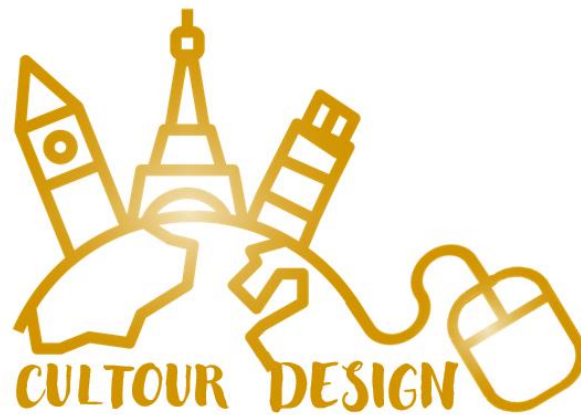


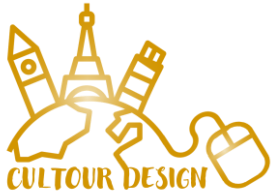
Handbook - Cultural Tourism among Europe: The post-COVID situation and trends



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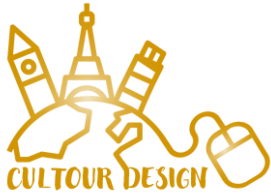
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1	R1/T1.1	White Paper on Digital Cultural Tourism & Competence Framework
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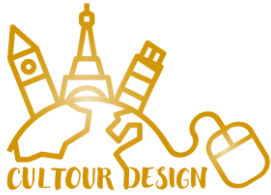


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1. Introduction

When the world becomes the size of our apartments and being is an unstable concept, constantly updated according to new directives and procedures restricting our freedoms, leisure can still find its way through the circumstances, in old and new forms.

It was in such context, requiring unprecedented creative solutions, that we looked around us, asking in general (1) what we could observe in cultural leisure in times of COVID-19, and, more specifically, (2) how cultural leisure practices have changed among students, being a population prone to depression and mental issues (Hunt & Eisenberg, 2010), in particular, during times of pandemic.

This situation was proper to find and invent creative solutions. Using the advanced technologies contributed to the creation of a new condition for the promotion of cultural heritage and facilitate the management and interaction of the user/visitor with them, and the overall user experience.

Digital technology has served as an important tool to innovate in all areas of cultural heritage, repositioning firms within the heritage tourism market, leading to emerging forms of consumption.

1.1 Learning Outcomes

After completing this module, you will be able to:

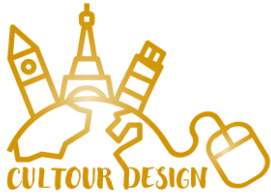
- Have a deep understanding of the implications and consequences of COVID-19 in the cultural tourism industry
- Gain a wider knowledge of existing practices and trends related to the digital transformation of the sector
- Being in position to analyze the importance of new initiatives in the field
- Analyze potential gaps and recommend improvements to establish the sustainability of Cultural Tourism
- Have a wider view about the advantages of using digitalization technologies

1.2 Key words

Digitization of culture, Digital skills, Digital implementation, Digital transformation, Post-Covid economic recovery

1.3 Estimated seat time

- 2 hours to read the main content
- 2 hours to read the additional sources
- 1 hour to complete the assessment



1.4 Glossary of terms

- **Cultural tourism:** implies “A type of tourism activity in which the visitor’s essential motivation is to learn, discover, experience and consume the tangible and intangible cultural attractions/products in a tourism destination. These attractions/products relate to a set of distinctive material, intellectual, spiritual and emotional features of a society that encompasses arts and architecture, historical and cultural heritage, culinary heritage, literature, music, creative industries and the living cultures with their lifestyles, value systems, beliefs and traditions”. (the UNWTO General Assembly, at its 22nd session, 2017)
- **Digitization:** encompasses the integration of digital data and information technologies by making them meaningful. (Yunus Topsakal, Onur Icoz and Orhan Icoz, 2022; <https://www.igi-global.com>)
- **Digitalization:** is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business. (Yunus Topsakal, Onur Icoz and Orhan Icoz, 2022; <https://www.igi-global.com>)
- **Digital culture:** is defined as a new form of culture in which the culture of humanity will digitalize and turn into a new form. Digital culture is the whole of the lifestyle and habits created by the innovations brought by the age in which human beings live, technology taking more place in daily life. (Nihan Senbursa, 2021; <https://www.igi-global.com>)
- **Digital skills:** are defined as a range of abilities to use digital devices, communication applications, and networks to access and manage information. They enable people to create and share digital content, communicate and collaborate, and solve problems for effective and creative self-fulfillment in life, learning, work, and social activities at large. (<https://www.unesco.org/en/articles/digital-skills-critical-jobs-and-social-inclusion>)
- **Digital technology:** refers to digital devices, systems, and resources that help create, store, and manage data. An important aspect of digital technology is information technology (IT) which refers to the use of computers to process data and information. Most businesses use digital technology nowadays to manage operations and processes and to enhance the customer journey. (<https://www.studysmarter.co.uk/explanations/business-studies/business-development/digital-technology/>)
- **Digital transformation:** is all about becoming a digital enterprise—an organization that uses technology to continuously evolve all aspects of its business models (what it offers, how it interacts with customers and how it operates). (<https://www2.deloitte.com/content/dam/Deloitte/za/Documents/digital/za-Deloitte-Digital-Digital-Transformation-v3.pdf>)
- **The COVID-19 pandemic:** The COVID-19 pandemic is a global outbreak of coronavirus, an infectious disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) virus. (<https://www.who.int/europe/emergencies/situations/covid-19>)



2. CULTURAL TOURISM AMONG EUROPE: THE POST-COVID SITUATION AND TRENDS

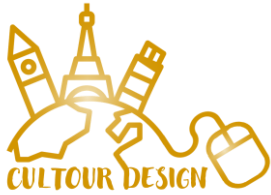
2.1. Main content

The COVID-19 pandemic was one of the most substantial challenges facing business and governments this century. It has generated health concerns as well as an unprecedented social and economic crisis which has particularly hit service industries hard and induced an acceleration of digitalization practices. The COVID-19 pandemic is very different from other forms of crisis (e.g., financial, political) because it has had a significant overall impact on all business models, organizations, creative workers and users. It is a health crisis which specifically impacts both the outdoor and indoor leisure industry. This pandemic is characterized by some specific aspects: first, its non-linear character contra the one assumed by traditional crisis lifecycle models, as it may flare up again in intensity following a first wave and ebb as has been predicted by medical experts. Second, far from being an imminent or emerging crisis, it is a sustained crisis as it can last for months or years, over a very long crisis existence phase and also being cyclical crisis as well because of the different contagious waves.

