Virtual MultiModal Museum (ViMM)

An International and interdisciplinary co-ordination and support action for a European Virtual Multimodal Museum Strategy

The ViMM project

1. **Analyse** and **promote** the role of VM as a **strategic resource** for Europe with cultural, social, environmental and economic **value**.

2. **Broaden and intensify discussion** among CH stakeholders and work towards necessary levels of consensus on key technical, legal and policy areas **important for the goals and principles of VM**, bringing together public and private stakeholders in partnership.

3. Define, develop and promote a **unique sustainable platform** engaging a large number of EU CH stakeholders across the whole community.

THE MAIN OBJECTIVES of ViMM

4. Gain **high visibility** through social media, TV, newspapers, publishers, professional associations, conferences and other forms of outreach within Europe and internationally.

5. Establish more accurately the **exact nature** of the key economic **drivers** for VCH and especially for VM and their added **value** for society, their economic impact and multipliers, including the potential for both **public and private** investments.

6. Support the inclusion of VCH and especially of VM in the move towards an **integrated policy** approach to Cultural Heritage for Europe, in readiness for the **European Year of Cultural Heritage** in 2018

THE MAIN OBJECTIVES of ViMM

7. Articulate **communication** and **consultation** with European and international organisations such as UNESCO, ICOM, ICOMOS, CIPA, ICCROM, Getty, Europeana Foundation, Wikipedia, in order to **gain common understandings** and establish positions of mutual **support**.

8. Define and demonstrate the various **functions and approaches** of VM based on latest **innovations and advances** in the state-of-the-art in VR/AR, why different audiences need them to understand and interact with European CH, why and how VM are necessary to support the accessibility, conservation, use and re-use of CH.
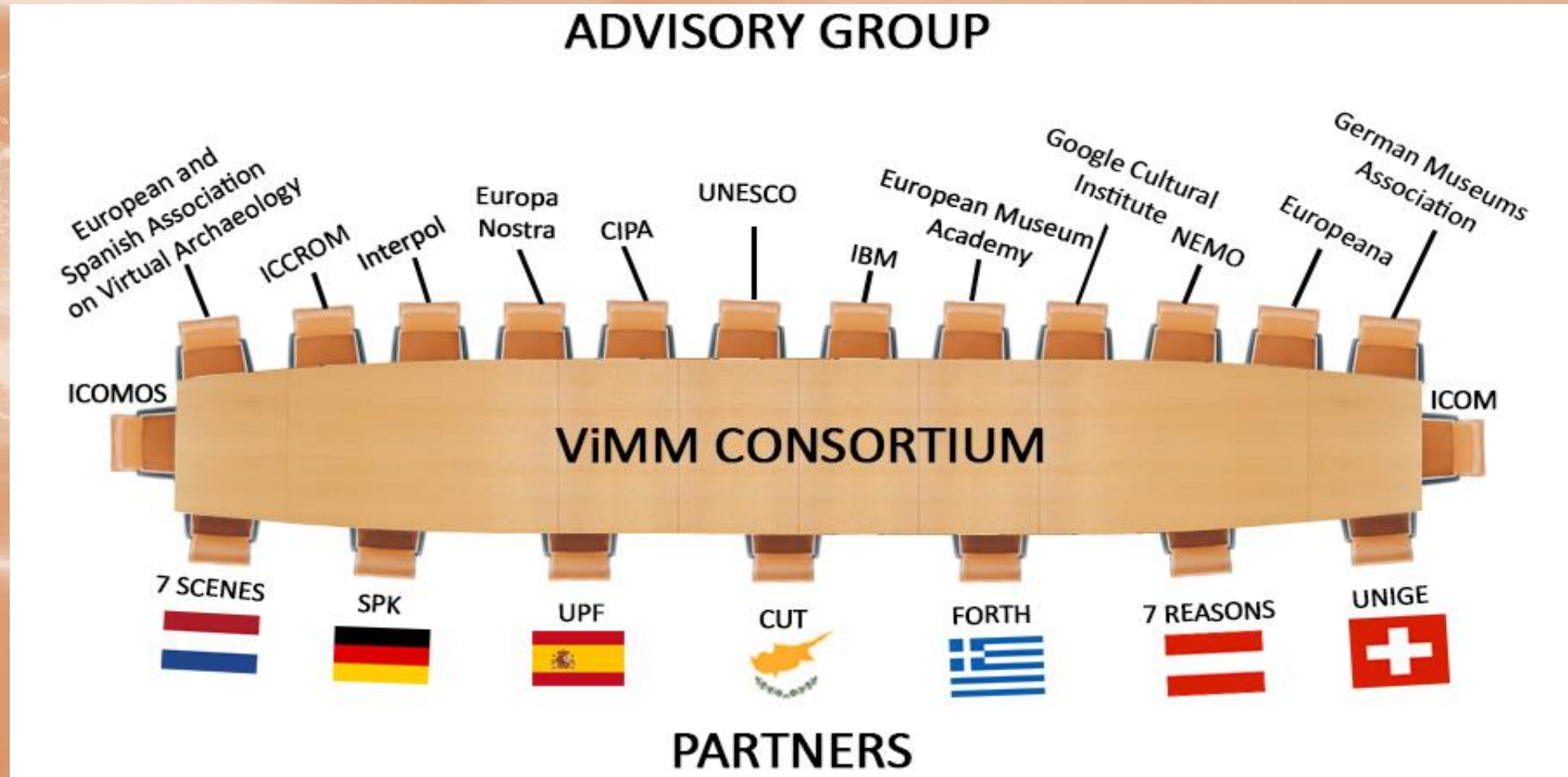
ADVISORY BOARD (Group of Experts)
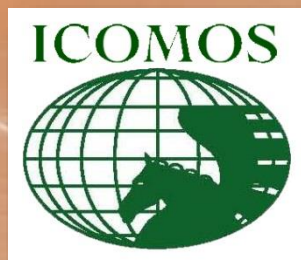
ViMM's Consortium Proposal

