ReAImagining Public Collections

in the 21st Century in Light of Digital Development

International conference

HUNGARIAN NATIONAL MUSEUM PUBLIC COLLECTIONS CENTRE

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Volume of abstracts

2024

ReAImagining Public Collections in the 21st Century in Light of Digital Development

International conference

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Hungarian National Museum Public Collections Centre –
Hungarian National Museum

Hungarian National Museum Public Collections Centre –
National Széchényi Library

Hungarian National Archives

14-15 October 2024

Hungarian National Museum Public Collections Centre

Hungarian National Museum

Budapest, 2024

HUNGARIAN NATIONAL MUSEUM PUBLIC COLLECTIONS CENTRE
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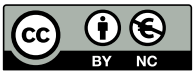

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Welcome speeches

ReAImagining Public Collections

Dávid Rózsa
Director General of the
Hungarian National Museum
Public Collections Centre –
National Széchényi Library

Distinguished Guests, Ladies and Gentlemen,

Every day, technology is at our side. It gives us global iconic events. We can watch live as a NASA spacecraft searches for signs of life on Mars. Gemini, Google's latest AI service, teaches you how to tie a tie. Technology is an active companion in our lives, surpassing what we thought of it yesterday. According to Martin Heidegger, technique is a double concept since it is both the means by which we achieve our ends and the activity of man. It is a human trait to set goals to which we associate and use means, and technique is always given for a goal to satisfy possible needs. It is neither good nor bad in itself. It is the purpose that gives it character and meaning. Europe's rich cultural heritage is a meeting point for all generations. By interpreting, processing, and preserving it, it can create spiritual and cultural security for the people of today and tomorrow. In other words, the Europe that the people of the next century will live in will depend on the technology of today and the level of commitment to preservation. We must treat what our ancestors created with the least responsive responsibility.

This is possible if we position our thinking along the lines of professionalism and openness. Profession, to use Heidegger's term, refers to the layout and equipment of the technique, the instrument of technology itself, the instrument that in the

light of the event opening today, is the AI that also determines the life of public collections. Hungary will hold the rotating presidency of the Council of the European Union until the end of this year, which brings with it many responsibilities and opportunities, for example, the chance to discuss issues and challenges that affect us all. I'm thinking here of how AI can be put in the service of digitalisation and written culture, and what professional dialogue and culture structural change will result from this. All of this will be done by museum professionals, librarians, archivists, decision makers who understand their profession and therefore see the many digital challenges public collections are facing. They understand and therefore have the good practices that enable them to be innovative. The conference that is now opening is a starting point for future professional relations. There is much to talk about and much to share. The National Széchényi Library, which is part of the Hungarian National Museum Public Collections Centre, completes its activities by a cooperating with cultural institutions in addition to processing, preserving, and transmitting documents of the written Hungarian cultural heritage.

The majority of the cooperation agreements are based on digitisation, as a result of which the National Library makes important parts of the collections and documents of the institutions accessible to the public. These connections in the Register of Digitisation may make what is about us permanent and tangible. What is the cultural richness of Europe's work if there is no one to interpret it? Every questioning, like this one, builds the path. In the two days ahead, we will be on a journey of reflection on how far AI can be put in the service of culture. I wish you all a thought-provoking and question-provoking conference at the National Széchényi Library at the height of Hungary's scientific and cultural heritage. Thank you for your attention.

Máté Vincze
Deputy State Secretary
Ministry of Culture
and Innovation

Dear Distinguished Guests,

It is an honour to welcome you to explore the transformative role of artificial intelligence in preserving and enhancing access to culture. Here in Hungary, we are embracing AI to digitise millions of pages annually, uncover archaeological insights, and interpret centuries-old manuscripts with the help of cultural heritage professionals.

60 million pages of digitalisation per year is a task for you, Mr. Director General. But not just that, they are also teaching the internet our not very frequent or quite unique language and the way of thinking. The Hungarian National Museum, which is also responsible for archaeology, uses AI in in many aspects of finding what's hidden behind the different layers of our territory.

The National Archives have used AI to be able to understand hundred-centuries old handwriting. So, we do have very good examples when we talk about democratisation and access to culture. The Hungarian Ministry of Culture and Innovation is focusing on new ways to try to force our institutions to reach out to people who have probably less access to products than before. One of our new initiatives is called the Library Challenge, in Hungarian *Könyvtári Kihívás*. The program will start tomorrow.

This program is about making the libraries compete for the readers, compete for the books to be handed out. It is probably a new way of using digital tools to improve reading and access to reading. With that in mind, I would like to say thank you for coming to Hungary for taking part in this conference. I wish you a pleasant stay, and I wish this conference to be a good success in helping access to culture and using AI the way it ismeant to be, as an invention that helps us spread culture throughout Hungary and throughout Europe. Thank you very much.

Gábor Zsigmond, PhD
Director General of the
Hungarian National Museum
Public Collections Centre –
Hungarian National Museum

Ladies and Gentlemen, Esteemed Colleagues,
Distinguished Guests,

It is with great pleasure that I welcome you all to Budapest for our conference entitled *ReAImagining Public Collections in the 21st Century in Light of Digital Development*. As Director General of the Hungarian National Museum Public Collections Centre – Hungarian National Museum, it is an honour to address you today together with our esteemed co-organiser, Director General of the National Széchényi Library, host of today's programme, as well as Mr. Deputy Secretary and Ms. Stacher, representative of the European Commission's Directorate-General for Education, Youth, Sport and Culture.

Public collections – museums, libraries and archives – across Europe are today facing a myriad of challenges posed by our rapidly evolving digital landscape, necessitating innovative and collaborative efforts to ensure their preservation and accessibility. Addressing these challenges is crucial for the protection and promotion of our rich cultural heritage, and I believe that this conference serves as a vital platform for dialogue and knowledge exchange among all of us who share this common commitment.

