



ViMM Virtual Multi-Modal Museum

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This deliverable contains original unpublished work except where clearly indicated otherwise.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

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1 EXECUTIVE SUMMARY

The original purpose of D7.4 – *international conference* (M28) was to provide a report covering the results of a two (2)-day long international conference, to be organised by all the ViMM-beneficiaries and Chaired by CUT, to discuss the draft ViMM Manifesto and draw together the findings of the whole Action and seek the endorsement and support of international bodies interested in VM .

In the course of planning, it was decided to split the single event described in Task 7.5 into two separate events, by agreement with the Commission.

1. A meeting to secure expert validation of the ViMM Roadmap/Action Plan (RM/AP), which took place on February 15/16 (M29) Vienna, the outcomes of which are reported in D7.3, Roadmap and Action Plan. This meeting addressed Aspects 1-III of the RM/AP:

- I. Research and innovation under Horizon Europe
- II. A European Competence Centre network in Digital Cultural Heritage
- III. Human Resources, education and training

2. A meeting of pan-European and international organisations, held at the headquarters of ICOMOS in Paris on 15 March, 2019 (M30), to validate Aspect IV: policy and international cooperation, (Aspect IV is described as Annex 1 of this deliverable).

The programme for 15 March and list of participants form Annex 2 of this Deliverable. The presentations of each participant can be downloaded from:

<http://82.102.95.82:8080/fsdownload/3qmVqHsGl/Presentations Paris ViMM>

Organisations represented at this meeting, in addition to ViMM, included: CEN (The European Committee for Standardisation), CLARIN, DARIAH, Europa Nostra, European Commission, Europeana, ICOM (CIDOC), ICOMOS and Net4Society.

In addition, a series of separate meetings by personnel from the ViMM Coordinator, CUT (which also holds the UNESCO Chair in Digital Heritage), was also held with relevant sections of UNESCO at their headquarters on 14 March.

Section 4 of the Deliverable summarises the contribution made by each participating organisation at these meetings.

During the final session of the meeting, a discussion among all participants took place, structured according to the following topics

- How far do we have a common agenda?
- What are the main points of agreement for future cooperation?
- Are there areas of difference?

There was a very wide measure of agreement that cooperation is needed between International and pan-European organisations in order to assure the best possible impact from the challenges and opportunities created by digital heritage. Likewise, that there were very few if any differences in philosophy towards the role and importance of digital.

Ways forward for cooperation were discussed, including:

- A joint statement/ action plan involving all the organisations present.
- Bilateral statements between ViMM/EC and each International organisation. Several of these have already been drafted and/or are ready for signature. Existing drafts are provided as Annexes 3-5 to this report together with a status report in each case.
- Maintaining Active the ViMM platform, which already connects the DCH community, including the newly available Decision Making Process guidelines and tool for successful, sustainable and efficient DCH projects and knowledge exchange in the field

It was agreed that the process should be continued and momentum maintained. The European Commission agreed to host a further meeting on EC premises, provisionally timed for October 2019. One goal of such a meeting could be to resolve upon a joint programme of action. In the shorter term.

ViMM, in its sustained post-project mode, will continue to seek joint agreements and to establish common ground for action, including those with key organisations which did not participate in these meetings, such as CIPA (the International Committee for Documentation of Cultural Heritage, European Museum Academy (EMA), ICCROM (which promotes the conservation of all forms of cultural heritage, Interpol and NEMO (Network of European Museum Organisations). The support of the Commission for further cooperation was warmly expressed.

2 INTRODUCTION

2.1 Role of this Report in the Project

This document presents a report on the culminating meeting of ViMM, designed to seek the endorsement and support of international bodies interested in VM/DCH and to consider ways of moving forward cooperatively.

2.2 Structure and Approach of the Document

- Section 3 sets out the objectives of the task in the context of WP7. The body of the document reports on.
- Section 4 summarises the contribution made by each participating organisation at the meeting.
- Section 5 describes an agreed deviation from the DoA (the splitting of the originally planned final event into two separate meetings).
- Section 6 summarises the conclusions, results and next steps.
- A series of Annexes describe: ViMM Action Plan - *Aspect IV Policy and International Cooperation*; the programme of and participants at the meeting in Paris.

3 OBJECTIVES OF WORK PACKAGE 7 AND DELIVERABLE 7.4

The objectives of WP7 *Consensus, road mapping and sustained visibility* [Months: 20-30] were:

- To draw together and promote the results of the ViMM CSA to become a consensus-based Manifesto, Road-map and Action Plan designed to secure wide understanding and a significant role for Virtual Museums/DCH in the political context of the European Year of Culture and beyond.
- To agree a plan for sustaining necessary visible of actions in support of VM and for the future of the ViMM community and communications platform.

The original purpose of D7.4 – *international conference* (M28) was to provide a report covering the results of a two (2)-day long international conference, to be organised by all the ViMM-beneficiaries and Chaired by CUT, to discuss the draft ViMM Manifesto and draw together the findings of the whole Action and seek the endorsement and support of international bodies interested in VM .

The original description of tasks within Workpackage 7 included:

Task 7.1: Each Thematic Area will organize a consensus-building workshop at which invited key stakeholders are invited to make proposals for widespread adoption or implementation among the VM community. These workshops will be co-located where appropriate. Up to 120 stakeholders will be invited to them in total.

Task 7.2: The workshop results will be compiled and edited to form the draft 'Manifesto' for ViMM, based on the findings of the Working Groups and drawn together by the group of TA Lead partners, under the overall responsibility of the Project Manager (CUT).

Task 7.3: Following this an Action Plan and Road-map for VM in the following 5-year period, suitable for promotion in the context of the European Year of Culture 2018, will be compiled and disseminated through all available channels.

Task 7.4: The Plan and Roadmap will include proposals agreed by the consortium and validated with its community of stakeholders for sustaining the social platform and the ViMM community.

Task 7.5: A 2-day international conference will be organised by CUT to discuss the draft ViMM Manifesto, draw together the findings of the whole Action and seek the endorsement and support of international bodies interested in VM (see those listed in Section 3 Concept and Methodology – section on Definitions).

4 WORK CARRIED OUT

This document relates to the work conducted in connection with Task 7.5.

The programme for 15 March and list of participants form Annex 2 of this Deliverable. The presentations of each participant can be downloaded from:

http://82.102.95.82:8080/fsdownload/3qmVgHsGI/Presentations_Paris_ViMM.

Organisations represented at this meeting, in addition to ViMM, included:

- CEN (The European Committee for Standardisation)
- CLARIN
- DARIAH
- Europa Nostra
- European Commission
- Europeana
- ICOM (CIDOC)
- ICOMOS
- Net4Society

In addition, a series of separate meetings by personnel (Marinos Ioannides, Robert Davies and Vasilis Athanasiou) from the ViMM Coordinator, CUT (which also holds the UNESCO Chair in Digital Heritage), was also held with relevant sections of UNESCO at their headquarters on 14 March, including:

- Maria Liouliou, Memory of the World
- Denis Pitzalis, External Relations and Information, Web Lead Developer
- Ieng Srong, Museums and Illicit trafficking

- Bernards Zako, Movable Heritage and Museums Section

The following is a summary of the main statements made by each presenting organisation.

