses also revealed these to be the sectors where the most comprehensive analysis and actions regarding climate change and sustainability are undertaken. The rest of the respondents (24.07%) are IT developers / Tech organisations, 3D scanners producers, Cultural & CH associations, Consultancy Agencies, NGOs and non-profit organisations, Cultural Aggregators (Figure 2).

This distribution reflects the diversity of the other sectors involved in creating and curating digital cultural collections, most of them from the creative industries' sector.

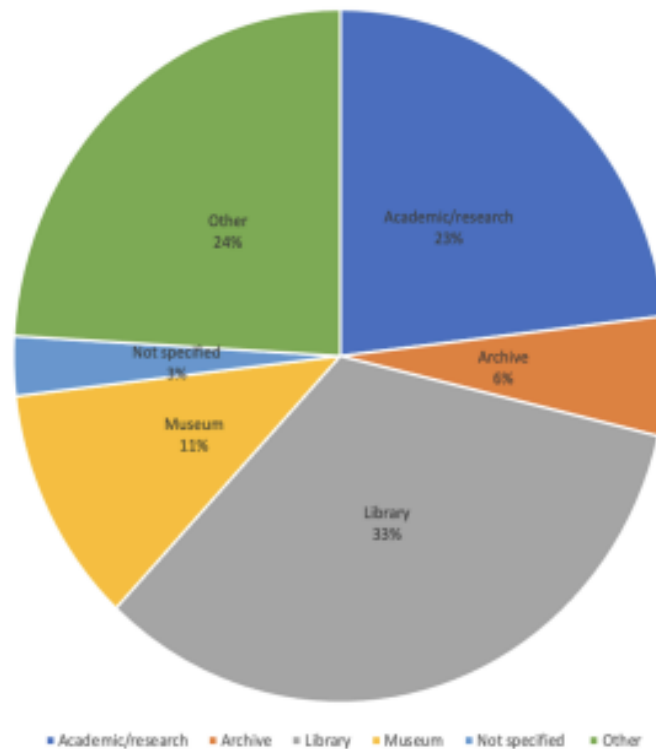


Figure 2. Distribution of respondents by institutional type

Almost one-tenth of the total of the respondents expressed an interest in providing more in-detail information about their practices, as well as to participate in in-depth interviews on a later phase of the research - either on behalf of their institutions or on an individual basis.

Findings

Sustainability Understanding

Seeking to gain a comprehensive picture of what environmental sustainability currently entails for cultural institutions, the survey focuses on the level of commitment to environmental sustainability within organisation, the types of actions that are being undertaken, the concepts / objectives to which they are employing and which is/ are the area(s) of sustainability monitored.

At first glance, more than half of the respondents (50.65%) state that environmental sustainability is included in their organisational strategy. However, an extra 27.27 % of respondents explained that their institutions take some action even though environmental sustainability is not part of their strategy, while another 11.69% of the respondents have plans to include it in a future strategy.

Among the respondents who act on such a strategy, the majority (28.57%) are

linking their sustainability activities to the *'The United Nations' Sustainable Development Goals (SDGs)*, followed by *"Environmental goals specific to their country"* (21.01%). 12.61% of the responding institutions understand sustainable development according to the Brundtland definition, i.e. *"Meeting the needs of the present without compromising the ability of future generations to meet their own needs"*, while 10.08% of the respondents focus on *'Reaching Carbon Neutrality by 2030'*, *Planetary boundaries* (5.04%) and *other goals* (7.56 %) have also been mentioned.

Digital Preservation Practices

The survey aimed to capture sustainability practices within the entire process followed by CHIs to digitise, preserve, and make accessible in a digital format their analog, physical or born-digital cultural heritage collections. This includes selection, preservation and accessibility.

Selection

The first step of a digital preservation practice is selection. Respondents shared that decisions about selection were made according to the following criteria: specific preservation project requirements (17.41%), broader organisational policy (14.29%), curatorial decisions, and ad hoc requests relating to educational or research reuse and access (~12%). Funder requirements (9.38%) appeared to impact less the material to be digitised and preserved digitally.