Understanding the values of heritage is one of the key challenges we face in contemporary society. This involves

not only recognising the historical and cultural significance of our collections but also appreciating their role in shaping our identity by drawing from a shared memory of a common past.

In this light, the establishment of the Hungarian National Museum Public Collections Centre has come at a crucial time. Founded in April 2024, with the merge of six public collections of national outreach (including the Hungarian National Museum and the National Széchényi Library), the Centre comes as a testament to the collective commitment of Hungary's leading cultural institutions to fortify their roles as custodians of our shared heritage, while fostering inclusive access and interaction with the public.

The Hungarian National Museum and the National Széchényi Library share a rich and intertwined history that dates back to their founding in the early 19th century in a period of significant social, political and cultural change in Hungary. The institution established in 1802 by the donation of Count Ferenc Széchényi, aimed to serve as a central institution dedicated to preserving Hungary's cultural and historical heritage, as well as to provide a space for historical researches. This library collection – today National Széchényi Library, preserving the name of its founder – served as the basis for the establishment of the Hungarian National Museum five years later.

For many decades, the Museum – hosting a rich collection of both books, manuscripts diplomas and coins, archaeological and historical items – functioned as a central place for preserving and studying tangible as well as written heritage, to enhance public access to knowledge and heritage, enriching national identity. Although the Museum and the Library formally separated

in later years, both institutions remained committed to their core missions of preservation, research and education. The recent integration of the Hungarian National Museum, the National Széchényi Library and four other significant national cultural institutions into the Hungarian National Museum Public Collections Centre symbolises a return to this foundational collaborative spirit, as we work together to address the challenges of the 21st century in this conference setting.

Their integration under the Centre allows us to pool our resources while maintaining the unique professional autonomy of each institution. This reconsolidation not only reinforces our mission but also creates a strengthened network for sharing knowledge and best practices among cultural professionals across Europe.

The establishment of the National Museum was a unique step in Europe two centuries ago: the institution in Budapest is the third such public collection in Europe. Although the primary goal of such institutions has remained unchanged over time, the role of museums within society has greatly evolved. This evolution reflects not only changes in the expectations of society but also the increasingly complex challenges museums now face in fulfilling their mission. The International Council of Museums (ICOM) adopted a new definition for museums in 2022, which – besides the classic functions – placed a great emphasis on the importance of inclusivity, community participation and sustainability, aligned with those changes in the context where museums are working.

One of the most significant of these challenges is the pressing threat of climate change, which poses a serious risk to our cultural artefacts. Developing robust strategies

to mitigate these impacts is imperative, whether that involves reinforcing physical protections or employing digital preservation techniques capable of safeguarding our collections for future generations. The methodologies we employ in protecting our heritage must be as dynamic as the challenges we face, allowing us to respond with agility and foresight.

Technological advancement plays a crucial role in addressing both the preservation of artefacts and the evolving role of museums. The digital tools now available allow us to document, research, and engage with our collections in unprecedented ways. While digitisation can often seem resource-intensive, it has the power to vastly expand access to our collections and safeguard fragile artefacts by reducing handling. Through these advancements, we can reshape public engagement with our heritage, ensuring that our institutions remain welcoming places for dialogue, exploration, and learning. The Hungarian National Museum is actively engaged in several international collaborative projects to leverage these technological improvements for the benefit of the museum's activities, some of them will be showcased later today and tomorrow.

Moreover, the transformative potential of artificial intelligence further enhances our ability to meet modern-day challenges. While AI brings forth numerous questions and challenges, it also offers opportunities to analyse large datasets, enhance visitor experiences, and streamline institutional operations. However, the implementation of AI must be undertaken cautiously, ensuring that we uphold authenticity and the trust of our audiences, remaining accountable to our cultural missions. The rapid pace of AI development underscores the importance of knowledge-

sharing among professionals—this conference is an ideal venue for us to learn from one another about integrating these technologies thoughtfully.

Finally, sustaining collaboration among diverse public collections is crucial to tackling these challenges collectively. Museums, libraries, and archives each possess unique expertise that can significantly enhance our joint efforts in digitization projects, resource sharing, and joint strategies for heritage protection. Our lectures and panel discussions over the next two days will showcase effective collaborative practices and highlight examples where inter-institutional and transborder partnerships have yielded outstanding results, positioning us to face future uncertainties with greater resilience.

The significance of this conference extends beyond our negotiations of technology and methodology; it is also about promoting cultural heritage as a shared responsibility, a principle enshrined in the Treaties of the European Union. The European Commission has underscored this commitment through various initiatives aimed at strengthening our collective cultural identity and safeguarding our legacy.

As we delve into the sessions over the next two days, I encourage you to engage actively, share your thoughts, and collaborate with your colleagues. The crossroads at which we find ourselves today represents a unique opportunity. By combining our strengths and insights, we have the power to forge a fruitful future for our public collections amid the challenges of the digital revolution.

In closing, let us approach the days ahead with an open mind and a commitment to innovation and collaboration.

I extend my heartfelt gratitude to all of you for your dedication to our shared mission. I would also like to thank our co-organiser partner institutions and for our distinguished lecturers, for your professional contribution and support for the success of this conference.

I wish you a fruitful and inspiring conference. Thank you.