UNESCO

<https://en.unesco.org/>

A detailed discussion took place on the potential for EU-UNESCO cooperation in areas related to digitisation, Memory of the World, World Heritage List, Europeana, MooC and policy areas. It was agreed that the joint holding of the UNESCO and European Research Area Chairs in Digital Heritage by CUT, provides an opportunity for stronger collaboration.

CEN (The European Committee for Standardisation)

<https://www.cen.eu/>

European Technical Committee - CEN TC 346 is for the *Conservation of cultural heritage*. It is chaired by Vasco Fassina, formerly Ministry of Cultural Heritage-ITALY Superintendence of Fine Arts of Veneto-Venice Heritage.

Standards support legislation and can give presumption of conformity with Directives, which are transposed into national legislation. An ideal drafting process of EN standards involves: Working Group experts in producing a draft document (12 -21 months);CEN-Enquiry , including translation and processing (8-9 months); WG experts discuss comments on CEN-Enquiry (8 -17 months); Voting Process (6-7 months); ack: Publication EN CEN-Enquiry + Formal Vote (2 months).

Details of CEN TC346 standards published to date are available in the its presentation.

CEN TC 346- Business plan as revised in 2018:description of Business environment includes Digital cultural heritage <https://ec.europa.eu/digital-single-market/en/policies/digital-cultural-heritage>. When relevant, it is important that this information is used as a contribution for the preparation of European standards.

The Cyprus-2019-TC 346 Plenary meeting discussed the creation of a new Working Group-Digital Cultural Heritage with the following work items:

- Work Item-3D
 - 3D standards supporting documentation and focussing on the reproducibility and transparency of the reconstruction process.
 - There is very little standardization in the field of digital documentation and cataloguing or making the digital data user friendly for various purpose of conservation of large sites.

- 3-D laser scanning. As many scholars from different disciplines get involved in the field of digital documentation, it becomes increasingly important to create a methodology of operation that can be described as best practices in the field for large scale sites of great historical value.
- Work item-HBIM (Heritage Building Information Modelling)
 - Initially used for the design of new architectures, BIM methodology has been even more considered also for the management and the conservation of historical buildings, thanks to the possibilities of implementation of semantic information of 3D objects, guaranteed by the connection with the external database.
 - At the same time, the lack of regular surfaces and standardized objects are relevant problems that nowadays strongly limit the use of BIM for CH. In recent times, the study of parametrised objects has opened new perspectives for BIM applications on historical buildings (HBIM).
 - Examples of problems derived from the application of BIM methodology to CH include the:
 - irregular shape of ancient architectural components;
 - wide variety of architectural languages that characterize historical buildings;
 - presence of different stratifications.

CEN/TC 442 “Building Information Modelling (BIM)” discussed last year the preparation of a European guidance document to facilitate the use of BIM standards. It should contain examples of applications, perhaps including one on a historic building. It is considering the possibility to play a horizontal role in CEN for the implementation of BIM in other standards/other CEN/TCs. If required and at the most appropriate time, CEN/TC 346 should be identified as the CEN/TC responsible for the application of BIM to immovable cultural heritage by the establishment of a liaison with CEN/TC 442.

CLARIN

<https://www.clarin.eu/>

CLARIN is the Infrastructure for Common Language Resources and Technology which has held ESFRI ERIC status since 2012 and as a Landmark since 2016. It provides:

- easy and sustainable access for scholars in the humanities and social sciences and beyond to digital language data (in written, spoken, video or multimodal form)
- advanced tools to discover, explore, exploit, annotate, analyse or combine them, wherever they are located
- a single sign-on environment that serves as an ecosystem for knowledge sharing and is ready for integration in the European Open Science Cloud (EOSC)

CLARIN resource types include: parliamentary records, literary texts, social media data, historical letters, oral history data, disciplinary libraries, institutional archival data, broadcast archives, newspaper archives. Its services include: the CLARIN data architecture: centre repositories and central processing of metadata.

It provides a distributed architecture, with (http-accessible) files, web applications and web services spread all over Europe. The nodes in this network are called centres. There are currently 20 certified B Centres and over 40 registered centres in total.

Interoperability is seen as key:

- to the exchange of metadata
- to the exchange formats for the output of analytic tools
- to the options for supporting comparative research

CLARIN is an ecosystem for knowledge sharing with 'K Centres', sharing of expertise and best practices, an annual conference, support for workshops and mobility, an Ambassador network, capacity training through life events, online courses and webinars for developers and end-users and collaboration with other infrastructures

CLARIN and Open Science. Promotion for the sharing and re-use of data through sustainable data registries: all integrated data is available in open access for research purposes. CLARIN provides support for linguistic diversity- data covers more than 1500 languages, tools for many languages and language resources in all modalities. It adheres to FAIR data principles and promotes responsible data science.

DARIAH

<https://www.dariah.eu/>

DARIAH is a pan-European digital research infrastructure for arts and humanities research, launched and added to the ESFRI Roadmap in 2006 and formally constituted as a European Research Infrastructure Consortium in 2014.

As a community DARIAH shares:

- knowledge to create new connections and insight, through networking, training and projects
- tools to promote the work of others with similar research questions
- data to allow new projects to start from a higher baseline
- networks to build key relationships and seek funding
- a voice to be heard in European and national policy debates

The Four Pillars for DARIAH's value are:

- Training and Education
- Working Groups
- The Marketplace
- Policy Work

In conclusion, DARIAH has an international network (European but not only), tools to develop DCH research, collaborations with very different projects/infrastructures on DCH and Working Groups with European experts in those fields.

Europa Nostra

<http://www.europanostra.org/>

Europa Nostra was founded on 29 November 1963 in Paris. Today it is recognised as the most representative heritage organisation in Europe with members from over 40 countries.

Mission:

- To give shape and voice to an ever-growing citizens' movement to support cultural and natural heritage across Europe.
- To be forceful advocates of heritage – with its multiple benefits for our economy, society, culture and the environment – towards policy-makers at all levels of governance: local, regional, national, European and on a global scale.
- To campaign to save Europe's most endangered heritage sites and support actions led by our member organisations.
- To promote best practices in the heritage field across Europe – from research to conservation, from education, training and awareness-raising to the dedicated service of professionals and volunteers.

The Berlin Call to Action: Cultural Heritage for the Future of Europe was presented on 22 June 2018 during the European Cultural Heritage Summit. It promotes an ambitious European Agenda & Action Plan for Cultural Heritage as a lasting legacy of the EYCH. It was mentioned in the European Framework for Action on Cultural Heritage as a key example of stakeholder mobilisation.

The Call is already signed by 2,200+ individuals & organisations - including several European Ministers of Culture, the European Investment Bank, EU Commissioner Navracsics, EP President Antonio Tajani, CoR President Karl-Heinz Lambertz, Hermann Parzinger, Martina Münch & many heritage stakeholders, mayors, MEPs and Ambassadors from across Europe. It is available in 24 language versions.