2.1.1. Pre-pandemic trends in the tourism sector

Tourism has long been an important driving force for socio-economic development in many countries and regions, with the potential to stimulate enterprise and job creation, including for local, coastal, rural and remote communities, and to facilitate the development of infrastructure and public services. Prior to 2020, the global tourism sector had experienced six decades of almost constant growth and diversification. In 2019, the tourism sector was one of the world's fastest-growing and largest economic sectors, with travel and tourism contributing US\$8 trillion to the global economy, representing 10.4 per cent of global gross domestic product (GDP). Growth in travel and tourism continued to outpace most other economic sectors, with GDP growth of 3.5 per cent in 2019, behind only information and communication and financial services. Activity in the sector accounted for 8 per cent of total exports and 27.4 per cent of global services exports.¹

¹ WTTC, Global Economic Impact & Trends 2020 and Travel & Tourism: Economic Impact 2021 – Global Economic Impact & Trends 2021, 2021.



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International tourism continued to expand beyond long-term growth forecasts prior to the COVID-19 pandemic, with 1.5 billion international tourist arrivals in 2019.² Nevertheless, domestic tourism remained the key driver of the tourism sector globally, accounting for 71.7 per cent of travel and tourism spending, with international tourism accounting for the remaining 28.3 per cent.³

Before the pandemic, the sector directly contributed 4.4% of GDP, 6.9% of employment, and 20.5% of service exports in OECD countries, on average. The unprecedented shock from COVID-19 saw the average direct contribution of tourism to GDP fall by 1.9 percentage points in 2020 compared to pre-COVID-19 for countries with available data, while tourism's share of total employment was 0.8 percentage points lower. International tourism was devastated by the crisis. The closure of international borders and introduction of travel restrictions saw total international tourist arrivals to OECD countries fall by 68% in 2020 to 262 million (down 72% globally). Tourism's share of services exports fell to 9.9% in 2020 on average across OECD countries, with tourism accounting for 77c of every USD 1 of lost revenue from service exports. The small improvement recorded in OECD countries in 2021 (up 16% to 303 million) outpaced the global average (up 9%), and available evidence shows this continued into 2022. Domestic tourism was also hard hit by the pandemic but has been much more resilient. The easing of localised and domestic restrictions in the middle of 2020 saw domestic tourism activities resume earlier than international tourism in many countries. This provided a lifeline to many jobs and businesses, but was not able to compensate for the loss of international markets. Indeed, in 2021, domestic overnight trips were still 19.1% below pre-COVID-19 levels among reporting OECD countries.⁴

Many countries are also now developing measures to build a more resilient tourism economy post COVID-19. These include preparing plans to support the sustainable recovery of tourism, promoting the digital transition and move to a greener tourism system, and rethinking tourism for the future.

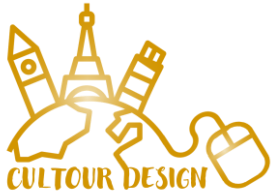
Domestic tourism has restarted and is helping to mitigate the impact on jobs and businesses in some destinations. However, real recovery will only be possible when international tourism returns. This requires global co-operation and evidence-based solutions so travel restrictions can be safely lifted.

The survival of businesses throughout the tourism ecosystem is at risk without continued government support and although governments have taken impressive action to cushion the blow to tourism, to minimise job losses and to build recovery in 2021 and beyond, more needs to be done, and in a more co-ordinated way. Key policy priorities include:

² OECD, OECD Tourism Trends and Policies 2020, 2020,

³ WTTC, Global Economic Impact & Trends 2020 and Global Economic Impact & Trends 2021

⁴ https://www.oecd.org/cfe/tourism/TTP2022_Policy_Highlights_FINAL.pdf



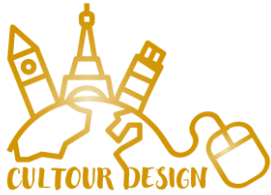
- Restoring traveller confidence
- Supporting tourism businesses to adapt and survive
- Promoting domestic tourism and supporting safe return of international tourism
- Providing clear information to travellers and businesses, and limiting uncertainty (to the extent possible)
- Evolving response measures to maintain capacity in the sector and address gaps in supports
- Strengthening co-operation within and between countries
- Building more resilient, sustainable tourism

While flexible policy solutions are needed to enable the tourism economy to live alongside the virus in the short to medium term, it is important to look beyond this and take steps to learn from the crisis, which has revealed gaps in government and industry preparedness and response capacity. Co-ordinated action across governments at all levels and the private sector is essential.

The crisis was an opportunity to rethink tourism for the future. Tourism is at a crossroads and the measures put in place today will shape the tourism of tomorrow. Governments need to consider the longer-term implications of the crisis, while capitalising on digitalisation, supporting the low carbon transition, and promoting the structural transformation needed to build a stronger, more sustainable and resilient tourism economy.

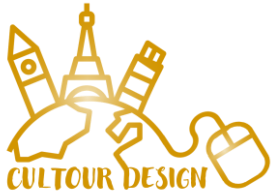
The COVID-19 crisis has been a huge shock to the tourism economy, severely impacting people's livelihoods, neighbourhoods and businesses. As the pandemic continues to evolve, the full consequences are not yet clear. However, a return to 'business as usual' is unlikely. Policy makers will need to learn from the crisis to build a stronger, more resilient tourism economy for the future. While it is still too early to say with any certainty what these will be, a number of **initial lessons** are outlined:

- **Crisis has been a call to action to governments, at all levels, to respond in a co-ordinated way, and has highlighted the importance of integrated tourism policy approaches to support recovery.** Delivering well-targeted and accessible supports as quickly and efficiently as possible to vulnerable tourism businesses, workers and tourists has and continues to be crucial. Government at all levels, and the private sector, need to be better prepared and have the capacity to react and adapt quickly. This requires more robust risk assessment and crisis response mechanisms, and closer co-ordination – at local, national and international level.
- **Strengthened multi-lateral co-operation and robust support is essential to reactivate tourism.** Countries need to work together, as the actions taken by one government have implications for travellers and businesses in other countries, and for the global tourism system. Countries need to develop collaborative systems across borders to safely resume travel, restore traveller and business confidence, stimulate demand and accelerate tourism recovery. More efficient international co-ordination systems are also needed to respond to future shocks
- **Sector-specific supports are needed to address the particular needs of tourism workers, businesses and destinations, and support wider economic recovery.** Tourism has



benefited significantly from general economic stimulus measures. However, it is one of the most heavily impacted sectors, and will have an impact on wider macroeconomic recovery in many countries. Those parts of the tourism ecosystem that are not yet open for business and where demand is likely to be depressed or constrained for some time will require particular attention, as will destinations and small businesses that have been most severely hit and are most vulnerable.