Tangible heritage assets are prioritised (by 42.96%) when it comes to the type of heritage that CHIs opt to preserve digitally, followed by the digital-born (34.81%) and intangible (22.22%) cultural heritage. Significant insights on the sustainability of the process include file formats generated by CHIs, with the most common ones to be PDF, JPG and TIFF, while 30.88% of the respondents believe that the same preservation quality and users' satisfaction can also be achieved by using formats with smaller storage demands.

16.99% of respondents share that they are adhering to project-based standards for digitising their collections, 15.69% are using the FAIR (Findable, Accessible, Interoperable and Reusable) data principles, 11.76% are applying the Europeana Publishing Framework, while 9.15% always preserve the highest quality digital objects. In this respect, the existence of digital duplicates in their collections (that was reported by the 69.12% of the respondents) might connect to the set of safety standards used by CHIs in regards to the number of duplicates they require.

Preservation

The practices employed in the preservation phase are difficult to link to a conscious sustainability understanding. We believe this may be because more technical IT details are required to answer this section of the survey or because sustainability theories, even if favoured in CHIs' strategies, are challenging to apply in practice.

That being said, the majority of the respondents (39.68%) have not implemented tiered approaches to digital preservation, meaning to allocate resources according to the value and uniqueness of materials preserved, and a similar percentage do not run fixity checks.

For storing digital content, respondents report using almost equally both local network storage (30.37%), and in-house hardware, e.g. hard-drives (29.63%), while fewer report using Cloud Server Storage providers (24.44%). Even though more than half of the media they are using need replacement (51.67%), the majority (63.33%) have not evaluated the environmental impact of manufacturing, transporting, and disposing of them.

Accessibility

Users of the digital content made available by most CHIs are able to download from the organisation's digital platform (74.14%), but over half of them lack the option to choose the type of file format they wish to download (55%). On an inter-institutional level, however, more than half of the respondents are engaged in some kind of activities to enrich the quality of their metadata and increase interoperability. Interoperability, in this context, may include developing common standards, interlinking content via tagging, or integrating researchability feedback by end-users.

End-user engagement

One aspect of the survey focuses on the collection of end-user feedback. When queried about whether end-users are offered the opportunity to provide feedback and/or rate their satisfaction after interacting with digital services, half of the respondents did not provide a direct response and those who did indicated varied levels of engagement, with almost half of them affirming the availability of feedback channels. When exploring how institutions learn and make improvements based on feedback, respondents highlighted diverse approaches to incorporating feedback. Some mentioned incorporating feedback into future projects to improve data quality or service delivery, some underscored the importance of incorporating feedback into continuous improvement processes, while others emphasised specific actions, such as fixing reported problems or enhancing metadata descriptions.

Another part of the inquiry delved into end-user co-creation and environmental sustainability, investigating perceptions regarding the statement "End-users of our digital services can help us to co-create value and improve our digital processes and practices to be more environmentally sustainable." The substantial majority expressed agreement with the statement (86.46%). Interestingly, a majority of respondents who indicated a lack of feedback channels for end-users also agreed with this statement, suggesting recognition of the potential for collaborative value creation despite current limitations.

Future actions

Finally, almost all of the respondents (85.96%) responded positively in learning more or incorporating principles of Green ICT, meaning the environmentally conscious use of information and communication technology, in their CHIs.

Offering them a variety of activities to get engaged with the TF and further our research, 55 respondents found most interesting for them a summit or conference on Green Digital Cultural Heritage, a hybrid Working Group on Green ICT and Digital Cultural Heritage, a capacity-building initiative on Green ICT and Digital Cultural Heritage, and - the majority of them - a label/ set of standards for environmentally sustainable preservation practices in Digital Cultural Heritage.

Following this interim-analysis, and having created a network of respondents interested in becoming engaged in a second phase of the research, the TF will enrich the research by conducting more in-depth interviews, to the extent needed for the purposes of the analysis. These interviews and the survey will go on to inform the final TF report that will be delivered in autumn 2024, and communicated via dedicated workshops.

Should you wish to provide feedback or share insights please contact evapaschal@gmail.com