TECHNICAL EXPERTS

Eleanor Fink

Former Director of the Getty Information Institute

Prof. David Arnold

Former coordinator of EU EPOCH and 3D-COFROM projects

Prof. Dieter Fellner

Director of the CH Competenze Center on 3D Digitisation at Fraunhofer Instiutute

Prof. Roko Zarnic

Adviser on 3D Structural Analysis in VM applications

Prof. Vlatka Rajcic

Expert on Materials and Structural Analysis in 3D

Blair Parkin

Expert Consultant in Cultural Parks and Installations and ICT

The Vi-MM on line cultural heritage community platform

The ViMM project has created an on-line platform, for the interlinking of the cultural heritage professionals, where already are registered and communicate tens of hundreds of archeologists, museum professionals, cultural technology developers, policy makers.

You will find in the patform an extensive source of information on projects, funding and collaboration opportunities, experts, cases of excellence , news and you can also post your own. The platform promotes directly to the social media, linked in, twitter, facebook, and the members' posts.

You will also find the current presentation, as many others of the ViMM workshops and network. It is not necessary to take notes!

[vi-mm.eu](vi-mm.eu)

- Post and promote your views, news, work, publications, congresses, projects and find those of all members of the community, comment and discuss them on line

- Find, interconnect and talk with with experts in the field of digital cultural heritage

- Present your self and your expertise, and promote your work and organizations

Register now!

MULTIMODAL MUSEUMS IN THE DIGITAL WORLD: A COMPARATIVE ANALYSIS OF
POLICIES AND EXEMPLARY CASES IN GREECE, SPAIN AND CYPRUS

Georgios Giannoulis Giannoulopoulos, Ricardo Collins

University Pompeu Fabra

Georgios Papagiannakis , *CTI, Greece*

Marinos Ioannides, *CUT, Cyprus*

The concept

The approach of the study has been articulated in two complementary levels: the "macro" level, which corresponds to community and economic political and and institutional framework

- policies, priorities, objectives, incentives, and resources;

And the "micro" level, in which we chose some representative digital cultural heritage projects and analyzed the

- design process, objectives, stakeholders, community engagement, and effectiveness based on precise case examples in the 3 European areas.
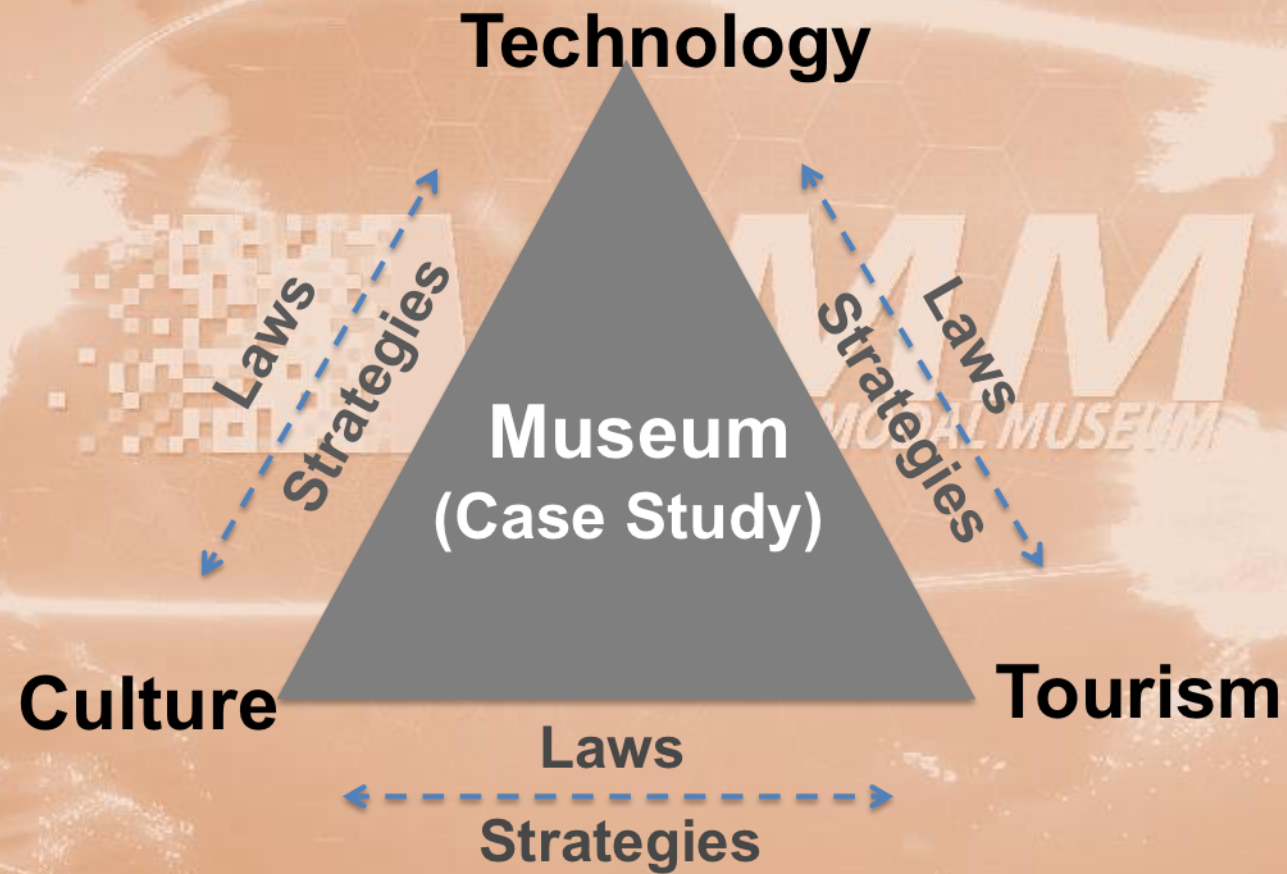
Main objectives