- **Continued government support should already start to build toward more sustainable and resilient tourism economy.** Destinations and tourism businesses need help to be ready to provide tourism services to meet demand when the recovery comes. It will be important to work with tourism businesses so they are sustainable beyond the end of the supports, and already starting to address the long term implications of the crisis. Measures should be increasingly conditioned on broader environmental, economic and social objectives
- **Providing policy clarity and taking steps to limit uncertainty (to the extent possible) will be crucial to support tourism recovery.** The outlook for the tourism economy remains extraordinarily uncertain, and business and travel confidence has taken a big hit. Clear communication, well-designed information policy and clarity on the epidemiological criteria will be particularly important where there is a need to change travel restrictions and containment measures in response to virus outbreaks and the shifting sanitary situation.
- **Improving the evidence base to inform policy and business decisions will be key, through information gathering, research and data analysis.** The crisis has highlighted shortcomings in the availability of timely, comparable, granular data in quickly evolving situations. Reliable and consistent indicators are needed to evaluate the effectiveness of programmes and initiatives, and monitor progress on tourism recovery and resilience. Risk-based solutions to safely lift travel restrictions and get the international tourism ecosystem back up and running must be based on sound scientific evidence. These solutions also need to be feasible to implement, with sufficient capacity available to ensure these systems are can function reliably.
- **Crisis is a once in a lifetime opportunity to move toward fairer, more sustainable and resilient models of tourism development.** The pandemic has once again exposed structural shortcomings in the tourism system and the vulnerability to external shocks. There is an urgent need to diversify and strengthen the resilience of the tourism economy, to better prepare for future shocks, to address long standing structural weaknesses, and encourage the digital, low carbon transformations that will be essential to shift to stronger, fairer and more sustainable models of tourism development.



2.1.2. Cultural Tourism & COVID-19

With COVID-19 bringing global tourism to a standstill, millions of people in quarantine have been seeking out cultural and travel experiences from their homes. Culture has proven indispensable during this period, and the demand for virtual access to museums, heritage sites, theatres and performances has reached unprecedented levels.

With more than 80% of UNESCO World Heritage properties having closed down, the livelihoods of millions of cultural professionals have been seriously jeopardized. If tourism is set to contribute to the survival of the culture sector, i.e. cinemas, arts and many other segments, it should strengthen the cultural identity and branding of tourism destinations.

Despite all the challenges, the tourism and culture sectors are facing an opportunity to create new partnerships and collaboration. They are bound to jointly reinvent and diversify the offer, attract new audiences, develop new skills and support the world's transition to the new conditions.

The recommendations outlined below have been prepared by the UNWTO Ethics, Culture and Social Responsibility Department in collaboration with its international partners with competence in culture and tourism.

IMMEDIATE RESPONSE⁵

1. Improve information and data exchange between sectors

The information flow between sectors is key to understanding the pandemic's impacts and devising effective responses. Specific data on the socio-economic impacts of COVID-19 on culture and tourism, as well as on the solutions being put in place for cultural tourism survival, will allow for more focused mitigation plans to respond to different needs and replicate good practices.

2. Launch innovative alliances

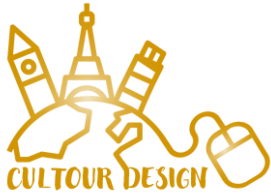
The confinement has proven the importance of new technology and media in our daily lives. With millions of people confined to their homes, this is an opportune moment to develop and promote cultural experiences to a captive audience.

The challenge is providing these experiences in a way that supports direct benefits to the involved organisations and practitioners. During this digital transition, tourism and culture can forge alliances with tech companies and the private sector to improve access to capacity building programs on culture and sustainable tourism, available online.

3. Inspire a more sustainable future for cultural tourism

The tourism and culture sectors must continue to work together to inspire a more sustainable future for cultural tourism. Marketing strategies in tourism are highlighting local cultural expressions not only to address new audiences, but also to inspire responsible travel.

⁵ <https://www.unwto.org/cultural-tourism-covid-19>



Destinations and cultural sites are grappling with how to survive this period of hibernation, while planning for reopening of tourism.

4. Form a more resilient tourism and culture workforce

The professional profiles of culture and tourism workers will require new skills for immediate actions and to take part in the recovery. Both sectors need to develop creative and inventive employment solutions to provide resilience to the workforce after decades of precarity. The existing jobs in cultural tourism should be kept and upskilled as human talent and knowledge are already there.

5. Strengthen governance structures for better coordination and information sharing

This crisis is an outstanding opportunity to build cross-sectoral governance models between tourism and culture key players. These models should involve tech partners to build platforms and exchange forums to coordinate actions and share information. The platforms should imply an effective communication, decision-making and agreements on setting the limits of tourism development involving cultural assets.

6. Attract new audiences

The culture sector is shaping up committed global citizens and the tourists of the future, by reaching out to children & youth. The emotional bonds emerging now between citizens and cultural creators will make a difference in the years to come. The confinement can also make repeat visitors and “senior” cultural tourists support culture with patronage and solidarity actions.

RECOVERY⁶

1. Shift from quantity towards quality

Tourism success was traditionally measured by statistics highlighting visitors' numbers, while qualitative indicators and visitors' profile had less importance. The joint recovery of tourism and culture should align resilience policies, new priorities with the new measurement values, as well as tailor-made marketing strategies.