The Berlin Call has Seven main areas for Action

ACTION 1: Developing the European Action Plan for Cultural Heritage

ACTION 2: Recognising Heritage as a Priority for European Policies and Funding

ACTION 3: Bridging Local, National and European

ACTION 4: Preserving and Transmitting the Irreplaceable

ACTION 5: Investing in quality Heritage-led Regeneration

ACTION 6: Promoting better Knowledge and deeper Understanding

ACTION 7: Building on the Momentum

Europeana Foundation

<https://pro.europeana.eu/>

In recognizing the role of cultural heritage for Europe's development, conversation is around the European Year of Cultural Heritage and the New European Agenda for Culture.

Key facts include:

- Contribution of cultural and creative sector: 4.2% GDP
- 7.8 million people employed in the cultural and creative sector (more than the automotive and chemical industries)
- Largest employer of young professionals (19.1% of total)
- Transversal potential: innovation, social cohesion, inclusivity.

There is more work to be done on digitisation in Europe (see more detailed data on the state of play and trends in Europeana's presentation).

Engagement targets include:

- 3D; Digitisation
OR
- Digitalisation.

Barriers:

- Fragmentation leads to an innovation gap between culture and technology (Big Tech dominates AI)
- An International approach is needed which requires coordination and standardization
- Specific characteristics of the CH sector are not always easily measured or understood
- New value networks are needed for new value and business models

Europeana recommendations include:

- The ViMM Manifesto
- Innovation agenda
 - an inclusive definition of innovation
 - Support and promote an inclusive frame for success
 - Not hard versus soft : social innovation sits alongside economical and transactional
- Support cross-sectoral cooperation on research topics such as AI and 3D
- Develop adequate impact measurements
- Support R&D in this area, training and education
- Harness Public investment

On the European level

- Digital Europe Programme (9.2 billion)
- Creative Europe (2.8 billion)
- Horizon Europe (3 billion)

Humanities in the European Research Area (HERA)

<http://heranet.info/>

HERA is a network of 26 national funding agencies from 25 European countries active since 2002 committed to leading and developing funding opportunities for humanities researchers in Europe: now funding its 5th Joint Research Programme. It aspires to give a strong voice to the humanities in the European Research Area.

HERA Joint Research Programmes have included: Cultural Dynamics: Inheritance and Identity; and Humanities as a Source of Creativity and Integration (both 2008 – 2013); Cultural Encounters (2011 – 2016); Uses of the Past (2015 – 2020); Public Spaces: Culture and Integration in Europe (2017 – 2022); [under development: Society and innovations: understanding the contexts, processes and consequences] (2020-2025).

25 European funding organisations and the EC pool funding of 57 m EUR ((42 M EUR national funding + 15 M EUR from the EC). Selected HERA funded projects touch upon cultural heritage:

ICOM/CIDOC

<https://icom.museum/en/>

<http://network.icom.museum/cidoc/>

The International Council of Museums (ICOM) is an international organisation of museums and museum professionals which is committed to the research, conservation, continuation and communication to society of the world's natural and cultural heritage, present and future, tangible and intangible.

ICOM was created 1946/47 and has 40,000 professionals in over 141 countries with 119 national committees and 30 international committees. ICOM is the only global organisation in the museum field. The ICOM General Secretariat is in Paris.

CIDOC is the “Comité International pour la Documentation” of ICOM, “a neutral, international forum for the discussion of all issues relating to information management in museums”, founded in 1950. It has a network of >920 members from 120 countries. In 2018 there were >460 active voting members from 78 countries. “CIDOC believes that collections without adequate documentation cannot be considered to be true museum collections” because:

- they cannot be adequately safeguarded and cared for
- the museum cannot demonstrate legal accountability
- their value for research and interpretation is greatly reduced

CIDOC is a community of international professionals working to advance museum documentation. It provides the museum community with advice on good practice and developments in museum documentation and actively develops standards and guidelines to support museum documentation.

CIDOC is about describing museum objects, documenting collections, standards and publications. Some important outputs include:

- Statement of Principles for Museum Documentation (2013)
- Statement of Linked Data identifiers for museum objects (2012)
- Lightweight Information Describing Objects LIDO (2010)
- The CIDOC Conceptual Reference Model (ISO 21127) (2001)
(last working version 6.2.2 | September 2017)
- CIDOC Fact Sheets

It communicates with its members through an annual bi-lingual newsletter, mailing list, website and social media, publications and CIDOC Annual Conferences.

The CIDOC Training Association, formed in 2011, carries out annual training programmes in various locations worldwide for all levels of expertise, established in collaboration with the Museum of the Technical University in Texas

Twelve working groups focus on topics and work on projects (descriptions of their remit are available in the presentation):

- Archaeological Sites Working Group (ASWG)
- Co-reference Working Group
- CRM Conceptual Reference Model
- Documentation Standards Working Group
- Exhibition and Performance Working Group
- Information Centres Working Group
- Intangible Cultural Heritage Working Group
- LIDO – Lightweight Information
- Museum Process Implementation Working Group
- Semantic Research Environment Working Group

Specifically in the digital area:

Digital Preservation Working Group

gives guidance on questions concerning collecting and preserving digital heritage and the documentation of these processes

Digital Strategy Development

will produce a package of material that can help museums with the process of digital strategy development (sample strategy, check-lists, information sheets to identify key issues and find appropriate solutions), to address the varied needs of all the museum's stakeholders: museum management, fundraisers, activities of collecting and

restoration, documenting, PR, researchers and the museum's target audiences. The first package of material will be presented at the ICOM Triennial Conference 2019 in Kyoto.

ICOM considers the purpose of a Digital Strategy in the light of the following questions:

- What is my museum's mission?
- How do we want to be perceived?
- Are we fit to complete our mission in the digital environment of the 21st century?
- What digital tools and activities do we need and use?
- How can we improve the use of digital tools?

It takes into account the following considerations:

- Tools and Activities (digitization).
- Synergies and increased efficiency (examples).
- Inter departmental digitization planning prevents artifacts from being scanned/handled more often than necessary.
- Use of museum documentation to improve in-house knowledge management, for:
 - training and planning
 - coordination of volunteers.
- Digitally governed workflows are usually faster than paper-based procedures.
- Establishing standards and controlled vocabularies avoids misunderstandings and enhances data quality.

CIDOC believes that CHI must engage with the development of digital technology to:

- investigate and evaluate issues like audience appreciation, understandability and usability of technology applications as well as impact on participation and revenues
- improve user engagement e.g., through cloud-based tools that can provide customized services and facilitate user-driven experience
- explore and enhance visitors' experiences through gamification and storytelling using VR/AR aiming at attracting additional target groups
- ensure accessibility to digital cultural heritage to users who are socially, economically or physically disadvantaged.