Conference programme

ReAImagining Public Collections

ReAImagining Public Collections in the 21st Century in Light of Digital Development

Conference

14-15 October 2024
Budapest, Hungary
1 aim, 2 days, 3 venues

AGENDA

Day 1 **14th October 2024**

ReAImagining Public Collections in the 21st Century in Light of Digital Development Potentials and challenges posed by Artificial Intelligence

Venue: National Széchényi Library

9:30–10:30 **GREETINGS AND WELCOME SPEECHES**

- Dávid Rózsa, Director General of the Hungarian National Museum Public Collections Centre – National Széchényi Library
- Máté Vincze, Deputy State Secretary, Ministry of Culture and Innovation
- Barbara Stacher, Senior Expert, Cultural Policy Unit, Directorate-General for Education and Culture
- Dr. Gábor Zsigmond, Director General of the Hungarian National Museum Public Collections Centre – Hungarian National Museum

10:30–12:00 **KEYNOTE LECTURES: TRENDS AND CHALLENGES IN PUBLIC COLLECTIONS**

10:30–11:00 **European Union initiatives supporting innovations in public collections**
• Barbara Stacher (Senior Expert, Cultural Policy Unit Directorate-General for Education and Culture)

11:00–11:30 **EU flagship cultural heritage projects and the revision of current aggregation models**
• Kerstin Arnold (Chief Operating Officer, Archives Europe Portal Foundation)

11:30–12:00 **AI trends and challenges for the 21st century museum**
• Kamila Oles (Associate Lecturer, St. Andrews University; AVICOM)

12:00–13:30 *Lunch break*

13:30-17:15 SESSION 1
ARTIFICIAL INTELLIGENCE IN PUBLIC COLLECTIONS

13:30–13:50 **The role and opportunity of artificial intelligence in libraries from an international perspective and the new AI Act**
• Jessica Jacobs (Executive Committee Member, EBLIDA; Director of Flemish Association for Libraries, Archives and Documentation Centres)

13:50–14:10 **AI fairness and data privacy in museums: Addressing exclusionary effects while managing sensitive information**
• Martín Mariano Zamorano (Associate Professor, University of Barcelona)

14:10–15:00 *Coffee break*

15:00–15:20 **Trends, challenges and libraries in the 21st century: The Trend Report 2024**
• Stephen Wyber (External Affairs Director, IFLA)

15:20–15:40 **SHIFT: MetamorphoSis of cultural Heritage Into augmented hypermedia assets For enhanced accessibiliTy and inclusion**
• Benedek Varga (Director, Hungarian National Museum Public Collections Centre – Semmelweis Museum of the History of Medicine)
• George Margetis (Researcher, Human-Computer Interaction Laboratory, Institute of Computer Science, Foundation for Research & Technology – Hellas)

15:40–16:10 **Cluster introduction of AI-based Horizon Europe projects**
• Christina Tsita (MEMENTOES), Nicklas Sindlev Andersen (MEMORISE)
• Maud Ntonga (MUSE-IT), Laura Martel (PERCEIVE) • Marc Hernández Güell (PREMIERE)

16:10–17:00 **Panel discussion with the Representatives of the MEMENTOES, MEMORISE MUSE-IT, SHIFT, PERCEIVE and PREMIERE projects**
moderated by Rob Davies (Head of European Projects, HERITAGE; EUROPEANA Network Association)

Day 2 **15th October 2024**

Digitalisation in public collections

Venue: Petőfi Literary Museum / National Széchényi Library / Hungarian National Museum

SESSIONS WILL RUN IN PARALLEL

09:30–12:30 SESSION 2
RECONSTRUCTING EUROPE'S PAST: THE POWER OF ARCHIVES IN THE AGE OF DIGITAL INNOVATION – IN COOPERATION WITH THE EUROPEAN BOARD OF THE NATIONAL ARCHIVISTS
(closed session for leaders of European National Archives)

09.30–09:45 Welcome and opening

09:45–11:30 **Transformative archival collaborations in the digital age**
This session will explore innovative collaborative projects that enhance

archival practices focusing on existing bi- and multilateral cooperations.
• Zoltán Szatucsek: Introduction to European archival collaboration • Hrefna Róbertsdóttir: Spanish-Icelandic collaboration on tuna for wine • Cristína Díaz Martinez – Brigadistas: Strengthening the remembrance of the Holocaust, genocide, war crimes and crimes against humanity to reinforce democracy in the EU • Cristian Anita – Zsuzsanna Mikó: The bilingual guide of Transylvanian Archives. A Romanian/Hungarian project • Josée Kirps: Records of temporary International Criminal Courts. A brief report from ICA side event in Geneva in September

11:30–11:50 *Coffee break*

10:50–13:00 **Integrating cutting-edge technologies in archival services**
Focusing on the adoption of advanced technologies, this session will cover key innovations in archival practices. Topics include the first Retrieval Augmented Generation initiatives in archival context, chatbots which provide user-friendly natural language access to archival information with the help of Large Language Models.
• Péter Körösi-Szabó - Domonkos Czifra – Gábor Kovács: Retrieval Augmented Generation on noisy documents • Ludovic Delépine: RAG solution for the European Parliament • Saul Nassé: Big up the bandwidth

12:30–14:30 *Lunch break*

14:30–15:30 **Reconstructing life stories with AI**

This session will delve into the application of AI in reconstructing personal and family histories. Topics include family reconstruction, utilizing AI to piece together genealogical data; lifecourse reconstruction, providing comprehensive views of individual lives; and using AI for academic studies and family history research. These AI-driven methods offer unprecedented insights into historical narratives, making it easier to uncover and understand the past.