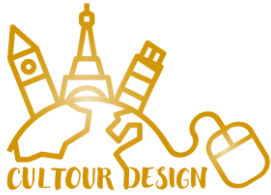
2. Diversify cultural tourism products

Destinations should address new and traditional markets & specific profiles of cultural visitors, whose interests and priorities may reshape after COVID-19 crisis. Culture will require support to survive and flourish, as it enriches the destinations' identity and inspires tourism revival. Some cultural gatherings may be temporarily replaced by alternative products, as new scenarios unfold.

3. Boost community's participation & domestic tourism

Engaging citizens' platforms in recreating the local cultural offer will have a strategic social and economic importance. Local communities' role will be essential in embracing first visitor flows,

⁶ <https://www.unwto.org/cultural-tourism-covid-19>



with precautions. Regaining domestic customers' confidence will accelerate the 1st phase of the cultural tourism recovery.

4. Customize cultural offer for international visitors

Bringing back inbound cultural tourism will be more challenging before consumers decide to travel abroad. By customizing their cultural offer, governments, destinations and cultural industries can have a more international outreach. International and cross-sectoral alliances will have a key role.

5. Enable cultural tourism entrepreneurship and innovation

Innovation in SMEs, cooperatives and creative economy will be needed for the recovery, especially for the empowerment of women, youth & indigenous peoples. COVID-19 will heavily affect these groups as their economy is often informal, notably in emerging destinations. Their livelihoods will improve by consolidating their market access and inclusion into the cultural tourism supply chain. The shift from informal towards formal economy will benefit many communities and destinations.

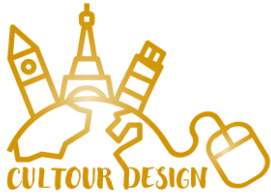
6. Make cultural tourism accessible to all

The accessibility of cultural facilities, products and services should be advanced to cater better to the needs of persons with disabilities, seniors and families with small children, locals & visitors alike. Scaling up accessibility in culture benefits everyone.

2.1.3. Advanced Digitisation Technologies

In recent years, numerous initiatives have been launched, involving the modelling and rendering of digital cultural heritage in 3D for research and preservation and/or communication purposes. Advanced digitisation technologies have been instrumental in transforming conservation and scientific research methods in cultural heritage, as well as people's experience of cultural heritage relics, monuments and events.

Digitisation technologies are already in use in the field of heritage (e.g. in museums or monuments). Limited research and solutions can be found regarding the interaction between cultural heritage, scan/photo and immersive technologies, potential customers and visitors' experiences in the cultural tourism locations, events and attractions. The use of advanced 2D/3D digital scanning of small and large-scale objects and surroundings and the valorisation of the digital spatial models produced has the potential to create unique, immersive cultural experiences, using affordable consumer electronics.



Box 1: The advantages of using Advanced Digitisation Technologies

- *to highlight the work of artists and people in the field of culture, and to promote culture to the public through tools that are in order to create innovative and engaging experiential experiences using cutting-edge technologies;*
- *to offer visualization of an exhibition through personalized interactive narrative experiences of virtual and augmented reality (VR/AR) and the georeferencing of its individual exhibits in places of cultural interest (art exhibitions, museums), allowing the creation of educational and educational experiences, the mobilization of tourism and social interest, and the preservation, promotion, and curation of its exhibits;*
- *to increase the possibility to visit the museum from anywhere, at any time. Museums have been important leisure destinations and touristic attractions, largely because of their authentic holdings representing the past;*
- *to develop new products and services such as online exhibitions, new processes to research, display and manage collections, new organizational structures to accommodate an increasingly digital environment, reaching new markets, and tapping into existing resources to generate new capital.*

Source: “Novel Ways of Discovering, Capturing and Experiencing Cultural Heritage: A Review of Current State-of-the-Art, Challenges and Future Directions”, Dimitra Pappa and Constantin Makropoulos

Advanced digitalisation and digital preservation and accessibility have been instrumental in transforming conservation and scientific research methods in the field of cultural heritage, as well as people’s experience of cultural heritage assets, relics, and monuments.

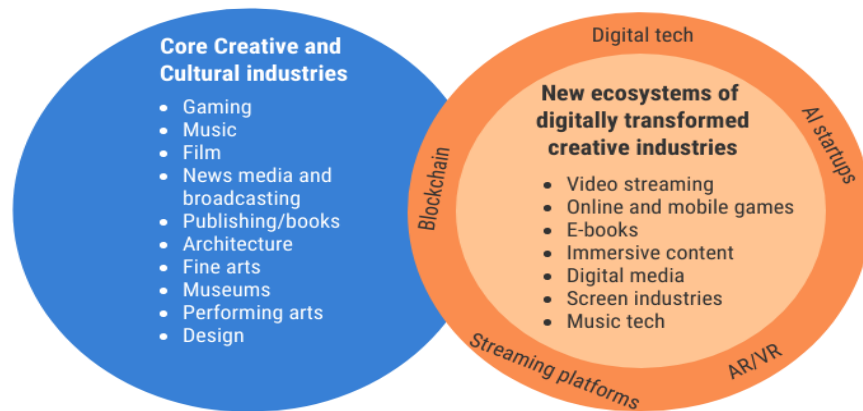
2.1.4. Trends in digitalizations

The digitalisation of culture and the creative industries has transformed the processes of creation, production, distribution and consumption of culture. However, it has also dramatically affected the profitability of traditional creative practices and businesses. The crisis has illuminated several trends ongoing in the creative industries already before the pandemic:

- to develop new distribution channels, business models and payment schemes in order to adapt;
- to access content immediately which could be easily satisfied by digital media;
- enabled the birth of entire new creative ecosystems for instance around video streaming, online and mobile games, e-books and immersive content;
- highlights the dominant position of big non-EU players against the smaller EU creative industry organisations;
- some sectors will be impacted more than others, and some actors will significantly gain while others are likely to see their business models and income disappear.

The lock-down reinforced the digital transformation of cultural and creative industries and shifted the attention to online cultural activities. Certain online platforms have even profited from the increased demand for cultural content streaming. Lock-downs and the shift to internet-based communications proved also that digital platforms can become a lifebelt for communities to stay in contact and to collectively pursue and share in cultural and creative activities at distance. The emergence of advanced technologies will further drive the digitisation of the creative industries.