Notwithstanding all this, adaption of efficient low-cost techniques will remain important in the following context:

- driving organisational change in order to open up to the opportunities digital transformation has to offer and developing human resources for the digital workflow
- smaller and medium-sized institutions will need extra support with respect to their financial and technological resources, but also in terms of staff number and skills

- to counter fragmentation and to generate synergies, a pooling of expertise and a coordination across institutions and disciplines is needed. Therefore, a sustainable knowledge hub should be developed operating an online platform, connecting experts internationally, providing information and guidelines

Joint actions have to be taken for:

- the development of high-quality mass digitisation combined with automatic information extraction
- better multilingual access to CH, using linked vocabularies
- holistic documentation taking into account that intangible heritage is always associated with the tangible
- further develop documentation standards based on a scientifically-reliable methodology to ensure the assessment of the 3D modelling process as well as the 3D reconstruction, but also to allow re-use in different contexts
- the online accessibility of 3D models: instead of being dependent on commercial platforms such as Sketchfab, museums need a sustainable infrastructure based on an open source framework for visualisation and presentation of their 3D digital assets.

Therefore, CIDOC welcomes the European Commission/ViMM initiatives on international cooperation in Digital Heritage.

ICOMOS

<https://www.icomos.org/en/about-icomos/mission-and-vision/mission-and-vision>

ICOMOS (International Council on Monuments and Sites) is a non-governmental international organisation dedicated to the conservation of the world's monuments and sites. It has National Committees and International Scientific Committees and rotates its General Assembly between different countries, each one covering a different topic (see the Paris presentation for lists).

The 2015 UN Sustainable Development Goals view:

- cultural heritage as an enabler of social cohesion and inclusion (e.g. shared identity; pride in and attachment to place; integration of migrants, new residents and existing ones; historic public spaces; mixed uses).
- cultural heritage and creativity as a driver for equity and inclusive economic development in the urban economy (e.g. heritage places as incubators of creativity, “cultural capital,” intangible heritage, sustainable tourism).
- cultural heritage and historic quarters of cities can improve liveability, resilience and sustainability of both older and new urban areas (e.g. walkability and compactness, adaptive re-use of existing built fabric, embodiment of traditional knowledge, proven models of resilience for new urban settlements).

The vision is the recognition, mainstreaming and effective contribution of cultural heritage as a driver and enabler of sustainable development in the process of implementing the United Nations Agenda 2030 and Sustainable Development Goals.’
<http://www.icomos.org/en/what-we-do/involvement-in-international-conventions/un-sustainable-development-goals-2>

The mission is to achieve a coordinated and effective process of advocacy for the localization and monitoring of the UN Sustainable Development Goals and UN-Habitat’s New Urban Agenda, from the perspective of cultural heritage, focusing on Target 11.4 to *“strengthen efforts to protect and safeguard the world’s cultural and natural heritage to make our cities inclusive, safe, resilient and sustainable”*, within the framework of the ICOMOS mandate and through collaboration with strategic partners.

Net4Society

<https://www.net4society.eu/>

Within Horizon 2020 there are so called National Contact Points (NCPs) – dedicated research consulting bureaus – which provide support and guidance in preparing proposals and project realisation. Net4Society is an Horizon 2020-funded project and will run in its 5th funding phase until August 2020. It was established in 2008 and involves SC6 NCPs from around 60 countries in Europe and around the world.

National Contact Points are available to applicants in all EU member states and many other countries. They provide individual guidance and support in the application for European research funding for free. Often NCPs are also members of the Programme Committees for Horizon 2020 and collect input from their communities for future programmes.

Activities include:

- Enhancing NCP expertise through tailored training offers
- Training sessions
- Work Programme Info session in cooperation with EC & REA
- Building on SC6 NCP experience and sharing good practice
- MOOC on ‘good practices’
- Mentoring of less experienced NCPs
- Maintenance of a wide-ranging network with information exchange all over Europe and beyond
- Research Community
- Support for networking among SSH researchers and help with the drafting of proposals.
- International Info-days, Brokerage- and Proposal-Check Events on Societal Challenge 6

- Partner Search Support for SC6 Calls. Online database: www.sshresearchdirectory.eu
- Increasing visibility of well-qualified potential applicant organisations in 'widening countries'
- Consultation of Societal Challenge 6 applicants
- SSH impact & visibility
- Active contribution to the dialogues with EC, REA etc. on designing the SSH dimension in Horizon 2020 – and beyond
- Governing Board member of EASSH, the European Alliance for Social Sciences and Humanities
- Organisation of a series of expert workshops
- SSH research integration
- Cooperation & joint activities with thematic NCP networks from other parts of Horizon 2020
- Joint webinars, e.g. on 'transport' & 'security'
- Joint consultation of applicants
- Cooperation with sectors groups of the Enterprise Europe Network (EEN): Creative Industries, Tourism & Cultural Heritage
- Series of factsheets: "Success stories in SSH integration"

All recorded webinars are available on Net4Society's YouTube channel, Social networks, Newsletters, ISSUES e-magazine, e-newsletter, www.net4society.eu

5 DEVIATIONS FROM THE DOA

In the course of planning, it was decided to split the single event described in Task 7.5 into two separate events, by agreement with the Commission.

1. A meeting to secure expert validation of the ViMM Roadmap/Action Plan (RM/AP), which took place on February 15/16 (M29) Vienna, the outcomes of which are reported in D7.3, *Roadmap and Action Plan*. This meeting addressed Aspects 1-III of the RM/AP:
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 - III. Human Resources, education and training
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6 RESULTS, CONCLUSIONS AND NEXT STEPS

During the final session of the meeting, a discussion among all participants took place, structured according to the following topics

- How far do we have a common agenda?
- What are the main points of agreement for future cooperation?
- Are there areas of difference?

There was a very wide measure of agreement that cooperation is needed between International and pan-European organisations in order to assure the best possible impact from the opportunities offered by digital heritage. Likewise, that there were very few if any differences in philosophy towards the role and importance of digital.

Ways forward for cooperation were discussed, including:

- A joint statement/ action plan involving all the organisations present.
- Bilateral statements between ViMM/EC and each International organisation. Several of these have already been drafted and/or are ready for signature. Existing drafts are provided as Annexes 3-5 to this report together with a status report in each case.

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ViMM, in its sustained post-project mode, will continue to seek joint agreements and to establish common ground for action, including with key organisations such as CIPA (the International Committee for Documentation of Cultural Heritage, European Museum Academy (EMA), ICCROM (which promotes the conservation of all forms of cultural heritage, Interpol and NEMO (Network of European Museum Organisations). . The support of the Commission for further cooperation was warmly expressed.

ANNEX 1 - VIMM ACTION PLAN ASPECT IV - POLICY AND INTERNATIONAL COOPERATION

This aspect of the Action Plan was presented and discussed but not subject to detailed expert validation in Vienna, since it is the main focus of the meeting of international organisations to be held in Paris on 15 March and will be reported in D7.4.

Positioning the DCH sector is a broad topic that covers several strategic, legal, conceptual and financial issues relevant to VM/DCH. Synergies between EU policies and the strategies for DCH of key international organisations in the CH field (such as UNESCO) should be developed through closer collaboration and coordination by all institutional actors regarding their programming policies in order to develop a stronger sector, coordination and the promotion of funding for DCH and committing to mutually reinforcing planned activities in areas of major need. EU and international agencies should work in alliance to create favourable policies and conditions for the global exploitation of the vast economic, social and environmental potential of DCH

A package of measures to promote cultural heritage and keep it higher on the political agenda was announced by the European Commission at the end of EYCH2018 and included Cultural heritage for stronger global partnerships: strengthening the international cooperation in the framework of Horizon 2020. This involves the EU in setting up an international network for innovation and diplomacy in the Cultural Heritage area where Third countries will benefit from EU expertise, such as training to protect cultural heritage or to promote innovative, tailor-made solutions in different regions (EU Neighbourhood countries, Latin America, Africa, Asia). This approach should incorporate DCH.

