

# Virtual Tourism/Virtual Reality and Technology Use: Applications and Implications for Religious and Pilgrimage Tourism. The Case of Greece



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**Abstract** The article aims to present the applications and the value of technologies (virtual reality, digital technologies, information technologies (IT), internet, etc...) in the development of cultural/religious tourism, especially in Greece, a country with a unique and rich religious heritage and a member of the European Union, which over the last few years has taken significant actions and initiatives in the area of digitisation and online accessibility of cultural material. Furthermore, it examines potential areas of impact for technology. ‘Cultural heritage’ includes monuments, architectural works, works of monumental sculpture and painting, inscriptions, cave dwellings, historic buildings, archaeological sites but also cultural aspects which have no tangible, material dimension (e.g. music, dance, knowledge and practices, etc.). Furthermore ‘Religious heritage’ includes sacred, religious sites, Holy Places, churches, monasteries, artefacts, as well as icons, wall paintings, manuscripts and works on paper, works of minor arts, ceramics, textiles, paintings, mosaics and copies. Cultural/religious heritage as a sector of tourism plays an important role in promoting sustainable and inclusive economic growth, fostering innovation and providing benefits for all. The use of technology can play an essential role in enabling cultural experiences, knowledge creation, accessibility of cultural/religious heritage and in offering additional opportunities for a better utilization, management and preservation of religious heritage. Making tourism and culture inclusive and virtually accessible for all is vital, especially in pandemic periods.

**Keywords** Virtual tourism · Religious tourism · Virtual reality · Technology use · Digital tour-guiding · Cultural tourism · Cultural religious heritage

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## 1 Introduction

Greece presents a rich religious cultural heritage, both tangible as well as intangible. There is not a single city or region, in mainland or on the islands, where you won't find traditions, festivals, religious celebrations and sites of orthodox religious devotion (pilgrimages, monasteries, churches, metochia), which coexist with religious sites related to various dogmas and religions, highlighting the unique history and religious heritage of Greece.

There is a strong interdependency between religious heritage and tourism. The number of tourists annually choosing their destination for its religious sites is increasing greatly. People visit religious heritage sites for religious purposes, for pleasure, or because they are interested in the cultural and historical aspects (Simone-Charteris & Boyd, 2010). Religious heritage tourism has a social and economic impact. Besides, it can be a powerful instrument for raising awareness regarding the importance of safeguarding and preserving religious cultural heritage for future generations.

However, initiatives to preserve this heritage and to develop pilgrimage tourism have been fragmented.

This article examines how the use of digital technologies, such as immersive, virtual and augmented reality and 3D digitisation can contribute to the protection, preservation, dissemination and promotion of tangible and intangible cultural assets and to the creation of a holistic tourist product for pilgrims and admirers of art.

## 2 Definition and Content of Cultural/Religious Heritage

### 2.1 *Tangible Cultural Heritage*

The 'Cultural heritage' includes monuments, architectural works, works of monumental sculpture and painting, inscriptions, cave dwellings, historic buildings and archaeological sites.

In particular, according to Article 1 of the Convention concerning the Protection of the World Cultural and Natural Heritage 1972, adopted by the General Conference of the United Nations Educational, Scientific and Cultural Organization on 16 November 1972, as 'cultural heritage' are considered the following.

'Monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science; groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science sites: works of man or the combined works of nature and of man, and areas including archaeological sites which are of

outstanding universal value from the historical, aesthetic, ethnological or anthropological points of view' ([http://portal.unesco.org/en/ev.php-URL\\_ID=13055&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=13055&URL_DO=DO_TOPIC&URL_SECTION=201.html)).

### **2.1.1 Tangible Heritage of Religious Interest**

A specific form of heritage is religious heritage, which consist of components of cultural and natural heritage, such as buildings, landscapes, historic cities, artefacts with religious and spiritual significance.

In particular the term 'Religious property', as used in the International Council on monuments and sites (ICOMOS) study 'Filling the Gaps - an Action Plan for the Future', defines 'any form of property with religious or spiritual associations: churches, monasteries, shrines, sanctuaries, mosques, synagogues, temples, sacred landscapes, sacred groves, and other landscape features, etc.'

Furthermore, the term 'Sacred site' refers to areas of special spiritual significance to peoples and communities, and the term 'Sacred natural site' corresponds to the areas of land or water having special spiritual significance to peoples and communities, as proposed by the UNESCO/IUCN Guidelines for the Conservation and Management of Sacred Natural Sites, 2008 (<https://whc.unesco.org/en/religious-sacred-heritage>).

Due to their vital importance for safeguarding cultural diversity for present and future generations, the religious and sacred properties are protected by the Word Heritage Convention of 1972.