Figure 1: Overview of cultural and creative industries and their transformation

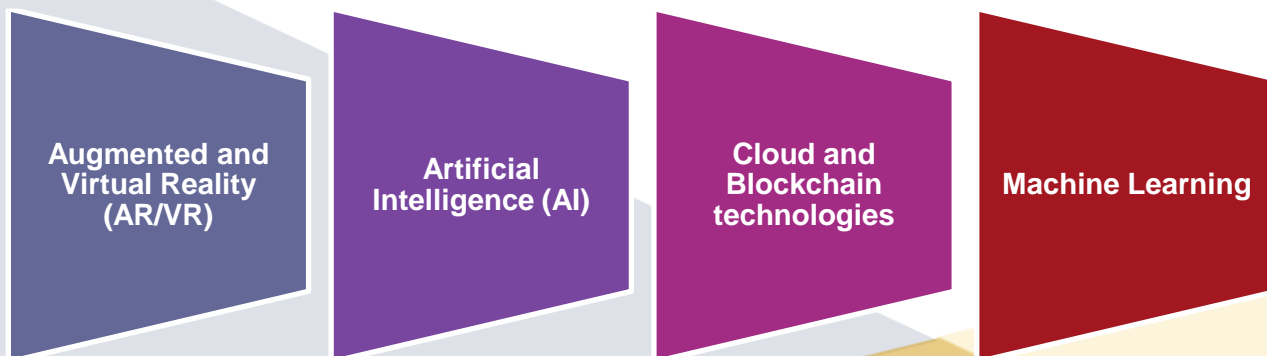


Source: Technopolis Group, 2021

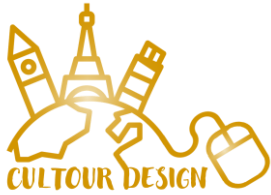
2.1.5. Technological trends

The cultural and creative industries have been mostly influenced by the emergence of the following advanced technologies:

Figure 2: Some of the advanced technologies used in the cultural and creative industries



Source: Advanced Technologies for Industry – Sectoral Watch Technological trends in the creative industries EC, 2021



Besides digital transformation, technological progress in other areas have also influenced the creative industries even if their impact is less visible. For example, Advanced Materials and Nanotechnology have been made use of in the visual arts, design, architecture and the film sectors. Micro- and nanoelectronics also contributes to the development of AR/VR headsets.

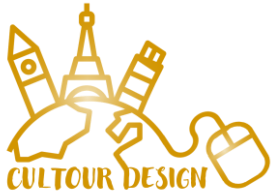
Box 2: The use of the advanced technologies

- The use of **AR/VR** in museums and galleries has been increasing for a while as many created AR/VR apps to attract more visitors. In the times of Covid-19 virtual reality enhanced tours can enable users **to visit a museum virtually** from any location. AR/VR opens up new avenues for architects to communicate about their plans to build a new building or change a city landscape, as they can digitally overlay data on a construction site. With AR/VR architects can also transfer model data to the construction site for verification and better monitor progress with construction.
- **AI techniques** have become popular tools applied to the creation and production of cultural works. **AI provides opportunities to harness the existing art collections of museums** to draw out new interpretations and connections between collections and objects, to accelerate and scale the digitisation process of preserving and digitising culture and heritage, and to create new dynamic and personalised user experiences.
- Most use cases of **Blockchain** used in the creative industries are related to intellectual property management, platform management, fundraising and micropayments. **Blockchain technology can be instrumental in fighting piracy of creative content.** One of the applications of Blockchain in the creative industries lies in the tracking of copyright. By allowing the registration of a creation into the Blockchain, this technology can offer a means of evidencing ownership at a reduced cost while enabling new business models for creative works. It is also possible to use this technology across all stages of the creative process and claim (international) protection.
- **Micro-payment systems** enabled by Blockchain technology enable pay-per-view payments instead of the higher cost subscription model. Blockchain can help the implementation of smart contracts and remuneration modalities for various creative industries.

Source: *Advanced Technologies for Industry – Sectoral Watch Technological trends in the creative industries EC, 2021*

2.1.6. Good practices identified at EU level with digital content

Good digital practices hold the key to many great things for cultural heritage institutions. Digital transformation isn't just about how cultural heritage institutions operate. It's about how they think. It isn't just about technology and assets. It's about people and skills. **(Harry Verwayen, Europeana Foundation Executive Director)**



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A. DIVE INTO INTANGIBLE CULTURAL HERITAGE! Project (UNESCO)

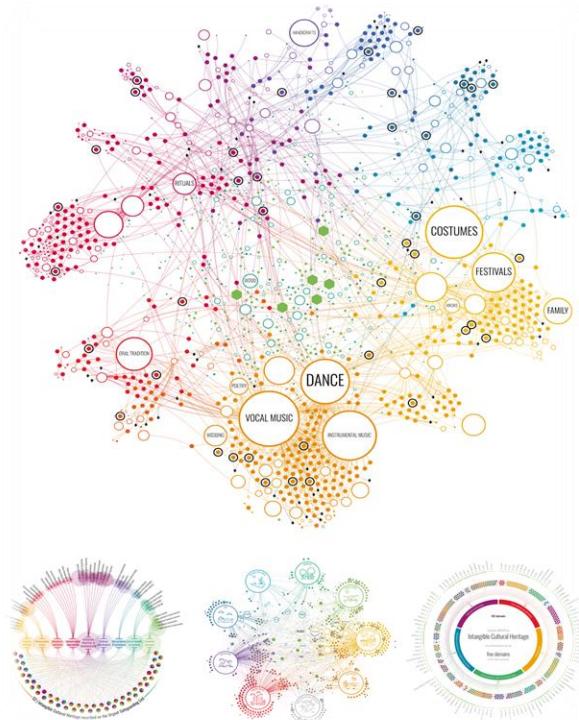
Discover multiple ways to navigate through a dynamic and interactive space of vibrant intangible cultural heritage practices and expressions. See how together they represent a rich cultural diversity.

Using web-semantics and graphic visualization, 'Dive into Intangible Cultural Heritage' proposes a broader conceptual and visual navigation through close to 500 **unique intangible cultural heritage** elements inscribed on UNESCO's Lists of the 2003 Convention.