The following are among those which can be identified as areas for international policy agreement and collaborative action on DCH .

Paradigm shift

Profound changes, such as the digital transformation of our society, can be conceived both as threats and opportunities. The role of digital initiatives in supporting rather than threatening 'physical heritage' should be widely understood and the relationship between 'virtual and digital heritage' and 'real heritage' (tangible or intangible) strengthened rather than dissociated. Interest has likewise moved far beyond the traditional boundaries of the 'monument and museum case' to embrace intangible heritage and cultural and natural landscapes and ecosystems.

Cultural heritage is now widely appreciated as an essential part of Europe's underlying socioeconomic, cultural and natural capital. In Getting Cultural Heritage to Work for Europe Report of the Horizon 2020 Expert Group on Cultural Heritage it is argued that the European Union should vigorously promote the innovative use of cultural heritage for economic growth and jobs, social cohesion and environmental sustainability. Cultural heritage must be seen as a special, but integral, component in the production of European GDP and innovation, its growth process, competitiveness and in the welfare of European society. Like

environmental protection, it should be mainstreamed into policy and regarded as a production factor in economic and wider policy development.

For maximum effect policies should be adapted by governments and managements of CHI, along the lines defined by Pier Luigi Sacco, moving from culture being a cost-intensive resource of public patronage to a value adding relationship between culture and economies which can substantially strengthen competitiveness. For example, heritage-led urban regenerations spread knowledge, experience and good practice to help municipal leaders develop the vision, and gain the skills, to be successful at using heritage to regenerate their towns, using their cultural heritage as a powerful economic, social and environmental catalyst for regeneration with a strong link through ICT to the concept of Smart Cities. Similarly, culture and biodiversity can be integrated and enhanced to create successful living rural landscapes

Understanding the shift of paradigm also entails seeing the role CH in a broader context as a powerful asset that can help foster the sense of belonging and cohesion for all citizens which should represent all individuals and groups regardless of socioeconomic, demographic or geographic boundaries and a source for advancing inclusive, innovative and reflective societies.

The use of cultural heritage and, increasingly, its digital representation to reflect on past and present social challenges and a deeper understanding of complex and current issues will be crucial in shaping the identity of societies. XR applications potentially provide a powerful potential to deal with different aspects of this contextualization in the form of immersive environments, augmented reality, storytelling etc.

Co-ordination and expansion of investment

The future implementation of the proposed measures and actions within the DCH sector will continue to require extensive financing. Budgets are required to enable museums and stakeholders to invest the needed resources in hardware and software solutions as well as in training staff and supporting infrastructure.

The ViMM community identifies a lack of resources and also great imbalances between institutions in relation to their scale, legal statutes, location, and content. This need, however, remains largely unquantified and that further demand analysis is needed at institutional, regional, national and European and international level to ascertain its extent.

Whilst a number of innovative, creative and experimental approaches have been taken to releasing the locked-up potential of Europe's heritage, it is necessary to develop new funding frameworks by creating the legal conditions. Collective investments on an EU-wide scale are likely to be needed in new technologies, since few if any individual institutions can make them on their own. Rethinking current business models and discovering new routes for financing and exploring potential revenue avenues is likely to play a large role in the coming years.

The following are among the broad priorities to be addressed:

- Continuation and expansion of long-term funding at EU and national level, to maintain and increase the impact of existing infrastructures such as Europeana or to convert temporarily-funded projects into sustainable institutions.
- Developing new funding frameworks at EU and national level by creating legal and administrative conditions supporting incentivisation of funding from different sources, such: as direct public subsidies, tax incentives for private funding and philanthropy, crowdfunding and reducing existing barriers for multi-institutional, collective funding and investments by building new partnerships outside the CH sector,
- Measures to increase financial support for small and medium-sized CHI, enabling implementation and operation of new tools and technologies as well as training of staff.
- Sustainable solutions which not only improve cost efficiency, but also reduce the gap between investments in implementation of digital projects supported for a limited time and longer-term 'backbone' or infrastructural actions.

Considering the complexity of the large number of simultaneously active funding programmes and policies of organisations on different levels it is necessary to investigate further international synergies and coordination in order to advance technological innovation and secure sustainability.

Values and mutual understanding

- Inter-sectoral understanding should be actively constructed, to foster trust between professionals in fields such as tourism, planning, conservation and ICT, through coordination activities like international seminars to establish mutual understanding of legitimate objectives and common terminologies for DCH.
- An ethical framework of 'virtual values' (such as that outlined in the ViMM Manifesto) is needed to underpin DCH strategies and development, and to provide CHI personnel with a comprehensible direction for their approach to digital content

Intellectual Property Rights

Existing frameworks should be built upon to establish international frameworks for rights to manage intellectual property and copyright issues related to the accessibility and reusability of DCH which, among other things:

- Promote clear licensing: ensuring that content and software are available under clearly stated licenses so that everyone who wants to re-use certain information can address the rights owners.
- Strengthen and raise awareness of open access licensing policies for digital data, support CHI in adopting Open Access policies and frameworks for digital data and address remaining reluctance to adopt such concepts.
- Promote the use of open software tools through funding and advocacy programmes.
- Adapt approaches to IPR in the light of shifts of cultural, economic and technical paradigms and the role of cultural heritage in a broader context.

Promoting standardisation

- **Standards in digitisation to ensure improved quality of data, interoperability and openness can data play a key role in making the sector more financially attractive.**
- Further joint development of existing open formats and standards should be promoted by international bodies such as ICOM, UNESCO, and the European Commission, alongside development of currently missing standards, involving technology producers in this process.
- Expanding the usefulness of DCH to wider audiences by agreeing and promoting methodologies and standards for more holistic documentation, leading to advanced knowledge creation and 'storytelling'.

ANNEX 2 MEETING OF INTERNATIONAL ORGANISATIONS (PARIS): PROGRAMME AND PARTICIPANTS



Future sustainable International Cooperation in Digital Heritage

Venue: ICOMOS International Council on Monuments and Sites - Headquarter

Room: Viollet-le-Duc.