• Zoltán Szatucsek: Family reconstruction based on Hungarian Civil Register

• Morten Elleagaard: DNA – A Digital Historical Civil Registry. A Danish digital research infrastructure

Handover ceremony • Invitation by the Polish Presidency

9:30–12:30 SESSION 3 **TRENDS AND CHALLENGES OF PUBLIC COLLECTIONS IN THE 21 ST CENTURY IN DIGITALISATION AND TECHNOLOGICAL INNOVATIONS**

09:30–09:50 **The Artificially Intelligent Librarian: threat or chance?**

• Dr. Gyula Kalcsó (Web Archiving Team Leader, Digital Humanities Expert, Digital Humanities Centre, Hungarian National Museum Public Collections Centre – National Széchényi Library)

09:50–10:10 **Skills, competences, new technologies and trends – "To be or to disappear, that is the question"** • Dariusz Paradowski (Chief of IT Systems Lab, National Library of Poland; Head of IFLA PAC Center Poland)

10:10–10:30 **Libraries "building bridges" and the Open Method Coordination (OMC) working group** • Klaas Gommers (VOB/NL and Chair of the OMC group on libraries under the current EU Work Plan for Culture)

10:30–10:50 **Open up hidden knowledge – EODOPEN, a Creative Europe project for the users' needs** • Dr. Rita Radó (Head of Research Management Department, Research and Special Collections Division, Hungarian National Museum Public Collections Centre – National Széchényi Library)

10:50–11:20 *Coffee break*

11:20–11:40 **Artificial intelligence in archaeology** • Gabriele Gattiglia (Professor, University of Pisa)

11:40–12.00 **Museum of Stolen Art** • Olena Zenchenko (Co-Author and Art Director, Museum of Stolen Art) • Ivanka Vlasiuk (Project Manager, Museum of Stolen Art)

12.00–12.20 **E-RIHS and its contribution to the heritage collections in the digital age** • Vania Virgili (Interim Director General of E-RIHS; Institute of Heritage Science, National Research Council of Italy)

12:20–12:30 Questions & answers

12:30–14:30 Lunch break

14:30–16:00 CLOSING SESSION

14:30–15:00 **Adapting public collections and libraries through 21st century strategies and solutions: adapt, manage or perish**
• Ertuğrul Çimen (Library Director, MEF University; Chair of Europe Regional Division Committee, IFLA)

15:00–15:30 **Strengthening public collections for a changing world** • Marie-Véronique Leroi (Michael Culture Association, French Ministry of Culture)

15:30–16:00 **Closing remarks** by the Director General of the Hungarian National Museum Public Collections Centre – Hungarian National Museum

16:00–17:30 ***Guided visit in the exhibitions of the Hungarian National Museum***
(by invitation only)

17:30– ***Closing reception***
(by invitation only)

Abstracts

ReAImagining Public Collections

AI trends and challenges for the 21st century museum

Kamila Oles, PhD
Associate Lecturer
School of Art History
University of St. Andrews /
AVICOM

Artificial Intelligence (AI) is rapidly reshaping industries, including the museum and cultural heritage sector. Recent advancements, such as the Nobel Prize recognition for John Hopfield and Geoffrey Hinton's foundational work on artificial neural networks, highlight the transformative potential of AI alongside its ethical implications, including risks of misinformation and manipulation. Similarly, the use of AI to recreate the voice of the late critic Brian Sewell for a Van Gogh exhibition review demonstrates the intersection of innovation and controversy in the arts.

This presentation explores the state of AI integration in museums, reflecting both excitement and scepticism. Despite initiatives like the Smithsonian Museum's AI Values Statement and the establishment of the European AI Office, significant barriers remain, including a lack of digital literacy, technical infrastructure, and strategic upskilling within the sector. Findings from recent surveys reveal that many museum professionals feel underprepared for AI adoption, underscoring the need for targeted education and collaboration with AI specialists.

Drawing on examples such as the AI4Culture platform and recommendations from ICOM and NEMO, this talk proposes actionable steps for fostering AI adoption. These include integrating upskilling into museum strategies, creating cross-functional teams, and implementing phased pilot programs to ensure ethical, sustainable AI integration that aligns with museums' missions.

By embracing thoughtful collaboration and addressing barriers, museums can position themselves as active contributors to AI advancements, enhancing accessibility, education, and community engagement while preserving their cultural and ethical integrity.

The role and opportunity of artificial intelligence in libraries from an international perspective and the new AI Act

Jessica Jacobs
Executive Committee Member / Director
EBLIDA / Flemish Association for Libraries, Archives and Documentation Centres

Let me start by introducing EBLIDA, a key advocate for libraries across Europe. It represents library associations and institutions at the European level, aiming to influence policy decisions that impact libraries. EBLIDA, through its Working Group on Library Legislation (LIBLEG), has produced a pivotal document, named Recommendations on Library Legislation and Policy in Europe.

In a broad statement, the Recommendations mention the potential of technologies such as AI to improve the role of libraries in society. They defend that libraries are

“[at] the forefront of the digital transformation [and] play a pivotal role within the book and information chains, both digital and printed.”

Regarding specific actions, the Recommendations explicitly state that:

"member States should:

- ensure regulation of AI products to protect privacy and equity principles, including user education in libraries;
- promote the role of libraries as forums in which to exchange best practices on the ethical use of AI technologies in libraries."

However, in order to achieve this there should be "adequate training of staff and users to ensure that they are able to make proper use of the new tools and services in libraries."

Artificial intelligence can be used to accelerate and optimize administrative tasks, allowing librarians to dedicate more time to engaging with library users. Libraries can provide the public with access to AI tools and licenses, allowing visitors to explore and apply AI themselves. They should also interact with patrons about AI, libraries should facilitate discussions and educational programs about AI to raise public awareness of the impact and opportunities of AI technology. Without high-level thinking, however, artificial intelligence becomes a threat. You need critical skills when using AI, which produces information at high-speed, but this information needs to be checked.