It explores the various elements across domains, themes, geography and ecosystems and makes it possible to visualize deep inter-connections among them.

Four interactive and unique visuals help people understand and discover their cultural heritage, and how this is connected to other cultures through connections such as regions, countries, World Heritage Sites and concepts such as *Family*, *Trees*, *Dance*, and more.

The visualisations are constantly evolving as new elements get inscribed and the indexing is refined. Through this project, developed under the European Year of Cultural Heritage, the users learned to recognise the richness of culture and to take responsibility for the protection, maintenance and transfer of heritage to future generations. The European Union funded this project under the Erasmus+ programme.



B. CASA BATLLÓ'S NEW '10D EXPERIENCE (winner of the Best Achievement Award - Heritage in Motion Contest in 2021)

Casa Batlló's new '10D Experience' presents the most fascinating immersive experience ever imagined. Artificial Intelligence, Augmented Reality or Machine Learning are some of the features of this creative cultural proposal. Impossible volumetric projections, binaural sound, motion sensors, immersive spaces, unique in the world, and delicate proposals that appeal to senses such as taste and smell, offering the visitor sensations never experienced before.

New features offered:

- 2 new immersive spaces: *Gaudí Dôme*, with a dome of more than a thousand screens, 21 audio channels that recreate the sounds of nature and 38 projectors; *Gaudí Cube*, the first six-sided LED cube in the world;

- A new script available in 15 languages;
- The new headphones have been designed to empower the visitor and make the contents adapt to the rhythm of their visit;
- A new Tablet with Virtual Reality content allows visitors to travel back 100 years;
- Magical pictures on the walls, static in appearance, come to life as visitors' approach;
- Ecological and invisible technologies give life to different ephemeral installations that the visitor will discover in Casa Batlló.



Different architectural interventions stand out such as the new vertical communication nucleus designed by the Japanese architect Kengo Kuma and illuminated by Italian Mario Nanni.

C. DIVE IN THE PAST: a Serious Game for promoting the Underwater Cultural Heritage

Dive in the Past is a serious game for mobile devices, developed by *3D Research* as an entertainment product for tourism, as part of the *MEDRYDIVE* project, co-financed by the COSME Programme of the European Union.

The main goal of the project is *to create interest in the Underwater Cultural Heritage among the general public, raising awareness about the importance of its enhancement and encouraging a revival of game tourism related to Cultural Underwater Sites.*

Dive in the Past mixes the virtual exploration of four real Underwater Archaeological Sites represented by digital replicas, with illustrated digital storytelling and several of challenges and quests to be solved in 2D mini-games that allow for discovering detailed information about the locations and their stories.

To add more excitement and fun, the narrative structure of the game paves the way for a real adventure: it all begins with the discovery of an old diary with a mysterious symbol on its cover. The exploration of the four underwater sites and the discovery of hidden treasures begins from that point, through a map.

MeDryDive project aims to create personalized dry dive experiences for the promotion of Mediterranean Underwater Cultural Heritage sites using Virtual (VR) and Augmented Reality (AR) technology.

The pilot sites included in the transnational thematic tourism product “Dive in the Past”, are of high archaeological value and historical interest and they cover a broad time range, from ancient classical and roman era to historic and more recent time periods.

The four selected pilot sites are:



D. SCHEDAR Project - Safeguarding the Cultural Heritage of Dance Through Augmented Reality

Dance is an integral part of any culture. Through its choreography and costumes, dance imparts richness and uniqueness to that culture.

Recent computing advances have enabled the accurate 3D digitization of human motion. Such systems provide a new means for capturing, preserving and subsequently re-creating intangible cultural heritage which goes far beyond traditional written or imaging approach. However, 3D motion data is expensive to create and maintain, encompassed semantic information is difficult to extract and formulate, and current software tools to search and visualize this data are too complex for most end-users.

SCHEDAR has provided novel solutions to the three key challenges of archiving, re-using and re-purposing, and ultimately disseminating intangible cultural heritage motion data. In addition, it has devised a comprehensive set of new guidelines, a framework and software tools for leveraging existing intangible cultural heritage motion databases. Data acquisition



has been undertaken holistically, encompassing data related to the performance, the performer, the kind of dance, the hidden/untold story, etc.

Innovative use of state-of-the-art multisensory Augmented Reality technology will enable direct interaction with the dance, providing new experiences and training in traditional dance which is key to ensure this rich culture asset is preserved for future generations.

E. Digital play at the Dutch New Library

The Dutch New Library in Almere wished for a modernisation of the children's space to make it more lively and interactive.

The Youth Department has been redesigned and interactive technology has been added, like:

- a **Magical Book**. For the youngest visitors, a 'magic book' was developed, in which they can play with letters and words. This life size magic book shows bespoke illustrations and takes children on an interactive treasure hunt through fairy tales and adventures. By means of a motion-tracking camera, the movements of the children in front of the book can be traced and turned into the movements of virtual hands.



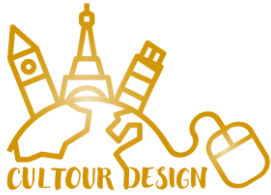
- a **stop-motion photo studio**. Visitors of the studio can create their own stop-motion (frame by frame) animation.

- a **green-screen decor**, which consists of a number of 'houses' in which visitors can work on real productions. This 'house' consists of a green area that extends on a sidewall and the floor.

- **post-visit digital souvenirs**. The contact with the visitors is extended after their

visit. Visitors create one or more digital souvenirs (stop-motion animations or green screen videos) and leave behind an email address where they receive a personal link.

The library helps kids, of all ages, to develop not only through books but also by bringing them in contact with culture, new media, and technology.



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F. Archistoire Saint-Tropez

Archistoire Saint-Tropez is an augmented visit application. The application geolocates you and offers nearby visit routes, called "Stories". Lift your Smartphone and explore the place 360 °.



Borrowing both the codes of augmented reality and those of virtual reality, Archistoire Saint-Tropez works on a principle of interactive photospherical panoramas.

Touch the interactive areas on the screen and access exclusive content related to the elements perceived: architectural details, historical anecdotes, landscape reading, sounds, videos, etc. Thanks to virtual reality, you also enter places inaccessible to the public.