11 rue du Séminaire de Conflans

FR-94220 Charenton-le-Pont, PARIS, France - *Tel. + 33 (0) 1 41 94 17 59*

List of participants

Vasilis Athanasiou (CUT)	Georgios Giannoulis (UPF)
Evangelia Baka (UNIGE)	Christer Gustafsson (ICOMOS)
Graham Bell (Europa Nostra)	Monika Hagedorn-Saupe (ICOM/CIDOC)
Robert Davies (CUT)	Marinos Ioannides (CUT)
Peter Tomaz Dobrila (KIBLA)	Gaia Jungeblodt (ICOMOS)
Suzanne Dumouchel (DARIAH)	Eleanor Kenny (Europeana)
Christa Engel (HERA/Net4Society)	Nicolas Larousse (CNRS/CLARIN)
Vasco Fassina (CEN)	Antonia Sansonetti (CNR)
Albert Gauthier (European Commission – DG Connect)	Paul Zikas (FORTH)

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Programme

09.30 Registration

10:00 Welcome Greetings from ICOMOS, European Commission and ViMM project

10:15 Advancing Digitisation of Cultural Heritage and ICT Research and Innovation in Cultural Heritage

Dr. Albert Gauthier, ViMM Project Officer, European Commission, DG-Connect

10:45 The EU H2020 ViMM Project: Main Objectives, Manifesto, Road Map, Action Plan and

Research Agenda – Marinos Ioannides

11:00 UNESCO The Agenda on Digital Heritage – SDG 2030

(WHC and Memory of the World) Speaker to be confirmed

11:30 ICOMOS: The plans and agenda for the period of 2010-2020 and beyond

Prof. Christer Gustafsson and Dr. Gaia Jungeblodt, Director of ICOMOS

11:50 The Berlin Call and the role of Digital Cultural Heritage

Joint Statement on DCH documentation from ViMM and Europa-Nostra

Dr. Graham Bell, Member of the Board, Europa-Nostra

12:05 15 ICOM.CIDOC: Digital Strategy for Museums

ICOM International Committee for Documentation: CIDOC, Chair of the Committee

12:20 ViMM excellent case study: Digitizing, Documenting and Integrating the Intangible CH

of UNESCO WHL monument (Holistic e-Documentation in CH)

12:30 Discussion and joint statements

13:00 CEN – The need for new standards in Digital Cultural Heritage:

The necessity of a new Technical Committee, Chairman of CEN/TG 346 on Cultural Heritage

13:15 Net4Society: The European Network of NCPs in Humanities: *Title to be confirmed*

13:30 Lunch

14:15 Structured discussion with all participants, Discussion in two groups

Chaired by Mrs. Eleanor Kenny, Europeana Foundation



Rapporteurs: DARIAH-EU and CLARIN-ERIC

- How far do we have a common agenda?
- What are the main points of agreement for future cooperation?
- Are there areas of difference?

15:15 The way forward

- A joint statement/ Action plan?
 - Bilateral statements ViMM/EC → each International organisation?
 - Other approaches?
 - Protocols and making progress.

16:00 End of the meeting

ANNEX 3 - DRAFT AGREEMENT PRESENTED TO ICOMOS

Status: currently being considered within the structures of ICOMOS

The International Council on Monuments and Sites (ICOMOS) is a professional association that works for the conservation and protection of cultural heritage places around the world. Now headquartered in Paris, ICOMOS was founded in 1965 in Warsaw as a result of the Venice Charter of 1964, and offers advice to UNESCO on World Heritage Sites.

It currently has over 10,100 individual members in 153 countries, 110 national committees and 28 international scientific committees. With rare exceptions, each member must be qualified in the field of conservation and a practicing landscape architect, architect, archaeologist, anthropologist, town planner, engineer, administrator of heritage, historian, art historian, palaeontologist or archivist.

As a global non-governmental organization associated with UNESCO and working to promote the conservation, protection, use and enhancement of cultural heritage sites through creation of knowledge and advocacy, ICOMOS has been closely engaged with the topic of sustainable development in recent years, having held major scientific events and issued policy documents to highlight the vital role of cultural heritage within the sustainable development process.

Since the adoption of the United Nations Agenda 2030 for Sustainable Development (the post-2015 development agenda) in September 2015 and of the New Urban Agenda at Habitat III in October 2016, ICOMOS's mission has shifted to the implementation of Agenda 2030- SDGs and the NUA from the perspective of cultural and natural heritage, within the framework of the ICOMOS mandate and collaboration with strategic partners. ICOMOS has also been actively involved in the International Year of Sustainable Tourism for Development 2017 and the European Year of Cultural Heritage 2018.

ICOMOS recognises the increasing role and potential of new and modern IC technologies towards the achievement of its overall goals in the digital era.

The ViMM Coordination and Support Action, funded under Horizon2020 since 2016, is proposing European and international strategies for Digital Cultural Heritage (DCH) and towards this end, has produced a 10-point Manifesto, together with a Roadmap and Action Plan.

Society is increasingly dependent on and driven by digital technology: Cultural Heritage Institutions (CHI) and professionals must adapt and become engaged with this development. Therefore, clear and tangible policies are needed from governments and management. The conceptualisation of DCH, as promoted by ViMM, should be further developed in support of preservation and conservation of monuments and sites and to generate relevant EU policies and actions towards research, education, technological developments', tourism and other key sectors.

Synergies between EU policies, in the light of the 2018 Year of Culture, Council Conclusions on the need to bring cultural heritage to the fore across policies in the EU, the New European Agenda for Culture, the strategies for DCH of key international organisations and the role of cultural heritage in UNESCO's Sustainable Development Goals (SDG), should be leveraged and coordinated for maximum advantage.

The relationship between 'virtual and digital heritage' and 'real heritage' (tangible or intangible) should be strengthened rather than dissociated. The quality and holism of CH/DCH documentation (for example in 3D) should be strengthened in support of conservation and preservation. Understanding should be improved of documents and information directly produced via digital media, often without concern for preservation, which may significantly affect the future of social memory, institutions and communities.

We, the undersigned, propose to develop a joint understanding and programme of action to capitalise on the potential of DCH for preservation and conservation of monuments and sites.

ANNEX 4 - DRAFT AGREEMENT VIMM- CEN

Status: Agreed, subject to signature

CEN (the European Committee for standardization) is recognised in Directive 98/34/EC as “the” competent European body for setting standards for Europe. CEN Technical Committee (TC) 346 was established in 2004 to support a common unified scientific approach to problems relevant to the preservation/conservation of Cultural Heritage (CH), with the expected benefits of:

- facilitating exchanges between interested parties in Europe
- improving the efficiency and pertinence of diagnosis
- increasing longevity and reducing maintenance costs of conservation
- facilitating professional mobility and international trade and improving methodology, protocols, and guidelines to allow implementations of better practices.

During this time, TC 346 produced 34 standards¹ in the field of conservation, materials and building management and contributed successfully in the way on how professionals have to work in the area of preservation and conservation in Cultural Heritage.

CEN fully recognises that the development and adoption of technologies by the CH sector as the digital era advances now requires an equal attention to standardization. It is therefore proposed to start the procedure for the establishment of a new Working Group in the field of Digital Cultural Heritage (DCH).

The ViMM Coordination and Support Action, funded under Horizon2020 since 2016, is proposing European and international strategies for DCH and towards this end, has produced a 10-point Manifesto, together with a Roadmap and Action Plan.

The H2020 ViMM project’s (www.vi-mm.eu) Manifesto (point 8) addresses the need for a navigable map of **frameworks and standards** in the field of DCH:

More powerful, intelligent and interconnected standards are required that can be used across domains. Open formats, based on ontologies, that are interoperable in different systems and disciplines should be encouraged.