The above-mentioned Convention establishes a Word Heritage List to which signatory States Parties can nominate cultural and natural heritage of outstanding universal value.

Approximately 20% of the properties inscribed on the World Heritage List have religious or spiritual connection to various ancient and indigenous beliefs systems (35 inscriptions of which most relate to antiquity and relatively few to living spiritual traditions), Hinduism (15 inscriptions), Buddhism (30 inscriptions), Confucianism and Shintoism (17 inscriptions), Zoroastrianism, Judaism (7 inscriptions), Islam (18 inscriptions) and Christianity (106 inscriptions, of which 13 relate to early Christian Church and Ethiopian Christianity, 21 to Orthodox Church, 67 to Catholic Church and 5 to Protestantism) (Jokiletho et al., 2005, p. 85).

## ***2.2 Intangible Cultural/Religious Heritage***

Cultural heritage also includes cultural aspects which have no tangible, material dimension, inherited from our ancestors and passed on to our descendants, such as oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe or the knowledge and skills to produce traditional crafts.

In particular according to Article 2 of the UNESCO's 2003 Convention for the Safeguarding of the Intangible Cultural Heritage.

'1. The intangible cultural heritage means the practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artefacts and cultural spaces associated therewith—that communities, groups and, in some cases, individuals recognize as part of their cultural heritage. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity' ([http://portal.unesco.org/en/ev.php-URL\\_ID=17716&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=17716&URL_DO=DO_TOPIC&URL_SECTION=201.html)).

A lot of intangible heritage has spiritual aspects. Intangible cultural heritage elements relating to religious traditions are for instance prayers and songs, clothing and sacred items as well as ritual and ceremonial practices.

On the Convention's for the Safeguarding of the Intangible Cultural Heritage Lists of UNESCO (List of Intangible Cultural Heritage in Need of Urgent Safeguarding/Representative List of the Intangible Cultural Heritage of Humanity/Register of Good Safeguarding Practices) are inscribed 132 religious practices and religious arts from all over the world [like Ethiopian epiphany (inscribed 2019) which is a festival celebrated all over Ethiopia to commemorate the baptism of Jesus Christ by John the Baptist in the River Jordan, Mongolian traditional practices of worshipping the sacred sites (inscribed 2017), the annual three-day pilgrimage to St. Thaddeus Apostle Monastery in northwestern Iran (inscribed 2020), the ritual journeys in La Paz during Alasitas, which begin on 24 January and last two or three weeks, dedicated to Ekeko, the city's beneficent god of fertility, the festival of the Santísima Trinidad del Señor Jesús del Gran Poder, which takes place on the Day of the Holy Trinity in the city of La Paz, involving 40,000 devotees, the Holy Week processions in Mendrisio (Switzerland), Kutiyattam, (Sanskrit theatre, originated more than 2,000 years ago, which is practiced in the province of Kerala, in theatres located in Hindu temples), the Regong arts (plastic arts of painting and sculpting, carry on by Buddhist monks and folk artists of the Tibetan and Tu ethnicity in monasteries and villages along the Longwu River basin in Qinghai Province in western China), etc..] (<https://ich.unesco.org/en/purpose-of-the-lists-00807>).

### 3 Religious Heritage as a Sector of Tourism

Religiously motivated travel is perhaps the oldest and most widespread type of travel in human history (Simone-Charteris & Boyd, 2010; Collins-Kreiner, 2010a, b). Religion and spirituality are still among the most common motivations for travel. According to United Nations World Tourism Organization (UNWTO) (2014), 300 to 330 million tourists visit the world's key religious sites and pilgrimage/religious tourism destinations every year (like Vatican City in Italy, Santiago de Compostela in Spain, Lourdes in France, Jerusalem in Israel and Mount Athos in Greece), with

approximately 600 million national and international religious voyages in the world, 40% of which take place in Europe. The number of tourists annually visiting the world's most prominent religious sites is increasing greatly (Eade & Sallnow, 1991; Rinschede, 1987).

People visit religious heritage sites for religious, educational and leisure purposes or because they are interested in the cultural and historical aspects (Liro, 2021; Shinde & Olsen, 2020; Nolan & Nolan, 1992).

The growing interest for religious tourism worldwide is not only beneficial for the tourism sector and the economic growth (Fanelli, 1993; Vijayanand, 2012; Vukonic, 1998) but can also be a powerful instrument for raising awareness regarding the importance of safeguarding religious tangible and intangible heritage and help preserve the integrity and authenticity of these heritage, for future generations.