What impact might the AI Act have on libraries?

Libraries might need to ensure that any AI systems they employ are transparent and that their decision-making processes are explainable. For instance, if a library uses AI to recommend books or articles to users, the system's criteria may need to be clear to the users, and the library might be required to provide explanations on how certain recommendations are made.

AI fairness and data privacy in museums: Addressing exclusionary effects while managing sensitive information

Mariano Martín Zamorano
Associate Professor
CECUPS, University of Barcelona

The adoption of AI in museums holds transformative potential for enhancing visitor experiences through personalization, immersive interactions, and improved accessibility. However, as cultural institutions increasingly rely on AI for automated curation, visitor engagement, and artefact classification, pressing ethical concerns emerge around data privacy and the actual inclusivity of these technologies. This presentation examines the dual challenge of harnessing AI while safeguarding data privacy and fairness, particularly for marginalised groups. Key regulatory frameworks such as the GDPR (EU 2016/679) and the AI Act (EU 2024/1689) underscore the need for compliance in data handling practices, including data minimisation, transparency, and visitor consent. Nevertheless, as AI-driven tools like facial recognition and predictive analytics become more critical to museum functions, the risks of exclusionary bias, often resulting from large or non-diverse training datasets, grow (Giannini & Bowen, 2019; Caramiaux, 2023). Through case studies of leading museums such as the Louvre and Rijksmuseum, this communication illustrates the potential for responsibly integrating AI, emphasising that ethical standards and regulatory alignment are essential for

leveraging AI's benefits without compromising inclusivity, data privacy, or fairness. By-design mitigation measures comprise robust and ongoing algorithmic audits and the use of diverse and protected datasets to promote fairness. Strategies for ethical AI deployment in museums include ensuring technical knowledge to adopt technologies and understanding AI systems providers' requirements, streamlining consent processes for accessibility tools to reduce user friction and balancing automation with human oversight to maintain the curator's role.

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Giannini, T. – Bowen, J. P. (2019). *Museums and Digital Culture: New Perspectives and Research*. Springer.

SHIFT: MetamorphoSis of cultural Heritage Into augmented hypermedia assets For enhanced accessibiliTy and inclusion

Benedek Varga
Director
Hungarian National Museum
Public Collections Centre –
Semmelweis Museum of the
History of Medicine

The SHIFT project, addresses the integration of cutting-edge technologies within the cultural heritage sector to enhance accessibility, inclusion, and usability. The initiative unites a diverse consortium of 13 institutions across 10 EU Member States and two associated states, encompassing museums, libraries, technology firms, and cultural heritage organizations. The project's core aim is to foster innovation in cultural engagement while ensuring that experiences are accessible to individuals with disabilities, including those with hearing and visual impairments and people on the autism spectrum.

The project highlights the importance of authentic engagement with heritage while leveraging advanced technologies such as artificial intelligence, machine learning, multi-modal data processing, and haptic interfaces. These technologies enable interactive, data-driven insights and broadened audience outreach,

transforming how cultural heritage is preserved, researched, and experienced.

Key strategies include hosting participatory workshops to involve stakeholders early in the development process, facilitating a forum for dialogue, and integrating feedback to refine deliverables. The workshops, conducted in 2024, targeted diverse communities to ensure the resulting solutions resonate with the user needs of the SHIFT target audience.

Currently, the project is entering its testing phase, integrating feedback collected from target groups to enhance its outcomes. By addressing resistance to technology adoption and promoting inclusivity, SHIFT aims to enrich the cultural landscape and establish a model for applying digital advancements in public collections. The SHIFT approach does not only preserve heritage but also democratizes access, fostering a deeper connection between diverse audiences and cultural institutions.

SHIFT Framework: Enabling accessibility by design for the development in XR environments

George Margetis, PhD
Researcher
Institute of Computer Science, Foundation for Research and Technology – Hellas (FORTH), Heraklion, Crete / University of Crete, Greece

Further contributors: Aikaterini Valakou, George Margetis, Stavroula Ntoa, Constantine Stefanidis

The SHIFT Extended Reality (XR) Accessible Framework, implemented by the Human-Computer Interaction Laboratory of FORTH, aims to make digital Cultural Heritage (CH) assets accessible to all. As XR technology leverages mostly visual user experience it introduces numerous barriers for persons with disabilities, which the Accessible XR Framework aims to alleviate. The framework adopts an "Accessible by Design" approach to ensure that XR environments are navigable and engaging for all. It enhances accessibility through tools like screen readers, customisable visual settings, and 3D soundscapes to improve spatial awareness, thus adapting to the individual needs of diverse users, including users with disabilities. Moreover, it integrates haptic feedback

and tactile devices, enabling users to interact physically with digital representations of CH assets. AI-driven text-to-speech and emotional auditory descriptions further enrich the user experience by translating visual content into immersive, multi-sensory feedback. Additional features include the automatic transformation of 2D images into interactive 3D models, personalised visual adjustments like magnification and colour filters, and multisensory navigation aids. The SHIFT XR Accessible Framework has already been evaluated with CH stakeholders and visually impaired users, ensuring that it aligns with real-world accessibility needs, ultimately making XR a more inclusive space.

Panel discussion with the representatives of the MEMENTOES, MEMORISE, MUSE-IT, SHIFT, PERCEIVE and PREMIERE projects

moderated by Rob Davies
Head of European Projects, HERITAGE; EUROPEANA Network Association

In the Moderator's introduction to the discussion, he stated that for cultural heritage artificial intelligence promises a further major acceleration in knowledge of what heritage is, how it can be accessed, produced and disseminated, to add to what has already become a digital revolution.