- The overall objectives of the stakeholders and policy makers as reflected in the official plans for local development through digital strategies. We will pay special attention to the relationship with the tourism industry, identity, and branding.

- Identification of obstacles and the specific strategies adopted to overcome them.

- Identification of strong points in the stakeholder policies will be established as benchmarks.

- The definition of priorities and synergies that by means of an effective standardization of the decision-making process in digital projects would help reduce costs, obtain higher returns on investment (public and private), and implement sustainable business plans.
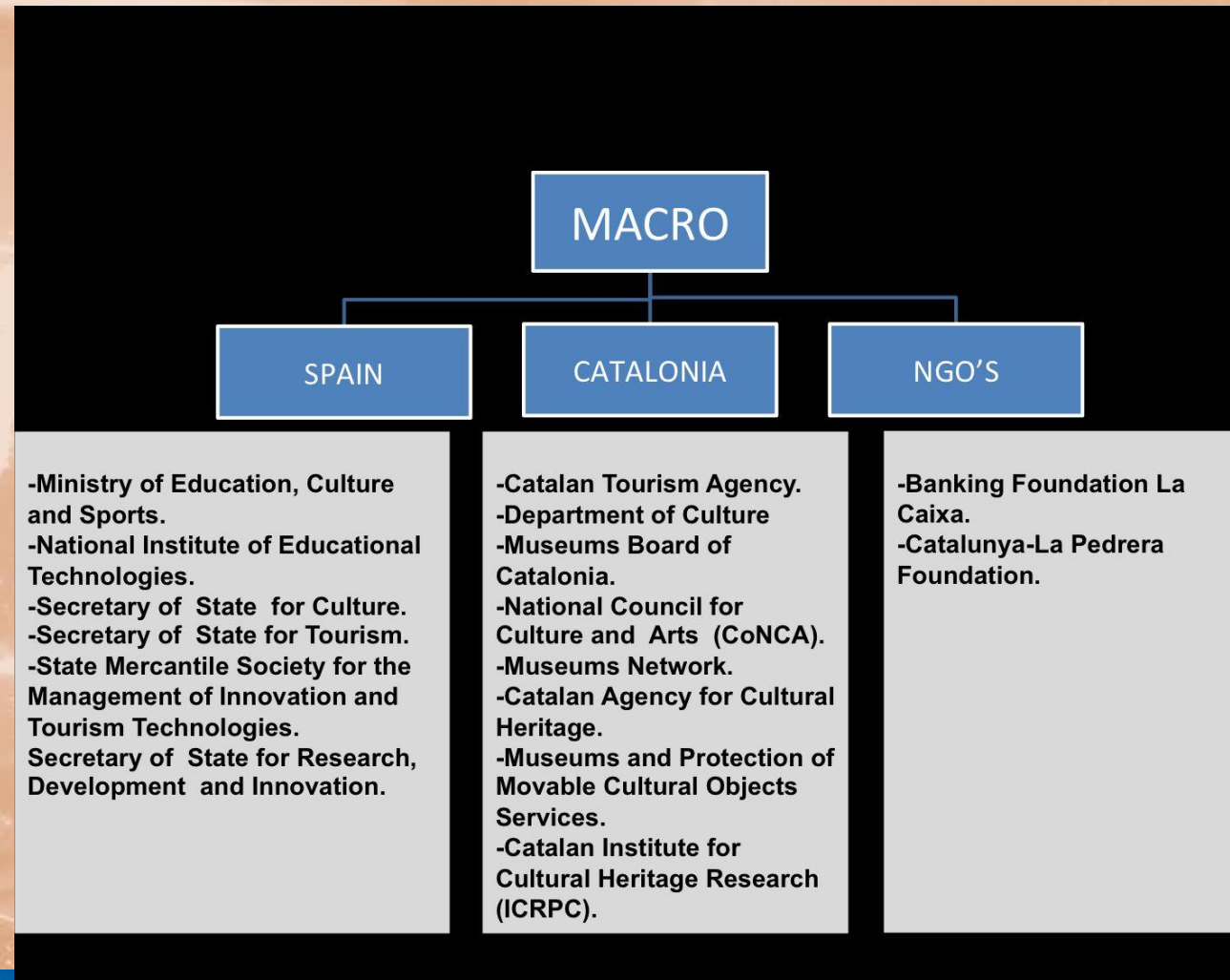
SPAIN / Catalonia

