



The ViMM Manifesto for Digital Cultural Heritage – SUMMARY

Introduction

ViMM is a Coordination and Support Action, funded under the European Union (EU) Horizon 2020 programme from 2016-19 in order to define and support high quality policies, strategic and day-to-day decision making, the utilisation of breakthrough technological developments and to nurture an evidence-based view of growth and development impacted by Digital Cultural Heritage (DCH) and virtual museums (VM) in particular. All the results of ViMM are visible on its platform www.vi-mm.eu and on the project's Social Media.

The ViMM process involves the publication and validation by March 2019 of a series of three inter-related documents– a Manifesto, a Roadmap and an Action Plan for EU, of which this is the first. This document is a summary. The original full-length document can be read at <https://www.vi-mm.eu/2018/09/17/the-vimm-manifesto-for-digital-cultural-heritage/>.

The Manifesto is directed towards strategic decision makers, funding bodies, professional associations, institutions, practitioners and industries in the Cultural Heritage (CH) sector who share a common interest in the digital future. Whilst some of the content of the Manifesto has a more permanent relevance, it looks in particular to the period 2021-25.



We, the ViMM Coordination and Support Action and its wide interdisciplinary community of experts and advisors, believe that the following ten areas require attention and action by all interested parties in the near future in order to secure our vision for the potential social and economic benefits of Digital Cultural Heritage in the years to come.

1. Positioning the DCH sector

Culture - and the heritage which derives from it - are economic and social assets.

Society is increasingly dependent on and driven by digital technology: Cultural Heritage Institutions (CHI) must adapt and become engaged with this development. It is critical to Europe's economy and society that the significance of DCH is described and well understood, to ensure the necessary strategic investment and sustained funding at all levels. There is a gap between investments in implementation of digital projects on the one hand and 'backbone' or infrastructural actions, on the other. The conceptualisation of Virtual Museums should be further developed to generate relevant policies towards research, education, tourism and other key sectors, stimulate investment and inspire novel implementations.

2. Improving audience participation

Citizens are not only consumers of DCH but should be enabled to participate actively and develop a sense of ownership of their cultural assets. There is a need to identify in more depth the target audiences who can benefit from DCH, in order that well adapted products can be created. The entire education system, social minorities and local enterprises are among them.

EU and other initiatives, programmes and projects should carry out evaluations which study feedback on issues such as: audience appreciation, understandability and usability of technology applications; impact on participation and revenues; and the expectations of the wide, multidisciplinary audiences, professionals and curators.

3. Harnessing technologies

Rapidly emerging technologies will have increasing relevance for CHI, for exploring new ways of presenting cultural content and expanding institutional capabilities. These are likely to include: artificial intelligence (AI); computer vision; deep learning / machine learning; cloud computing, complex big data in multimedia form and adaptive cognitive methods. New XR (Extended Reality) technologies, in combination with AI, offer more opportunities to interpret and visualise elements of history. AI-enabled automated information extraction on a massive scale is needed to enable high quality mass digitisation.

CHI should be aware of and informed about technologies which become available to support their requirements.

4. Incentivising funding

While there is an apparent demand for DCH in general, resources may be lacking for its creation, management and promotion. These needs remain largely unquantified and further study is needed at institutional, regional, national and Pan-European level to ascertain their extent and identify widely applicable remedies. The adoption of efficient low-cost techniques, where available, will remain important.

The large number of smaller institutions, which have a high impact on local communities and their economies, often have difficulty in securing expertise, infrastructure or funding for innovation. The realisation of their full potential can be substantially assisted through targeted new pan-European and/or regional initiatives.

ViMM Manifesto SUMMARY Project platform: www.vi-mm.eu

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Policies for the incentivisation of funding from both public and private sources should be developed, including a mixture of direct public subsidies, tax incentives and encouragements for private funding, sponsor visibility, crowdfunding etc. Collective investments are likely to be needed, since few individual institutions could make them on their own.

5. Opening up DCH

CHI should be open-minded, working together with creative producers to provide virtual applications and products that promote CH beyond the limitations of a physical museum or site.