Greece is a country which has a unique wealth in religious heritage assets (traditions, festivals religious celebrations, monasteries, churches or pilgrimages), like the Meteora monasteries, declared in 1988 as UNESCO World Heritage Sites, the monastic community of Mount Athos, the monasteries of Osios Loukas and Agia Lavra, the Holy Cave of the Apocalypse and Agios Ioannis Theologos Monastery located on Patmos Island, the church of Panagia Soumela, the Panagia Ekatontapiliani on Paros island, Symi's Panormiti Monastery, the Early Christian and Byzantine churches of Thessaloniki, that have been declared by UNESCO as World Heritage Sites, the church of Panagia Evangelistria of Tinos, which has been a pilgrimage destination and a center of religious tourism since the 19th century, due to the Holy Icon of Virgin Mary, attracting only in 1886 during the Feast of the Dormition (Assumption) of Megalohari (Virgin Mary) 8.000 pilgrims according to the local newspaper 'Icho tis Tinou', 17 august 1886, n. 173, p. 1 (Seraïdari, 2019).

Religious/Pilgrimage Tourism as a particular sector of special interest tourism is covered by Greek Law 4582/2018/Art. 15.

The significance of the promotion of the pilgrimage /religious tourism has been recognized also by the Greek Church.

In particular, on 23 November 2000, the Holy Synod of the Greek Church founded a Committee responsible for the religious tourism, whose aim is to promote and disseminate the unique historical, religious and cultural value of Greek monasteries and sacred places.

The Greek Church has entered into tourism collaboration agreements with the Church of Russia (October 2012), the Church of Cyprus (November 2014), while further agreements with the Churches of Bulgaria, Serbia, Poland and Georgia are planned (Seraïdari, 2019).

In January 2013, a pilgrimage tourism collaboration protocol has been agreed between the Greek Church and the Greek Ministry of Tourism, whose aim is the further development of pilgrimage tourism activities through the protection and promotion of religious monuments, sacred places, monasteries and pilgrimages [http://www.ecclesia.gr/greek/holysynod/committees/tourism/mni\\_monio\\_paideias.pdf](http://www.ecclesia.gr/greek/holysynod/committees/tourism/mni_monio_paideias.pdf)).

## **4 Promoting Religious/Pilgrimage Tourism Through the Digitisation and Online Accessibility of Cultural–Religious Resources**

As already mentioned above, religious/pilgrimage tourism is one of the most important sectors of tourism not only in Greece but also worldwide.

However, the further promotion of religious/pilgrimage tourism requires the protection of the religious heritage from numerous natural or human-derived threats (such as excess exploitation of religious heritage resources by the market, vandalism, improper maintenance and/or care, degradation and pollution of their environment), but also the promotion, protection, conservation, restoration, research, dissemination, proper utilization, management, sustainable use and accessibility of cultural assets.

In these areas, technology plays a very significant role.

In particular, digital technologies such as immersive, virtual and augmented reality and 3D digitisation are important for the dissemination and promotion of tangible and intangible cultural assets.

They can play a key role in attracting tourists to a destination and facilitating cultural experiences and creative or tourism-related reuses of cultural religion heritage without borders.

3D digitisation is a necessity for tangible, immovable, cultural heritage at risk, but also for preservation, conservation and restoration, education and research purposes (Alivizatou-Barakou et al., 2018).

Furthermore, the digitisation of cultural heritage can provide virtual access to cultural heritage that is difficult to access or inaccessible, like the monastic community of Mount Athos, which is completely closed to women, or the manuscripts of the Athonite State.

Technologies such as 3D modelling and augmented reality can increase accessibility and enjoyment of museums, broaden access to cultural heritage for persons with visual impairments, by contributing to the creation of accessible tactile experiences, enhance the experience in traditional cultural heritage venues, contributing to the conversion of a simple visit to a rich media experience and create new venues for experiencing cultural heritage (Arnold, 2005; Madirova & Absalyamovaa, 2015).

## **5 EU's Digital Cultural Heritage Policy**

The European Commission through extensive policy, coordination and funding supports Member States' cultural policy, with a special emphasis on digitisation and online access to cultural material and digital preservation and curation (<https://cordis.europa.eu/article/id/413473-how-digital-technologies-can-play-a-vital-role-for-the-preservation-of-cultural-heritage>).

Europeana, Europe's platform for digital cultural heritage, was launched by the European Commission on 20 November 2008. It currently provides access to over 58 million digitised cultural heritage records from over 3600 cultural heritage institutions and organizations (<https://digital-strategy.ec.europa.eu/en/policies/europeana>). Greece has submitted more than 700,000 digital objects to Europeana. In particular the National Documentation Centre (EKT), in its role as National Aggregator, submits cultural content to Europeana through the SearchCulture.gr infrastructure it develops. EKT also participates in the project 'Europeana Common Culture', through which it aims to increase the Greek content in Europeana (<https://www.ekt.gr/en/news/23330>).