Macro Analysis

The stakeholders

Objectives Macro

- Public policies with impact on the development of digital cultural heritage will be analyzed. The key   from Spain and Catalonia will be identified.

SPAIN	
Sector	**Policy**
Technology	-Law of Science, Technology and Innovation. -Spain Strategy for Science, Technology and Innovation.
Tourism	-Spain National and Integral Tourism Plan.
Other	-Law of Fiscal Regime of Entities without lucrative purposes and of fiscal incentives to patronage. -Law of Foundations.

CATALONIA	
Sector	**Policy**
Technology	-Strategy of Research and Innovation for the Intelligence Specialization of Catalonia (RIS3CAT).
Culture	-Law of Museums. -Plan of Museums 2030. -Law of Catalan Cultural Heritage. -National Agreement for Museums of Catalonia.
Tourism	-Law of Tourism of Catalonia. -Strategic Plan of Tourism of Catalonia 2020.

MON SANT BENET.
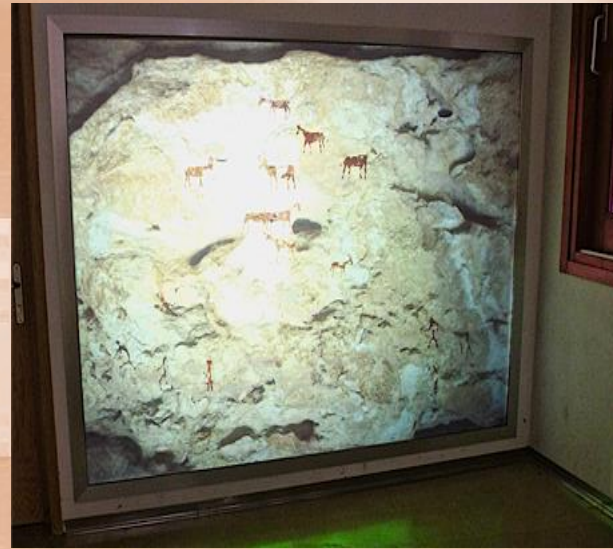# Hologram and audio-visual technology .

A set of holograms and audio-visual technologies that allow visitors to relive the highlights of the monument's history founded in 960.

www.montsbenet.com

CENTER FOR THE INTERPRETATION OF ROCK ART "ABRICS DE L'ERMITA".
"We Hunters" Interactive digital experience.

An interactive game displayed on a large format touch screen that aims to provide users with an entertaining and educational experience about rock art history.

www.turismeulldecona.com

HORIZON 2020

VIMM
VIRTUAL MULTIMODAL MUSEUM

MUSEUM ETNOLOGIC DEL MONTSENY, LA GABELLA.
Visitmuseum platform.

Platform available from any mobile device, which provides information on the exhibitions, photographs and audio guides of the museums of Catalonya.

www.visitmuseum.com

Archeological Museum of Catalonia – Ullastret.
Immersive instalation "Ullastret 3D".

The Immersive installation "Ullastret 3D", is a virtual reconstruction of the archaeological site of the Iberian town of Ullastret that allows users to travel 2000 years back in history.

www.macullastret.cat

Micro – Obstacles and Weaknesses

1. Limited previsions in the business plans for:
-The operational needs of the digital applications in terms of additional content integration and extension .
-Technology infrastructure maintenance and update.
-Sufficiently trained and available personnel for the digital applications .

The technological projects did not consider the inclusion or hiring of new personnel, therefore, the activities related to the maintenance of the applications had to be covered by museum personnel who already had their own projects and activities.

In some cases, technical repairs could take a couple of days to be solve as the museum does not have trained personnel to make technical repairs related to the apps.

The lack of human resources is recognized in the **Plan of Museums 2030** as a weakness for most of the museums in Catalonia.

Micro – Obstacles and Weaknesses

2. Centralization / limited autonomy of the decision making process for the integration of digital technologies.
 -Instead of generally known and applied technical and methodological standards the process depends on centralized expertise provision and approvals.