Archive photographs, old postcards, paintings or engravings are superimposed on the real image, creating a "time window" effect that immerses you in ancient or recent history. Illustrations make it possible to reconstruct in context elements that have disappeared today.

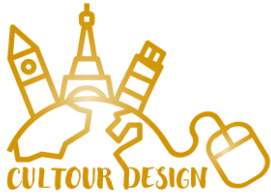


G. EMOTIVE. Storytelling for cultural heritage

EMOTIVE is a EU-funded research project that works from the premise that cultural sites are highly emotional places. From 2016-2019, the EMOTIVE consortium has researched, designed, developed and evaluated methods and tools that can support the cultural and creative industries in creating narratives and experiences which draw on the power of "emotive storytelling". The output of this process is a number of prototype tools and applications for heritage professionals and visitors that produce interactive, personalized, emotionally resonant digital experiences for museums and cultural sites.



❖ **TOOLS.** EMOTIVE offers a wide set of tools that support the creation and publication of a variety of experiences for on-site and remote visitors:



- ✓ **Create interactive storytelling experiences for mobile devices.** With the **EMOTIVE Authoring Tools**, creators and cultural heritage experts are empowered to collaborate and create interactive storytelling experiences for museums or cultural sites.
- ✓ **Bring your experiences online.** EMOTIVE experiences made for mobile devices can be easily converted for online use, transported to an easy-to-build 360° virtual space.
- ✓ **Create immersive virtual experiences.** Off-site experiences can be brought to the next level with our **Mixed Reality Plugin for Unity**. Utilising advanced Image-Based Rendering (IBR) techniques, developers are able to use typical 2D photography to turn a real space into a fully immersive virtual environment.
- ✓ **Bring objects to life.** EMOTIVE provides tools that enable cultural heritage creators and visitors to **cast their own replicas of historical artefacts**. Also, with the help of the EMOTIVE's **Object Tracking Plugin for Unity**, these objects can be brought back to their original state through a Virtual Reality headset, enabling the visitor to interact, and even playfully engage with the replica, using a responsive tangible user-interface.

❖ **EXPERIENCES.** The EMOTIVE experiences explore digital storytelling, tangible objects, social interaction between visitors and more experiential approaches, all combined to foster the emotional connection between the visitors with the sites:

- ✓ **EMOTIVE mixed reality digital storytelling: Onsite experience.** 'Ebutius's Dilemma' is an interactive character-driven exploration of "The Antonine Wall: Rome's Final Frontier" display.
- ✓ **EMOTIVE mixed reality digital storytelling: Onsite facilitator-led experience.** 'Views on Verecunda's Life: A Digital Window to the Scottish Roman Past' is a multi-part experience which combines immersive VR and AR features to contextualise the objects on display.
- ✓ **EMOTIVE mixed reality digital storytelling: Online Virtual experience.** A virtual version of 'Ebutius's Dilemma' was also designed for remote online visitors, recreating the museum space with a 360° panorama using the Floor Plan Editor and the Web Experiencing System.
- ✓ **EMOTIVE VR Experience.** Through a multi-user virtual reality experience, participants are taken on a collaborative adventure through the UNESCO Neolithic site of Çatalhöyük.
- ✓ **EMOTIVE Digital Education Kit.** Through the use of 3D-printed replicas of real artefacts, a virtual tour of reconstructed houses, a ChatBot, and an interactive activity, students experience what egalitarianism is, how it is reflected in the archaeology, and what it might have meant to live in an egalitarian community.
- ✓ **EMOTIVE Bots of Conviction.** EMOTIVE's 'bots of conviction', ChatÇat and Bo (which are accompanied by our 'How-to Guide' for building chatbots), are designed as provocative bots for use by both single individuals and groups.
- ✓ **EMOTIVE Family and Group Dialogues with 3D moulds.** These short sessions for families and groups focus on making replicas of ancient material objects. The sessions start with the creation of objects using novel 3D moulding tools ('MetaMoulds').



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- ✓ **EMOTIVE's Visitor-led Tours.** EMOTIVE's visitor-led tours aim to challenge the traditional guided tour's model of one-way, guide-visitor communication. Instead, they use the guided tour as a platform for meaningful democratic dialogue between people of different backgrounds and beliefs.

H. DIGITAL TRAIL TOOLKIT

Digital Trail Toolkit was developed as a method of interpreting and enhancing the visitor experience.

The toolkit is a free to use resource designed to fill the existing knowledge gap on creating digital trails providing the tourism industry with a step-by-step guide on how to create them.

This toolkit aims to strengthen best practice in the digital trail creation and help the tourism sector digitalise their services.

The Digital Trail Toolkit uses various technologies including bespoke app development, platform based development and immersive technology.

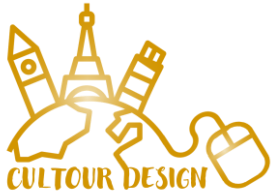
These technologies offer the prospect of providing tourists with a digital layer of information to curate and add value to their experience. A digital trail has the potential to offer tourists a more personalised experience and shape the trip according to their interests.

The toolkit was developed as part of the Smart Tourism programme for Dublin in collaboration with Fáilte Ireland. A tutorial video was also created to go hand in hand with the toolkit.



2.2. Additional resources

No.	Title of resource	Type of resource	Link
1	Advanced Technologies for Industry – Sectoral Watch <i>Technological trends in the creative industries, EC, 2021</i>	European Commission report	https://ati.ec.europa.eu/reports/Sectoral-Watch
2	Shaping Europe's digital future	EU report	https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/shaping-europes-digital-future_en
3	The future of work in the tourism sector: Sustainable and safe recovery and decent work in the context of the COVID-19 pandemic, 2022	International Labour Organization report	https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/meetingdocument/wcms_840403.pdf
4		website	https://ich.unesco.org/en/dive
5		website	https://www.casabatllo.es/en/experience/
6		website	https://medrydive.eu/dive-in-the-past/
7		online article	https://www.heritageresearch-hub.eu/project/schedar/
8		website	https://www.schedar.eu/
9		website	https://europeanmuseumacademy.eu/digital-play-at-the-dutch-new-library/
10		website	https://www.archistoire.com/
11		website	https://emotiveproject.eu/
12		website	https://smartdublin.ie/smart-tourism-digital-trails-toolkit-and-tutorial-video/



3. Assessment

3.1 Knowledge Assessment

Question 1 (true/false): According to Deloitte, Digital transformation is all about becoming a digital enterprise - an organization that uses technology to continuously evolve all aspects of its business models (what it offers, how it interacts with customers and how it operates).