However, developments in AI are now overwhelmingly led by industry and it seems evident that what we are doing with it in the cultural heritage sector is likely to be several steps behind state-of-the-art technology. If this is the case, does it matter? Should we be content with 'niche' applications of commonly available AI tools? Or should heritage be trying to become a more central part of the massive investment in the development of European AI to try to keep pace with what is happening in the USA?

In this context, the discussion focused on the 6 Horizon Europe projects funded under the 2021 *Call for Preserving and Enhancing Cultural Heritage with Advanced Digital Technologies*.

Panelists talked about the manner and extent to which AI features in each of the projects and what successes or challenges they wished to highlight. In the main, projects felt that adapting to advances in AI as their work proceeds has been advantageous to achieving their goals and had not been a cause of difficulty in the context of European Commission project administration or Grant Agreements.

The representative from SHIFT commented that all of the projects are taking advantage of advances in AI so that it now plays a fundamental role in achieving their objectives. Between the time that its consortium started writing their project proposal - part of which described the future potential of AI to understand and transform text - and since the project had got underway, ChatGPT became available. In this and other ways it became much easier to frame the potential of AI for the purposes of the project.

For PERCEIVE, a goal has been to enhance semantic enrichment, adding information by means of AI at the same time as improving accessibility for example, by automatically subtitling performances and likewise by using non-binary avatars that challenge traditional gender representation in virtual performance scenarios represented through Extended Realities (XR).

MUSE-IT is using AI to drive its remote platform, which allows musicians to co-create music over long distances without any latency. Also, to use physiological sensors to turn brain activity data into musical expressions and to personalize them.

The main way AI features in MEMORISE is through services that are natural language processing (NLP) pipelines, which process Dutch, German and English resources and tag

them with metadata, so that they can be isolated in a knowledge graph, which makes them more discoverable and findable. A named entity recognition service locates and classifies named entities like locations and people in text material, enabling their interconnection. The main challenge faced is acquiring the data, which often requires the generation of 3D models through photogrammetry or else to obtain the rights to use specific data sets for NLP training.

MEMENTOES uses AI for accessibility through three services, specifically for 3D construction for cultural heritage objects, including style transfer, super resolution, and 3D model reconstruction from video. Combining these services enables creation of a 3D reconstruction of cultural heritage objects with detailed textures and then models with different visual feelings and styles. It is also developing an adaptive game experience which uses an AI agent to support an appropriate level of hints and help to the players during the game.

PREMIERE has been able to train AI with much more data as a result of the evolution of motion capture technologies, improving the quality of representation of arts performances.

The discussion moved briefly on to the topic of AI and accessibility and how far the projects were engaged in innovative developments by deploying technology. Views expressed were varied but it was felt that although flexibility of access could be beneficially impacted, the needs are very specific for people who need to access technology.

In terms of future directions for AI in cultural heritage, the situation of smaller museums was discussed in terms of AI and digital transition. Not only must AI applications be easy

to use and have great interfaces for enhanced work and user experiences, but AI can make the process a digital transition one in its own right, integrating both known and as yet unknown technologies into everyday work life through something akin to a universal methodology.

It was pointed out that the vast majority of museums, even in developed Western countries, do not necessarily have a means of getting AI tools, and/or may have defiant attitudes toward AI and its dangers. To address this MUSE-IT had created participatory events for a wide range of social actors in getting informed about AI.

In the interactive discussion which followed, points raised by audience members highlighted issues related to the reduction of costs which is possible through using AI, and how far the tools discussed were to be open source, which in general they were.

The artificially intelligent librarian: threat or chance?

Gyula Kalcsó, PhD
Web Archiving Team Leader,
Digital Humanities Expert
Digital Humanities Centre,
Hungarian National Museum
Public Collections Centre –
National Széchényi Library

Artificial intelligence presents a dual impact on libraries, posing a threat by potentially replacing traditional roles such as cataloguing, research assistance, and knowledge organisation, while simultaneously offering significant opportunities to enhance accessibility, personalise user experiences, streamline resource management, and unlock innovative ways to preserve and share knowledge. The presentation showcases what has been achieved so far in the Hungarian National Library in the field of library use of artificial intelligence.

According to the International Federation of Library Associations and Institutions AI SIG, there are 13 main areas where libraries can apply AI. The Hungarian National Library has already achieved results in almost half of these areas. The presentation takes an overview of them and outlines exactly where the following areas are currently at: automating in web archiving processes (implementation of ANNIF), programming by generative AI, named entity recognition in digital scholarly editions, handwritten

text recognition, training HTR models, automatic post-processing of HTR and OCR texts, automatic generation of research datasets.

Libraries can use AI in many areas, and this is set to grow. Collaboration is inevitable: the knowledge and data sets are not in one place. In addition, of course, financial resources are needed: human resources, software and cloud services are not free. But perhaps most importantly, libraries need to identify the AI opportunities for their own tasks and develop in those directions. If we do so, AI becomes a chance, not a threat.

Skills, competences, new technologies and trends – “To be or to disappear, that is the question”

Dariusz Paradowski
Chief of IT Systems Lab,
National Library of Poland
Head of IFLA PAC Center
Poland

The presentation highlights several key subjects related to digitisation and preservation processes, focusing on the essential skills that scanning personnel need: understanding the digitisation process, managing its parameters, and producing high-quality output files, as well as calibrating equipment accurately and handling fragile items with care. In addition to these core skills, the presentation explores how to optimise the use of unconventional scanning devices, such as cellular phones. Moreover, it advises on verifying non-standard parameters of planetary scanners – such as uniformity and repeatability – before making a purchase. New software tools for colour target verification are introduced, allowing users to enhance accuracy in scanned materials through free, online resources.