Plan of Museums 2030, in its specific objective 2.3, aims to reinforce the autonomy of museums of public ownership.

Out of the 4 museums, 3 are public and report to the Generalitat / Heritage and Culture Departament.

Micro – Obstacles and Weaknesses

3. Insufficient understanding and trust between the tourism and cultural professionals, particularly concerning potential risks for some sensitive cultural assets be of excessively high numbers of visitors, or visitors nor sufficiently aware about museum process.

Diverging objectives and lack of conciliation and common understanding processes (such as information, training, common language and terminology, conciliation/negotiation processes) between cultural and tourist professionals.

For public museums, thinking about receiving large influxes of visitors can be a bit overwhelming, concerned about the damage that could be done to cultural assets. This may be a bit contrary to the intentions of the tourism sector to generate cultural products and attract a greater number of visitors.

The Law of Tourism of Catalonia, in its Art. 3, states as purposes: a)Protect and preserve cultural and historical values… and d) Increase tourist flows…

Law of Catalan Cultural Heritage, Art. 61, encourage the use and enjoyment of Catalan cultural heritage as a resource for social and tourism revitalization…

Micro – Obstacles and Weaknesses

4. Lack of an adequate standardized evaluation methodology and process in the museum in terms of :
User satisfaction
Operational functionality.

Law of Museums 2030, specific objective 5.2, pursues to promote knowledge and proper identification of the museums' public. Focusing on gathering further accurate information , in order to develop better communication strategies.

Micro – Obstacles and Weaknesses

5. There is limited information on the impacts that the museum has generated in the local community
 -Lack of a complete and coherent set of specific economic impact indicators.
-Lack of a complete set of specific social impact indicators
-Lack of resources integrated in the initial planning for socioeconomic impact measurement in short, middle and long term.

Strategic Plan of Tourism of Catalonia. Subprogram 4.3 Intelligence. Projects are proposed aiming to conceive tools for information collection and data processing in order not only to generate knowledge, but also predictive intelligence and decision-making.

Law of Museums 2030, Specific objective 5.3 aims to strengthen and foster social commitment through the participation of citizens.

Micro – Obstacles and Weaknesses

6. Insufficient operational staff in terms of quantity and know-how.

Art. 35 of Law of Museums, a function of the Administration of the Generalitat is d) Promote the training and recycling of museum staff.

Plan of Museums 2030, Key Strategy 7.2, Support the training and recycling of museum professionals, as well as the incorporation of new professional profiles.

Micro – Achievements and Strengths

1. An extensive network of Government entities and institutions in both the State and the Generalitat (local government).

Ministries in the fields of culture, tourism and education; Institutes of technology and innovation; Boards of culture, museums and tourism; State and local strategic agreements on digital innovation, tourism and culture; networks on museum management; Nonprofit cultural and arts organizations.

Micro – Achievements and Strengths

2. An important body of regulations and public support policies.

-Law of Science, Technology and Innovation.
-Spain Strategy for Science, Technology and Innovation.
-Spain National and Integral Tourism Plan.
-Law of Foundations.
-Law of Museums.
-Plan of Museums 2030.
-Law of Catalan Cultural Heritage.
-Law of Tourism of Catalonia.
-Strategic Plan of Tourism of Catalonia
-RIS3CAT Strategy.

Micro – Achievements and Strengths

3. Enhancement of Network of clusters and institutions dedicated to research in digital heritage, cultural heritage, education and tourism.

R+D+I units in Catalonia:

University Structures – 231
Research Centers – 71
Large research-support infrastructures – 13
Science and technology parks – 22
Technology centers – 13
Networks and research groups – 1541

Based on the Directory of Universities and Research, Generalitat de Catalunya.

Micro – Achievements and Strengths

4. Public strategic plans that highlight and promote interdisciplinary collaboration.

-Law of Science, Technology and Innovation, Art. 3 and 35.
-Europe 2020.
-Plan of Museums 2030, Objective 1.
-Law of Catalan Cultural Heritage, Art. 3, 54 and 65.
-Law of Tourism of Catalonia, Art. 9.
-Strategic Plan of Tourism of Catalonia 2020.

Micro – Achievements and Strengths

5. Tourist and cultural regulations that take into account the importance of information and digital technologies.

-Plan of Museums 2030, Objective 4.

-Strategic Plan of Tourism of Catalonia 2020, Program 4 and Subprogram 5.2.

-Law of Museums, Art. 3.

Micro – Achievements and Strengths

6. Museum networks development and deepening in terms of know-how transfer and exemplification.

Necessity of structure and amplify regionally the know-how transfer, the official and unofficial contacts among the professionals and the exemplification of successful cases as well as common obstacles and solutions.

The Arqueoxarxa and Xarxa de Museus de les Comarques de Girona, among others, are museums based networks considered to strengthen the management of museums in Catalonia, as they provide guidance on promotion, administration, funding, research, etc.

Micro – Achievements and Strengths

7. Enhancement of the link with educational institutions, of various levels, mostly in the primary and secondary education and more limited to tertiary (academic) educational system.
The primary and secondary education students are among the main beneficiaries of the digital applications.