Emerging open interoperable frameworks and standards which support, create and share DCH such as the International Image Interoperability Framework (IIIF)^{xxxiii}, Copernicus for Cultural Heritage and others, should be promoted and fast-tracked. However, current standards should be preserved and continuity through backward-compatibility thus sustained. It may be useful for the DCH community to become more involved the decisions of standards bodies such as the Worldwide Web Consortium (WC3), International Standards Organisation (ISO) and the European Committee for Standardization (CEN) in order to be better informed and consulted about key changes and the emergence of important standards.

¹ http://ehhf.eu/sites/default/files/201407/Session_6_Fassina.pdf

Standards need to be agreed internationally, so that digitised content (tangible and – especially - intangible) and the related metadata becomes seamlessly accessible in the long term to all. Metadata may include access to complementary material such as images, books, descriptions and drawings, illustrating the cultural and historic significance of the sites or artefacts. The EU, in cooperation with International organisations/institutions and key academic and research bodies should agree a pan-European action plan with a realistic time frame for the development of standards.

We also believe that an ethical framework of ‘virtual values’ is needed to underpin DCH strategies and development, and to provide Cultural Heritage Institution staff with a comprehensible direction and approach to virtual and augmented content. The Virtual Values identified by ViMM include: “Virtual for all” Rule; Layered Content; Accessibility, Sustainability, Complementarity, and Data Protection/Digital Privacy. In the last of these contexts, attention should be paid to applicable privacy requirements of the General Data Protection Regulation (GDPR) . These values not only affect the originality, trustworthiness and innovation of each DCH project, but also protect people’s privacy. An ethical framework is needed for DCH projects which combines all of these aspects.

Furthermore, the ViMM Roadmap and Action Plan draws attention specifically to the need for methodological standards in the implementation of 3D in CH, especially through more holistic forms of documentation, leading to knowledge creation for the widest possible range of interested audiences.

In the light of the above, CEN building on the successes of TC 346 and ViMM, as an instrument of the European Commission, acknowledge the need to work closely and intensively to define a framework for standards in the field of Digital Cultural Heritage.

ANNEX 5 - DRAFT AGREEMENT ViMM – EUROPA NOSTRA

Status: Agreed subject to signature

THE ViMM CONTRIBUTION TO THE IMPLEMENTATION OF THE BERLIN CALL TO ACTION

“CULTURAL HERITAGE FOR THE FUTURE OF EUROPE”

The present document has been prepared by ViMM on the basis of the text of the Berlin Call to Action (in bold) which has been endorsed and signed by ViMM. Throughout this document text has been added (in italic) as an explanation of the ViMM’s contribution to the implementation of the Berlin Call to Action from the perspective of digital cultural heritage and related digital technology.

The 2018 European Year of Cultural Heritage marks a turning point for Europe’s ever-growing movement for cultural heritage documentation, preservation and protection. Europa Nostra and the H2020 Virtual Multimodal Museum Project (ViMM) agree that we must build on this momentum to recognize and unfold the positive and cohesive power of our shared cultural heritage and values to connect Europe’s citizens and communities and to give a deeper meaning to the entire European project and that the time for action is now.

This “Berlin Call to Action” was presented at the European Cultural Heritage Summit on 22 June 2018 in Berlin by the 3 co-hosting organisations, namely EUROPA NOSTRA–the Voice of Cultural Heritage in Europe; the German Cultural Heritage Committee (DNK) acting as national coordinator of the European Year of Cultural Heritage in Germany and the Prussian Cultural Heritage Foundation (SPK) based in Berlin.

ViMM is a Coordination and Support Action and the only project funded under the European Union (EU) Horizon 2020 programme COOP-8 Call 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

This “Berlin Call to Action” draws its inspiration and legitimacy from the expertise, enthusiasm and engagement of all those women and men who care for cultural heritage (tangible, intangible and digital) and who dedicate their expertise, time and energy, as professionals or volunteers, to ensure the transmission of this heritage to future generations.

The ViMM Manifesto for Digital Cultural Heritage was published also during the 2018 European Year of Cultural Heritage. This Manifesto is supported by a Roadmap and Action Plan, following a programme of over two years of intensive consultation and consolidation with key experts from the wide multidisciplinary area of Digital Cultural Heritage. The ViMM 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 and concerns in the digital future and who need to act in concert.

Following the adoption of its Manifesto, the ViMM also decided to endorse and sign the Berlin Call to Action. Following a due consultation with Europa Nostra, the present document explains the contribution which the ViMM Community will make to the implementation of the Berlin Call to Action. The ViMM Community stands ready to work closely together with Europa Nostra and other European heritage stakeholders in order to take up our shared responsibility to unfold the cohesive power and potential of our shared cultural heritage to advance a more peaceful, prosperous, inclusive and just Europe. We align our vision and action plan in order to assure that rapid and far-reaching developments in digital technology contribute to and enhance the goals of the Berlin Call.

Rapidly emerging technologies will have increasing relevance for Cultural Heritage Institutes (CHI), extending existing formats, 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 Extended Reality (XR) 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 mass high quality digitisation. Novel, smart immersive environments are required, that enhance interaction between human and machine activity, together with efficient interfaces for semantic tagging by humans.

The relationship between 'virtual and digital heritage' and 'real heritage', both tangible and intangible, should be strengthened rather than dissociated. The role of digital initiatives in supporting rather than threatening 'physical heritage' should be widely understood. The conceptualisation of holistic documentation (focusing on knowledge and the story) and Virtual Museums should be further developed to generate relevant policies towards research, education, tourism and other key sectors. stimulate investment and inspire novel implementations.

Cultural Heritage Institutions (CHI) should be aware of and informed about technologies which become available to support their requirements. Widely-used platforms continually offer capabilities for smart devices to exploit. The public will only accept XR in the context of cultural heritage, if this technology fulfils their needs, is intelligent, very simple to use, adds value to the personal experience and matches the visitor's expectations of performance.

ACTION 1 DEVELOPING THE EUROPEAN ACTION PLAN ON APPROPRIATE INTEGRATION OF DIGITAL TECHNOLOGIES FOR THE SAFEGUARDING OF CULTURAL HERITAGE

We call for an ambitious and pioneering European Action Plan for Cultural Heritage as a lasting legacy of the European Year of Cultural Heritage. This Action Plan which is already announced in the recently adopted New European Agenda for Culture, must be prepared carefully and implemented with full involvement and engagement of all

relevant public and private stakeholders, including civil society. It must also be holistic and interconnected with other key EU policy agendas and priorities, fully in line with the recent conclusions of the EU Council and European Parliament. We refer to objectives and policy areas such as social cohesion, regional development, urban development, rural development, environment, maritime and tourism policies, sustainability agenda and climate change adaptation, research and innovation, digital policy, education and skills and, of course, the youth. This Action Plan should furthermore also have a strong external dimension since the European Union must take global responsibility and reach out to partners across and beyond the borders of the EU. The Action Plan should therefore be coherent with the Council of Europe's Faro Convention on the Value of Cultural Heritage for Society and its recent European Heritage Strategy for the 21st century, and with the UN Agenda 2030 for Sustainable Development.

Society is increasingly dependent on and driven by digital technology: CHI must adapt and become engaged with this development. 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.