The digital collections of Europeana include 120.000 images of digitised manuscripts and textual records from antiquity to the early print era many of them have a religious content, but also photographs, paintings and drawings of places of worship—across Europe, which illustrate the rich religious and architectural European heritage (Synagogues, many of which are sadly no longer present, churches and cathedrals, mosques).

Furthermore, the users of the platform have the opportunity to make a journey through Byzantine Ravenna, one of Europe's most important Byzantine cities, to have a glimpse of the impressive architecture and of the variety of structural and decorative baptisteries in the Byzantine period or to discover the symbols, the texts, the architecture and the traditions of Buddhism around the World.

Europeana promotes local, sustainable responsible and innovative tourism, as it offers the general public more opportunities to discover Europe's rich diversity of culture and nature in their own country or in another EU country.

Alongside these efforts, in 2019, 26 European countries, (among them Greece) signed a Declaration of cooperation on advancing digitization of cultural heritage. The Declaration invites the Member States to leverage synergies between digital technologies and Europe's cultural heritage in three pillars of action: (i) a pan-European initiative for 3D digitization of cultural heritage artefacts, monuments and sites; (ii) enhancing cross-sector, cross-border cooperation and capacity building in the sector of digitized cultural heritage; and (iii) fostering citizen engagement, innovative use and spillovers in other sectors (<https://cordis.europa.eu/article/id/413473-how-digital-technologies-can-play-a-vital-role-for-the-preservation-of-cultural-heritage>).

In 2020, with the help of experts the Commission also developed the 10 basic principles for 3D digitisation of tangible cultural heritage, an important guideline for heritage professionals, institutions and regional authorities in charge of Europe's cultural heritage, wanting to digitise their content (<https://digital-strategy.ec.europa.eu/en/library/basic-principles-and-tips-3d-digitisation-cultural-heritage>).

Furthermore, through the Horizon 2020 programme, the Commission offers support to research and innovation in the cultural heritage domain, with special emphasis on the use of cutting-edge technologies. From 2014 to 2020, funds through Horizon 2020 towards digital cultural heritage have been around EUR 70 million in total. In January 2021, the Commission launched a European competence center for digital preservation and conservation of European Cultural Heritage. The center, which has been granted up to €3 million from the Horizon 2020

programme, will set up a collaborative digital space for cultural heritage conservation and give access to repositories of data, metadata, standards and guidelines (<https://digital-strategy.ec.europa.eu/en/news/commission-sets-centre-digital-preservation-cultural-heritage-and-launches-projects-supporting>).

Furthermore, the European Commission is funding various projects, that are making important contributions to digital cultural heritage efforts, like DM2E, a project that aims to technically enable as many content providers as possible to integrate their content into Europeana, (<https://pro.europeana.eu/project/dm2e>), ARCHES, DigiArt, ViMM and EU-LAC-MUSEUMS projects, which have been using technologies such as 3D modelling and augmented reality, to increase the accessibility of museums, PLUGGY, which has developed the first-ever social network, in order to promote European cultural heritage, I-Media-Cities project, which has launched a platform that uses audiovisual material to allow anyone to discover the rich cultural heritage of nine European cities, Gravitare project, which has developed a 3D reconstruction of cultural heritage objects or Inception project, which has launched an innovation in 3D modelling of cultural heritage. (<https://cordis.europa.eu/article/id/413473-how-digital-technologies-can-play-a-vital-role-for-the-preservation-of-cultural-heritage>).

## 6 Greek Policy and Initiatives in the Area of Digitisation of Cultural–Religious Sector

### 6.1 *The Virtual Byzantine and Christian Museum of Athens*

The Byzantine and Christian Museum of Athens was founded in 1914 and is one of Greece's national museums. Its areas of competency are centred on—but not limited to—religious artefacts of the Early Christian, Byzantine, Medieval, post-Byzantine and later periods which it exhibits, but also acquires, receives, preserves, conserves, records, documents, researches, studies, publishes and raises awareness of. The museum houses more than 25,000 works of art such as icons, sculptures, ceramics, ecclesiastical textiles, paintings, jewelries and architectural elements, wall paintings and mosaics, date from between the third and twentieth century AD, from the entire Greek world, as well as regions in which Hellenism flourished. (<https://www.byzantinemuseum.gr/en/museum>).