Our case studies developed solid relationships with educational and research institutions. At the beginning of the ideation process of each CS, an important multidisciplinary collaboration was developed where the academy had an important contribution. Subsequently, different educational activities were developed with schools which include the use of the digital applications.
-Law of Science, Technology and Innovation, Art. 2 and 38.
-Plan of Museums 2030, Objective 5.
-Law of Catalan Cultural Heritage, Art. 65.
-Research and Innovation Strategy for the Intelligence Specialization of Catalonia (RIS3CAT)

Micro – Achievements and Strengths

8. Improvement of attractiveness for younger audiences to cultural heritage.

The development of digital tools strengthens the offer of museums, especially in the sector of younger audiences who are strongly familiar to digital devices. The applications developed on Mon Sant Benet, Ullastret and CIAR-Uldecona, have resulted of interest within younger audiences. As an example, aproximately 30% of the total of the visits in Mon Sant Benet is conformed by scholars.

Micro – Achievements and Streghths

9. Detonator of new digital projects.
Development of directly linked new projects based on the results of the digital applications (Ullastret 3D)
Creation of new digital projects ideas in the first stage of design, mature for complete study and implementation based on the expertise acquired (We Hunters).

As a result of technological projects, new ideas to promote cultural heritage have emerged, some of which could not be developed due to lack of economic resources.
After "We Hunters" of Ulldecona, new collaborations emerged to develop tools for the interpretation and protection of cultural heritage such as e-Art (an augmented reality app) and 4D Vull (a conservation project through high definition photographs and 3D environments creation).

Micro – Achievements and Strengths

10. Social and academic recognition of the project for its novelty, through awards and successful presentations in international conferences.

Ullastret 3D:
-Chosen to participate in the International Exhibition ArcheoVirtual 2016.
-A finalist and highly valued in the 2017 edition of Heritage in Motion Awards, European Museum Academy.
-Awarded in terms of design, in the A-Design Award and Competition, in the Cultural Heritage and Culture Industry Design 2017 category..
-Participation in The International Conference KAINUA 2017 Università di Bologna .
We Hunters Ulldecona:
The projects developed have been key to receiving invitations to participate in congresses, forums and publications related to the use of technologies in cultural heritage.

Micro – Achievements and Strengths

11.Public -private sector collaboration enhancement.

-Involvement of private companies in the development and operation

-Effective use of public sector incentives and support framework (financial , institutional, and expertise provision)

There is an important participation of the private sector strengthening the multidisciplinary structure in the integration of the projects. Particularly in the cases of Ullastret 3D and Mon Sant Benet, the financing provided by non-governmental institutions have been fundamental. Ullastret 3D received financial resources from Obra Social La Caixa, and Mon Sant Benet is a private project developed by the Catalunya-La Pedrera Foundation.

Micro – Achievements and Strengths

12. The digital applications improve the relation with the public and the visibility particularly of museums with limited accessibility due to their location and limited public transportation (Visit Museum)

The location of the case studies and the limited transportation options, can make it difficult for people to reach to them, especially for those who do not have their own means of transportation, such as young students and tourists.

The Visitmuseum platform represents an excellent opportunity to bring the museography closer to society and encourage future visits.

Greece / Thessaloniki

Description of the area

- The municipality of Thessaloniki has taken plenty of actions to keep the city among the most popular travelling destinations.
  - Recently, a mix of combined actions to further enhance the destination "Central Macedonia" and Thessaloniki in the global and domestic tourism market as a multidimensional competitive tourist destination have been taken, for instance.
  - Such actions give great weight to the promotion of thematic tourism, cultural heritage of the Region of Central Macedonia and addressing seasonality.

The need of DCH projects for the Region of Central Macedonia (Thessaloniki)

- Not many actions have been made regarding the Digital Cultural Heritage in Thessaloniki. There are a very few projects that exist. One of them is available for download and it is called "Thessaloniki VR" or "Thessaloniki VR (UNESCO Edition)" [1].

- Digital Cultural Heritage projects implemented through mixed-reality applications are vital to insuring cultural institutions' sustained relevance and renewed public interest and engagement.

- Digital Cultural Heritage projects offer the possibility of expanding institutional capabilities by surpassing otherwise intractable limitations related to the material reality of:
  - the exhibits (e.g. conservation issues, unavailability of unique artworks and artifacts)
  - the infrastructure (e.g. fixed space, circumscribed resources)
  - the users (e.g. safety and security constraints, limited access especially when it comes to periphery locations)

A new DCH project about the Industrial Museum and Cultural Center of Thessaloniki

- In cooperation with the Industrial Museum and Cultural Center of Thessaloniki and the Service of Modern Monuments and Technical Works of Central Macedonia, a cross-reality mobile application is under development.

- This application consists of a cross-reality visit to the Industrial Museum and Cultural Center of Thessaloniki.

- This application is essentially a Virtual Museum.

- It is addressed to people that cannot travel to Thessaloniki or visit the museum but still want to explore the contents of the specific museum.