The role of digitized items editors receives particular emphasis, as they must master critical skills like understanding copyright law, becoming proficient with specialised software, and refining search techniques. The remarkable capabilities of AI tools like GPT chat

should also be mentioned to demonstrate their potential to describe medieval manuscripts and support cultural heritage projects.

Organisational and financial considerations are also highlighted in the presentation in the context of Long-Term Preservation (LTP). To address these challenges, the presentation explains the most critical LTP standards and demonstrates how an EU-developed implementation aid simplifies adherence to these standards while promoting interoperability.

While the potential of AI is evident, the presentation warns against overreliance on AI for data selection due to the risk of subtle biases. Furthermore, the lecture addresses risks associated with cloud storage. This shift in technology necessitates a rethinking of preservation procedures to accommodate the different wear characteristics of solid-state storage.

Open up hidden knowledge – EODOPEN, a Creative Europe project for the users' needs

Rita Radó, PhD
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The EODOPEN project (eBooks-On-Demand-Network Opening Publications for European Netizens) aims to make cultural heritage as widely accessible as possible, with a real focus on user needs and sustainability, as users and collection owners have a common interest in ensuring optimal and user-friendly access to cultural goods.

European libraries have long been concerned with the question of how to make available to users the significant amount of textual documents from the 20th and 21st centuries that cannot be published digitally due to complex copyright legislation. The EODOPEN project funded by the Creative Europe Programme brought together 15 libraries from 11 countries to open up hidden knowledge.

The EODOPEN project's priorities are: *digitisation* to make as many documents as possible digitally accessible;

addressing particular needs in *ensuring accessibility*, with a focus on young people and those with special needs; and *copyright clearance* to disseminate best practices and methodologies in rights management among the professional community at an international level.

This required the design and development of a *Rights Clearance Documentation Tool* to support librarians in the important task of documenting rights clearance processes; the creation of a common portal to present digitization results; and the dissemination of the competences and know-how and the methodologies developed.

The project ended in October 2024, and its results support numerous library workflows.

Artificial intelligence in archaeology

Gabriele Gattiglia, PhD
Associate Professor
Department of Civilisations and Forms of Knowledge
University of Pisa

In recent years, significant advances in AI applications within archaeology have introduced new technical possibilities and ethical challenges. Positioned in a "post-digital" landscape where tools like GIS and 3D modelling are now standard, AI stands out as a transformative yet evolving technology. Its uses in pattern recognition, classification, artefact restoration, site detection, and text translation often require large datasets, which can be difficult to acquire in archaeology. Techniques such as Machine Learning, Convolutional Neural Networks (CNNs), Generative Adversarial Networks (GANs), and Generative AI show great promise, but challenges remain, including data scarcity, transparency, and ethical considerations. Archaeological data are often fragmented and limited, complicating the training of accurate AI models, while algorithmic biases can lead to skewed interpretations.

Additionally, AI's high computational demands raise sustainability concerns due to its environmental impact. Transparency in AI processes and ethical accountability are essential to ensure responsible use in archaeology. By adopting a critical, responsible approach, archaeologists can leverage AI's potential to deepen insights into the past while addressing its risks. To support this, the MAIA COST Action,

launched in 2024, promotes interdisciplinary collaboration, ensuring that AI applications in archaeology remain both ethically sound and inclusive.

Museum of Stolen Art

Olena Zenchenko – Ivanna Vlasiuk
Museum of Stolen Art

The Museum of Stolen Art is a metaverse space designed to preserve Ukrainian cultural heritage destroyed or stolen during Russia's full-scale invasion. It was created in cooperation between the NGO Workshop of Experimental Culture and Linza Agency with Boel Foundation support.

The Museum showcases digital copies of historical objects and artworks focusing on the devastating losses in Mariupol, where all museum institutions were severely damaged or looted during the siege. Highlights include archaeological and folk life exhibits, monumental and fine art from prominent Ukrainian artists, and urban memorials.

The virtual space, hosted on the Spatial platform, offers a 3D gallery accompanied by English and German audio guides. Features such as avatar interaction, accessibility on various devices, and immersive tools aim to engage diverse audiences. The tool also provides opportunities to host joint events and guided tours online. Research for the project involved open sources, archival reviews, and consultations with experts, overcoming challenges like the absence of digitized museum inventories.

Future plans include expanding the metaverse collection to include galleries from Kherson, Donetsk, Kharkiv, and

other war-affected regions. The Museum not only preserves Ukraine's cultural identity but also serves as a platform for advocacy and international collaboration, with the ultimate goal of restitution of stolen artefacts.

Adapting public collections and libraries through 21st century strategies and solutions: Adapt, manage or perish

Ertuğrul Çimen
Library Director / Chair of Europe Regional Division Committee
MEF University / IFLA

The presentation builds on three key pillars, focusing on the evolving role of librarians in the era of artificial intelligence (AI). The first pillar emphasises the importance of identifying effective strategies for navigating this transformative period. These strategies include digital transformation, digitisation and accessibility, intelligent cataloguing and search, community engagement, and the integration of advanced technologies into library operations. The second pillar highlights the critical roles and tasks that librarians are expected to undertake in this context. These tasks encompass staff training to enhance digital and AI competencies, upgrading infrastructure to support technological advancements, and implementing outreach programmes to engage communities and promote digital literacy. Practical recommendations are also provided, such as advocating for increased financial support through grant applications and lobbying efforts.

Privacy and security emerge as significant concerns, necessitating measures to protect patron data.