Content and software should be available under open licenses to ensure easy re-use. Data should be made available openly, taking into account EU recommendations and directives (such as PSI, Orphan Works, etc). The EU should give further impetus through its policies, funding programmes and initiatives to the Open Culture movement

An open approach will enhance the benefits to creative industries and strengthen developments such as Citizen Science, Crowdsourcing and Open Science. Web accessibility, within the provisions of European legislation, should be adopted and promoted by the whole DCH sector.

6. Giving the whole picture: digitisation, data, documentation, semantics

Only 15% of resources held by CHI have been digitised, much of which is not freely accessible or suitable for re-use. Mass digitisation across Europe will provide a strong basis for implementing many of the other points in this Manifesto. An EU strategic action plan is needed for massive high-quality 3D digitisation, holistic documentation and availability.

Structured and well harmonised data is central to the future of DCH. Standardising DCH data and metadata in the EU will help secure interoperability and interconnection. Linked (Open) Data (LOD) performs a critical role in transforming CH collections.

Complex cultural heritage data structures can be a revealing source for big data analytics and the recovery of knowledge. Many cultural heritage objects are only partially preserved. Missing parts are then reconstructed while building 3D-objects. For scientific purposes each reconstructed part needs to be not only identifiable, but also holistically documented, especially when elements of intangible heritage are incorporated, such as in the documentation of Monuments and Sites using Historic Buildings Information Modelling (HBIM) systems.

A vast amount of cultural assets, , are 'born digital', through the recording activities of individuals. Private born-digital archives create further research needs to define authenticity and for intensive curation, long-term preservation policies and quality standards, access rights and ethics.

7. Powering contextualisation

Improving contextualisation will have an important bearing on policy, research, innovation and education. This depends not only on the quality of the visual representation, but also of the metadata, the related story and associated knowledge. Storytelling, the perception of Presence, visualisation technologies, gamification and interaction integrating sensory aspects are all potential key components.

8. Frameworks and standards: a navigable map

More powerful, intelligent and interconnected standards are required that can be used across domains, creating open and standardised formats, based on ontologies.

Standards need to be agreed internationally, so that digitised content and the related metadata becomes seamlessly accessible in the long term to all. The EU, in cooperation with international



organisations, academia and research bodies should agree a pan-European action plan with a realistic time frame for the development of standards.

An ethical framework of 'virtual values' is needed to underpin DCH strategies and development, and to provide CHI personnel with a comprehensible direction. Attention should be paid to applicable privacy requirements of the General Data Protection Regulation (GDPR).

9. Driving organisational change

The CH sector should be fully engaged in a generational switch towards a process of Digital Transformation (DT) consistent with other EU modernisation policies. Organisational change is needed to make the most of modern technology: managements should prioritise and lead this, gaining support from the responsible public sector authorities.

DT should be reinforced by a common pan-European strategy which tackles interoperability problems, creates workable frameworks for rights and strengthens the ability of CHI to support new technology. Practical guidance and support to institutions should be provided by European and national bodies, including training initiatives and on-line guidance. Published impact assessment studies, based on mature and standardised processes and tools, should be a fundamental commitment of CHI and projects funded.

10. Developing the Human Resources

The accelerated development of ICT does not yet correspond to an effective capacity of DCH practitioners to work with available tools. In the current transition of CHI, professional and vocational training for those in work, together with continuous development of new curricula, syllabi and courses incorporating DCH at undergraduate and postgraduate level, are vital requirements. Training offers, accompanied by meaningful certification, should be stimulated, addressed to the different CH target groups and their position in the 'digital workflow'. Interdisciplinary approaches are needed to address all the needs and skills required for DCH.

To assure the necessary skills and capacities of the next generation of digital curators, conservators, restorers, museologists, engineers and archaeologists, the question 'who needs to be trained, for what purpose and at what level' should be directly addressed, from a lifelong learning perspective, not least within the programmes supervised by DG EAC. European initiatives such as Erasmus+ and national policies should address systematically the training of teachers, professionals, curators, administration and governance staff.