[TRUE] [FALSE]

Question 2 (multiple choice): Key policy priorities include:

[Restoring traveller coordination, Supporting travel businesses to adapt and survive, Provide invitation to travellers and businesses] **[Restoring traveller confidence, Supporting tourism businesses to adapt and survive, Providing clear information to travellers and businesses]** [Restoring traveller confidence, Supporting tourism businesses to adapt and survive, Preparation domestic tourism and supporting safe return of international events]

Question 3 (multiple answers correct): The advantages of using advanced digitisation technologies include also:

[to involve the probability to explore the museum] **[to highlight the work of artists and people in the field of culture, and to promote culture to the public through tools that are in order to create innovative and engaging experiential experiences using cutting-edge technologies]** [to propose new participatory process to research and manage cooperation] **[to increase the possibility to visit the museum from anywhere, at any time]**

Question 4 (multiple answers correct): The crisis has illuminated several trends ongoing in the cultural and creative industries already before the pandemic:

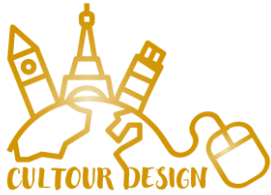
[to develop new distribution channels, business models and payment schemes in order to adapt] **[enabled the birth of entire new creative ecosystems for instance around video streaming, online and mobile games, e-books and immersive content]** [decline in the dominance of large non-EU players over smaller EU creative industry organisations]

Question 5 (multiple answers correct): What are the technological trends?

[Augmented and Virtual Reality] **[Artificial Intelligence]** [Cloud telecommunications] [Mechanism Learning]

Question 6 (multiple answers correct): New features offered within the Casa Batlló's new '10D Experience' project are:

[2 new immersive spaces] [Bots of Conviction] [Visitor-led Tours] **[Magical pictures on the walls, static in appearance, come to life as visitors' approach]**



Question 7 (multiple answers correct): Name at least 2 tools that could be considered part of a wide set of tools that support the creation and publication of a variety of experiences for on-site and remote visitors (within EMOTIVE project):

[Digital access at museum] [**Create interactive storytelling experiences for mobile devices**] [Digital skills of the public authorities] [**Bring objects to life**]

Question 8 (matching): Match the terms with their definitions.

Term 1: **Blockchain technology**: can be instrumental in fighting piracy of creative content.

Term 2: **Digitization**: encompasses the integration of digital data and information technologies by making them meaningful.

Term 3 **Digitalization**: is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities; it is the process of moving to a digital business.

Term 4 **Digital culture**: is defined as a new form of culture in which the culture of humanity will digitalize and turn into a new form.

Term 5 **Digital technology**: refers to digital devices, systems, and resources that help create, store, and manage data.

Question 9 (matching): Match the concepts with their explanations.

Concept 1 **Strengthened multi-lateral co-operation**: Countries need to work together, as the actions taken by one government have implications for travellers and businesses in other countries, and for the global tourism system.

Concept 2 **Continued government support**: Destinations and tourism businesses need help to be ready to provide tourism services to meet demand when the recovery comes.

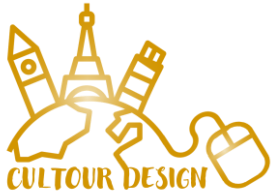
Concept 3 **Improving the evidence base**: The crisis has highlighted shortcomings in the availability of timely, comparable, granular data in quickly evolving situations. Reliable and consistent indicators are needed to evaluate the effectiveness of programmes and initiatives, and monitor progress on tourism recovery and resilience.

Concept 4 **Crisis is a once in a lifetime opportunity**: There is an urgent need to diversify and strengthen the resilience of the tourism economy, to better prepare for future shocks, to address long standing structural weaknesses, and encourage the digital, low carbon transformations that will be essential to shift to stronger, fairer and more sustainable models of tourism development.

Concept 5 **Providing policy clarity and taking steps to limit uncertainty**: Clear communication, well-designed information policy and clarity on the epidemiological criteria will be particularly important where there is a need to change travel restrictions and containment measures in response to virus outbreaks and the shifting sanitary situation.

Question 10 (matching): Match the problems with their solutions.

Problem 1 **Improve information and data exchange between sectors**: Specific data on the socio-economic impacts of COVID-19 on culture and tourism, as well as on the solutions being put in place



for cultural tourism survival, will allow for more focused mitigation plans to respond to different needs and replicate good practices.

Problem 2 Launch innovative alliances: The challenge is providing these experiences in a way that supports direct benefits to the involved organisations and practitioners.

Problem 3 Inspire a more sustainable future for cultural tourism: Marketing strategies in tourism are highlighting local cultural expressions not only to address new audiences, but also to inspire responsible travel.

Problem 4 Form a more resilient tourism and culture workforce: The professional profiles of culture and tourism workers will require new skills for immediate actions and to take part in the recovery.

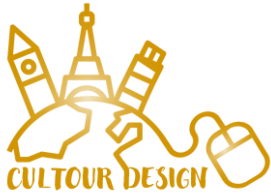
Problem 5 Attract new audiences: The culture sector is shaping up committed global citizens and the tourists of the future, by reaching out to children & youth.

3.2 Skills Assessment

You are managing a library and you want to modernise it and create an interactive, creative and inspiring space full of innovative, fun and educational activities for children. In this way, the library will help children, of all ages, to develop not only through books, but also by bringing them into contact with culture, new media and technology.

Solution: You could add some interactive technology, like:

- a **Magical Book**, in which the youngest visitors can play with letters and words. This life size magic book can present bespoke illustrations and can take children on an interactive treasure hunt through fairy tales and adventures.
- a **stop-motion photo studio**. Visitors of the studio can create their own stop-motion (frame by frame) animation.
- a **green-screen decor**, which consists of a number of 'houses' in which visitors can work on real productions. This 'house' consists of a green area that extends on a sidewall and the floor.
- **post-visit digital souvenirs**. The contact with the visitors is extended after their visit. Visitors create one or more digital souvenirs (stop-motion animations or green screen videos) and leave behind an email address where they receive a personal link.



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