By focusing on interaction and conceptual design, CHI will be able to offer diversified, collaborative, tailored experiences and novel exhibition design with user-oriented perspectives. Among the most effective user experiences in CH are those created by combining virtual and real worlds, incorporating knowledge of the past and a stimulating story.

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.

A vast amount of cultural assets, highly valuable for historical research, are 'born digital', through the recording activities of individuals using smart devices and social. The management and preservation of this represents a daunting task. Private born-digital archives create held by CHI create further research needs to define authenticity and for intensive curation, long-term preservation policies and quality standards, access rights and ethics. Many specific endeavours to archive, curate and make available certain types exist. The dissemination of best practices can play a vital role in stimulating plans for the sustainable future preservation of born digital content.

ACTION 2 RECOGNISING HERITAGE AS A PRIORITY FOR EUROPEAN POLICIES AND FUNDING

In support of the future European Action Plan for Cultural Heritage, we call on the EU institutions to fully recognize cultural heritage as a strategic priority in the up-coming policy programmes and the EU's new multi-annual financial framework (2021-2027). As the "Cultural Heritage counts for Europe report" evidenced, Cultural Heritage is a

resource that enhances the sustainability of various societal efforts. It contributes to the much-needed investment in Europe’s human and cultural capital and in promoting Europe’s values. At the same time, we all commit to continue raising the awareness of the multiple values and benefits of cultural heritage for Europe. This is particularly important in view of the upcoming European Parliament elections in May 2019, and the subsequent appointment of the new European Commission.

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. While there is an apparent demand for DCH in general, resources may be lacking for its creation, management and promotion. There is a gap between investments in implementation of digital projects on the one hand and ‘backbone’ or infrastructural actions, on the other. 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, easily accessible, low-cost techniques, where available, will remain important.

Advances must not be limited to larger institutions which already have greater resources and opportunities for grant-capture. The much larger number of smaller cultural institutions, which have a high impact on local communities and their economies, very often have difficulty in securing expertise, infrastructure or funding for innovation. The realisation of their full potential in a future sustainable way can be substantially assisted through targeted new pan-European and/or regional initiatives.

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.

ACTION 3 BRIDGING LOCAL, NATIONAL AND EUROPEAN

The various levels of governance are key to unleashing the full potential of cultural heritage as a strategic resource for society, economy, culture and the environment. Therefore, we call on all States, Regions and Cities in Europe to continue to develop holistic and ambitious policy and action plans for cultural heritage over the next decade. We also urge them to enhance their dialogue and cooperation with relevant European and international organisations as well as with civil society, in order to ensure that the policy and action plans adopted by various levels of governance – from local, national to European – complement each other, are coherent.

The cultural heritage 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, and monitored progress according to measurable indicators, wherever possible .

ACTION 4 SAFEGUARDING AND TRANSMITTING THE IRREPLACEABLE

Cultural heritage is unique and irreplaceable. Yet it is often vulnerable and even endangered. Therefore, it is our collective task to preserve this treasure so as to transmit it for further enjoyment and (re)use to future generations. We must boost the necessary human and financial resources and invest in skills and capacity building in order to ensure proper preservation, development and transmission of our heritage, both physically and digitally. In this process we must fully involve international organisations such as the UNESCO, ICOMOS, ICCROM, ICOM, NEMO, etc. creative industry, universities and the research community, to develop innovative business models and stimulate creative synergies between heritage and the arts. We should also recognize the value of intangible expressions of our heritage which are constantly evolving and enriching our society and living environment.

Usability of DCH means putting it into a specific context to create a meaning for the user, emphasising the historical and cultural background of what is presented. 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.

Emerging open interoperable frameworks and standards which support, create and share DCH should be fast-tracked. However, current standards should also be preserved and continuity through backward-compatibility should be sustained. Standards should be targeted towards improving collaboration, co-creation and longevity of access rather than protecting data against disclosure. They need to be agreed internationally and especially with CEN, 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 necessary standards. We recommend the establishment of a new CEN Committee on Digital Heritage.

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 monitoring the implementation of this framework as well as to the applicable privacy requirements of the General Data Protection Regulation (GDPR).

ACTION 5 INVESTING IN QUALITY HERITAGE-LED REGENERATION

We must ensure and enable adequate investments, public and private, into quality heritage-led regeneration of our neighbourhoods, cities and countryside based on creativity, innovation and adaptive re-use; inspired by the principles of high-quality “Baukultur” as formulated in the Davos Declaration adopted at the very beginning of the European Year of Cultural Heritage; and enriched by the active participation of citizens and their communities and civil society organisations. In this context, we welcome creative and respectful interaction between the protection of the built heritage and contemporary contributions to our built environment, which contribute to the heritage of tomorrow.

Meaningful missing parts of cultural heritage objects that are only partially preserved, could be reconstructed while building 3D-objects, requiring holistic documentation of historical knowledge to enhance their meaning and incorporating elements of intangible heritage.

ACTION 6 PROMOTING BETTER KNOWLEDGE AND DEEPER UNDERSTANDING

Cultural heritage must be given a much bigger importance in education activities – both formal and informal – for all ages. This will stimulate stronger public engagement for the safeguard and transmission of our cultural heritage. Special attention must be given to history education and heritage interpretation placed in a broader context of Europe’s past, present and future. This will equip Europe’s citizens and especially our children and the youth, with the necessary tools for gaining a deeper understanding of the on-going encounters and exchanges within Europe as well as between Europe and other cultures of the world. All of these activities will help build more respectful and meaningful relationships between people and the places where they live, work or visit. This will also facilitate a better understanding, respect and inclusion of new inhabitants in Europe.

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.

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 within the spirit of the Regional and Structural Funds should address systematically the training of students, teachers, professionals, curators, administration and governance staff. It should also support training of the public and communities to enhance the quality of co-creation processes.

Mass digitisation across Europe will provide a strong basis for many critical developments. An EU strategic action plan is needed for massive high-quality 3D digitisation, holistic documentation and availability. The role of Europeana as the central platform and flagship initiative for DCH, should be expanded, by incrementally increasing the amount and quality of 3D, interactive animations and XR content. Structured and well harmonised data is central to the future of DCH. Quality standards such as the FAIR (Findable, Accessible, Interoperable, and Reusable) data principles should be prioritised.

ACTION 7 BUILDING ON THE MOMENTUM

The European Year of Cultural Heritage has strengthened the policy momentum and wide mobilisation for cultural heritage in Europe. We must now consolidate and further improve the synergies between the widest possible range of public and private stakeholders including relevant European and international organisations and civil society. To achieve this, we need to find an adequate formula for a more permanent platform for gathering knowledge, capacity building and coordinating advocacy for cultural heritage in Europe.

The ViMM community strongly supports the setting up of such a platform which should also contribute to the monitoring of progress achieved as a follow-up of the European Year of Cultural Heritage.

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. Through greater openness to partnerships, the heritage sector should collaborate more, as part of the broader cultural sector to reach out to the public.

The EU should give further impetus through its policies, funding programmes and initiatives to the Open Culture movement, promoted e.g. by Europeana and wider adoption of Open Access policies and frameworks for digital data. Digital cultural information should be based on internationally accepted open formats and metadata standards, such as the ones provided by Europeana. 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 CH sector.

Vienna, 11 February 2019