- The work that has been done until now is based on a 3D model of the institution that was provided by the museum officials.
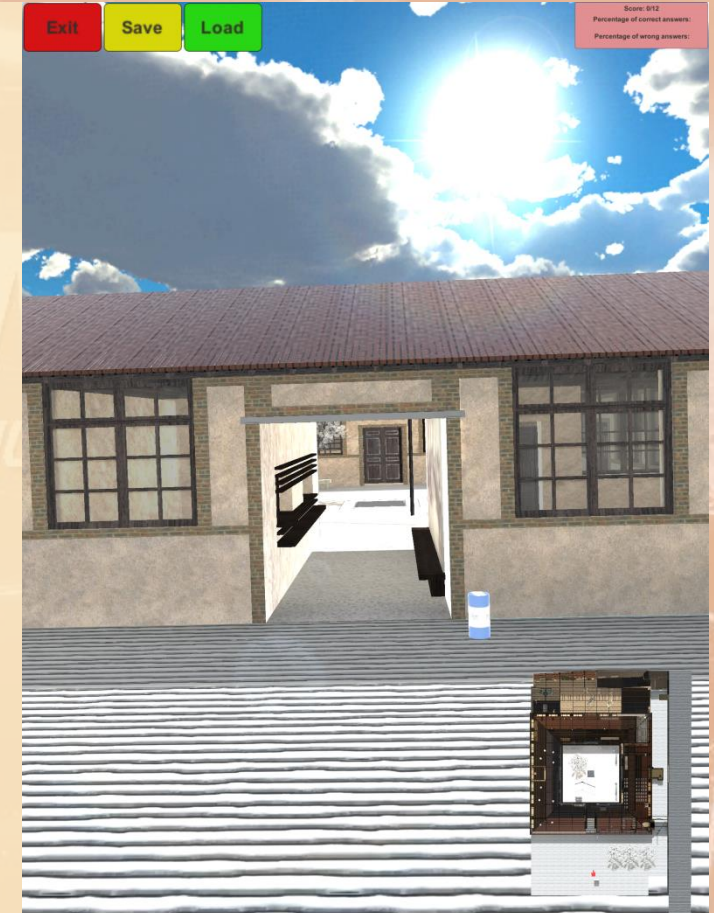
Cyprus in the Map of Digital Cultural Heritage

Due to the financial crises on the island in 2013 a higher priority was given to HR and the recovery of the economy in the general services

In 2017 the Council of Ministers of the Republic of Cyprus appointed a national committee to set up a national strategic plan for 2018-2023 and 2024- 2030 (2nd phase) including: a sustainable solid financial plan and a 1st proposal for a massive digitalization in cooperation with Europeana.

The national committee consists of all the main stakeholder actors in the area of Cultural Heritage

CY National Committee

- Department of Antiquities (responsible for all the antiquities and public Museums on the island)
- Ministry of Education and Culture
- National Library
- National Archive
- The Church of Cyprus
- The state University libraries
- The Press and Information Office of the CY Government (The press agency of the government since the English colonial time)

Micro cases: Assinou Church - Cyprus
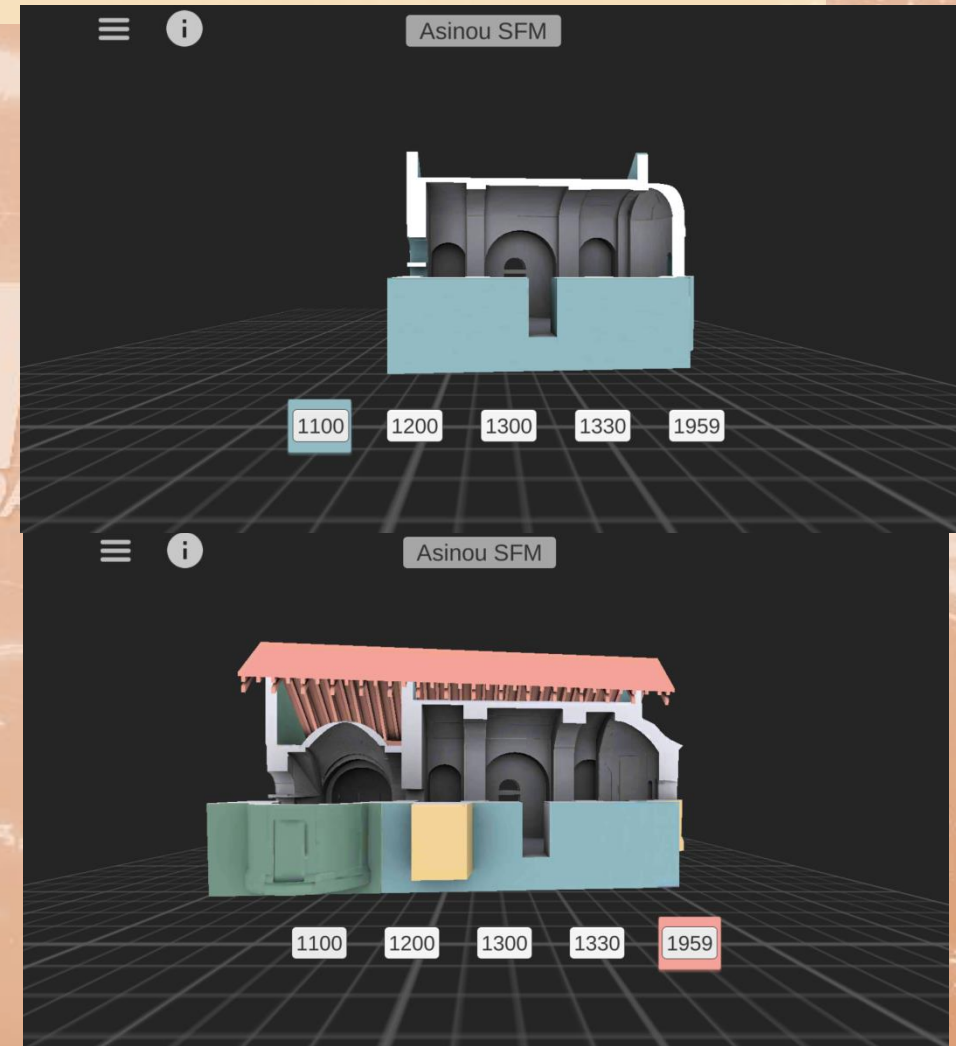
Cy-Obstacles