Recommended actions include the development of transparent policies, implementing threat detection and prevention systems, utilising data encryption and anonymisation techniques, and ensuring robust access control and authentication mechanisms. Continuous data monitoring, reporting, automatic updates, and patch management further enhance security protocols. The presentation also stresses the need for user-centred design in library services. This involves incorporating feedback mechanisms and offering inclusive services tailored to diverse user needs, ensuring accessibility and relevance for all patrons. The third pillar explores the International Federation of Library Associations and Institutions (IFLA) and its contributions to the intersection of AI and libraries. Key initiatives include the work of the Artificial Intelligence and Libraries Working Group, which addresses topics such as AI ethics and provides valuable publications and reports to guide libraries in adopting AI responsibly.

In addition, the presentation introduces the pioneering work of MEF University and the MEF Library in Türkiye, both leaders in integrating AI within the academic and library sectors. MEF University achieved a significant milestone in November 2023 by publishing the first book on higher education and artificial intelligence applications on a global scale. It also became the first university in Türkiye to publish its AI policy, issuing two versions to address the evolving landscape.

Strengthening public collections for a changing world

Marie-Véronique Leroi
Michael Culture Association / Service for digital, French Ministry of Culture

The Ministry of Culture in France is one of the founding members of the Michael Culture Association. This network of organisation focuses its activities on digital cultural heritage.

AI has become a buzzword because even if it is almost a century old, it has become mainstream and accessible to everyone and without any costs – and this is the reason why it is making the headlines.

From a cultural heritage institution (CHI) perspective, AI is relevant at various stages. It can enhance the user experience for the general public, but also significantly improve and facilitate the work of CHI professionals.

The DEBIAS project tackled both stages as it brings AI as a mean to facilitate CHIs processes for data sharing and improving the end user experience on the European Common Data Space for Cultural Heritage. The approach of the DEBIAS project is to co-create a vocabulary with the CHIs and communities, this vocabulary is transformed into a knowledge graph that feeds an AI algorithm to detect harmful and offensive language in cultural collections. The

purpose is to provide alternative terms and contexts and not replace the original description. The main outcomes of the project are raising awareness, build capacity and provide tools to support CHIs in adapting their collections descriptions.

Closing speech

ReAImagining Public Collections

Gábor Zsigmond, PhD
Director General of the
Hungarian National Museum
Public Collections Centre –
Hungarian National Museum

Ladies and Gentlemen, Esteemed Colleagues,
and Honoured Guests,

As we conclude this two-day conference on *ReAImagining Public Collections in the 21st Century*, I want to express my heartfelt appreciation for your participation and the vibrant discussions during the different sessions. It is evident that we are at a pivotal moment in the evolution of our cultural institutions, driven by the so-called "triple transition": the convergence of digital technologies, evolving social dynamics, and growing environmental concerns. This conference has provided an invaluable forum for exchanging innovative ideas and best practices.

Throughout our sessions, we explored various themes that are foundational to navigating the complexities of digitalisation and technological advancements in public collections. One of the most compelling elements that emerged from our discussions is the necessity of collaboration—between institutions, across disciplines, with the private sectors and with our communities. As we strive to enhance access to our collections, it is imperative that we build bridges among museums, libraries, and archives. Together, we can pool our resources and expertise to create more comprehensive strategies that address the multifaceted challenges we face.

Another key takeaway from our time together has been the profound impact of artificial intelligence on our sector. As one of our lecturers put it: “AI is a trend... but we don’t know where it is going.” While artificial intelligence has made remarkable strides in recent years, its future trajectory remains uncertain.

As we examined AI’s role in public collections, it became clear that it serves as both a remarkable tool and a source of ethical and data privacy challenges. The implementation of AI technologies can revolutionize access to information, the classification of collections, and ways to accelerate and streamline operations, besides making visitor experiences more personalized and inclusive. However, we must remain diligent in ensuring that these advancements are used in an ethical and sustainable way, and in addition, promote equity and inclusivity, safeguarding against any potential exclusionary effects.

Additionally, it is crucial to acknowledge the threats posed by AI, such as the spreading of misinformation and the manipulation of public perception. In an age where algorithms can shape our understanding of truth, fostering critical thinking skills becomes paramount. We must educate and empower individuals within our institutions to navigate information landscapes critically, distinguishing fact from fiction and promoting informed engagement with our cultural heritage. It is a responsibility towards our visitors: by sensitising them to critically evaluate information and recognize potential biases, public collections can empower them to become active and informed participants in shaping our understanding of the past and present.

The discussions around digitalization have also underscored a broader imperative: as we transform our

practices, we must equip ourselves and our colleagues with the necessary digital skills and competencies to thrive in this new environment. Embracing new technologies is not just about acquiring tools; it is about fostering a culture of continuous learning, upskilling and adaptation. Our institutions must become dynamic entities that are responsive to change—a theme that resonated strongly during our program.

Moreover, the integration of European Union regulations and initiatives into our strategic planning emerged as a vital point of focus. These provide not only guidance but also crucial support for our innovations in public collections. The presentation of AI-based projects under Horizon Europe shed light on the role of technology, including extended reality, AI tools and gamification in enhancing accessibility of cultural heritage especially as regards people with disabilities and the way how we can leverage cross-border and cross-sectoral cooperation.

In closing, I want to express my gratitude to all our speakers and participants for their insightful contributions and engagement. Your dedication to the advancement of our cultural institutions is inspiring, and I encourage each of you to take the ideas generated here back to your own organizations. The path forward will require collaboration, innovation, and an unwavering commitment to our shared mission.

Let us continue this conversation beyond these walls, and as we navigate the challenges and opportunities that lie ahead, may we do so with a spirit of partnership and a resolve to ensure that public collections remain relevant, accessible, and vibrant in the ever-evolving cultural landscape.

Thank you once again for your participation, and I wish you all safe travels and continued inspiration as you return home.

ReAImagining Public Collections