- Financial recovery period → no budget available for new invstments
- Education: No ICT courses in syllabi and curricula in the social sciences courses and in general humanities in any of the 8 Universities on the island
- No national policy on vocational training for Museologists, Archeologists, conservators, etc on new high techs in ICT
- Lack of **Policy makers awareness**
- **Lack of National strategy**

UNESCO Chair and EU ERA Chair on DCH

The Cyprus University of Technology received this special Year for the EU the two most prestigious Awards:

1) UNESCO Chair on Digital Cultural Heritage
2) EU ERA Chair on Digital Cultural Heritage with 2,5 Meuro and a duration of 5 Years.

UNESCO Chair Objectives

- 1) Massive digitisation and crowdsourcing

- 2) New curricula and syllabi for the Education in DCH for UNESCO and UniTwin Network of Universities

- 3) Awareness campaigns like the International conference EuroMed2018 in Cyprus (www.euromed2018.eu): Regionally and Internationally

- 4) Acting as a knowledge Hub for UNESCO in all issues related to DCH

EU ERA Chair on DCH objectives

- To develop a 5 years strategic plan for an outstanding research agenda in the area of DCH

- Invest in the AI and Big complex Multimodal Data and structures in DCH

- Create a hub of novel research kernel on DCH regionaly and in Europe in general

Overall conclusions and recommendation of priorities for future policies of Europe included in the Road map elaborated by ViMM

- Standardization of the 4 stages decision making process: "concept generation - design – implementation – operation" for digital applications in the museums and cultural heritage (wil be presented in the session of EAA tommorrow 11.15 room UB2202 Heritage management in the 1st century)

- Intensification of multidisciplinary training Training policies for museum professional, in order to promote a common understanding of integration of digital apps in their institutions

Overall conclusions and recommendation of priorities for future policies of Europe included in the Road map elaborated by ViMM

- Inclusion of resources for middle and long term socioeconomic impact studies and evaluation processes in the development of DA, in order to document their influence in the society and the valorization and preservation of cultural heritage itself

- Standardization of various technologies and enhancement of regional and European networks of users (museums and curators) of similar technological applications

- Interconnect the resources, know how, experts and projects in digital heritage all over Europe and make them available to the professionals of the field.

Overall conclusions and recommendation of priorities for future policies of Europe included in the Road map elaborated by ViMM

- Integration of digital culture in the curricula of the humanity studies.
- Enhancement of common activities (training, congresses, structured processes of regular collaboration and meetings) , at the local and regional level among professionals of cultural heritage management (researchers, curators, managers) and the professional of interconnected sectors : tourism, education of all levels, technological institutions, commercial and productive representative of the local society, in order to develop a common understanding of mutual viws, priorities and even language.

Overall conclusions and recommendation of priorities for future policies of Europe included in the Road map elaborated by ViMM

- Boost European excellence in the field of Digital Cultural heritage and integrate massive and standardized digitization including 3D models, and accurate metadata, of the tangible and intangible assets , for ultimate preservation line in case of disasters and losses of any type, for improving accessibility, and for research purposes.

- Development and integration of technologies supporting the structured public participation along with experts in the cultural heritage assets modern significance and narrative. In order to keep the Cultural assets scientifically accurate and at the same time alive, as talking items to the interests and understanding of our present.

- Please do not forget to catch the opportunity to register in the digital cultural heritage community platform of ViMM.

[vi-mm.eu](vi-mm.eu)

- Post and promote your views, news, work, publications, congresses, projects and find those of all members of the community, comment and discuss them on line
- Find, interconnect and talk with with experts in the field of digital cultural heritage
- Present your self and your expertise, and promote your work and organizations

Thank you for being here

- You can find us and other ViMM experts in the booth of 7th reasons
- Or on-line in the ViMM platform