The Byzantine and Christian Museum is implementing the project e-Byzantine and Christian Museum. The Museum is equipped with MuseumPlus, an internationally renowned software solution for the organization of museums and the web-based management of collections.

The above project allows the Museum to.

- Upgrade its archaeological collections management system by utilizing modern digital applications;



- Develop a new, accessible digital archive which can be further enriched and provides valid information on Byzantine and post-Byzantine civilization;
- Improve its communication and deepen its relations with many and diverse stakeholders, as well as with the world public;
- Offers to the website visitors a virtual tour of the Museum's permanent exhibition but also of the most important exhibitions held at the Museum over the past twenty years.
- Website visitors can evaluate their experience from their visit to the virtual museum by posting comments and observations in the Electronic Guest Book, while children, teenagers, families and school groups can participate in a series of interactive educational applications (memory and observation games, creative activities, like painting, role games) (<https://www.ebyzantinemuseum.gr/?i=bxm.en.virtual-museum>).

## 6.2 *The Foundation of the Hellenic World*

The Foundation of the Hellenic World is a privately funded non-profit cultural organization. Its mission is the preservation and dissemination of Hellenic history and tradition and the creation of an awareness of the universal dimension of Hellenism, through new technologies, like 3D representations, multimedia and virtual reality applications, which travel the visitors through time, to monuments and sites of Greek cultural heritage and offer them the experience of being immersed in the Virtual world. (<http://www.ime.gr/fhw/index.php?lg=2&state=pages&id=80#>,<http://www.ime.gr/fhw/index.php?lg=2&state=pages&id=94>).

### 6.2.1 **The Technological Cultural Venue 'Hellenic Cosmos'**

'Hellenic Cosmos', the Cultural Centre of the Foundation is an ultra-modern Cultural Centre and Museum, where visitors experience Hellenic history and culture through the use of state-of-the-art technology and audiovisual and interactive media.

The Centre offers a wide range of activities, such as interactive exhibitions, Virtual Reality Tours, educational programmes, conferences, theatrical performances, documentaries and art events. 2006 is inaugurated 'Tholos', a semi-spherical Virtual Reality theatre, with a capacity of 130 people, where digital productions are presented ([http://www.fhw.gr/cosmos/index.php?id=1&m=1&lg=\\_en](http://www.fhw.gr/cosmos/index.php?id=1&m=1&lg=_en), (<http://www.ime.gr/fhw/index.php?lg=2&state=pages&id=80#>).

One of the interactive Virtual Reality productions, specifically created for the 'Tholos' is 'Hagia Sophia: 1500 Years of History', a comprehensive digital representation of the church of Hagia Sopia in Constantinople.

The interactive show reconstructs in full detail the interior of the church, its architectural design, the sculptural and mosaic decoration, presenting at the same time the various phases of its construction along with important historical, social and

economic facts about life in Byzantium. The audience is given the opportunity to visit this iconic building, and to appreciate it as it was in its prime (<http://agiasophia.tholos254.gr/en/>, [http://www.fhw.gr/cosmos/index.php?id=1&m=1&lg=\\_en](http://www.fhw.gr/cosmos/index.php?id=1&m=1&lg=_en)).

### ***6.3 Religious Heritage in the Digital Public Space***

#### **6.3.1 The National Documentation Centre (EKT)**

The National Documentation Centre (EKT) is a public organization that promotes knowledge, research, innovation and digital transformation. It was established in 1980 with funding from the United Nations Development Programme. Since August 2019, it has been established as a discrete public-interest legal entity under private law, and is supervised by the Ministry of Digital Governance (Article 59/Law 4623/2019).

As a digital and natural infrastructure of national scope its institutional role is to collect, document, disseminate and provide long-term preservation of quality digital content and data produced by Greek scientific, research and cultural communities.

EKT has a state-of-the-art computer infrastructure and Data center, equipment for the digitisation of various types of archives, digital libraries, electronic reading room open to the public, register infrastructure for the Greek research and development activity (<https://www.ekt.gr/en/about>).

In the European Commission report on Cultural Heritage: Digitisation, Online Accessibility and Digital Preservation published 12 June 2019, which gives an overview of strategies, policies and best practices of member states for digitisation of cultural heritage, Greece received a particular mention as an example of best practices 2015–2017, with reference to the National Archive of PhD Theses, managed by the National Documentation Centre (EKT) along with EKT's ePublishing service for electronic open access publications.

Furthermore the National Documentation Centre (EKT), in its role as National Aggregator, submits cultural content to Europeana, the European digital cultural platform (<https://www.ekt.gr/en/news/23330>).

Apart from these the EKT has developed SearchCulture.gr, a cultural digital space, that aggregates Greek Digital Cultural Content, produced by 72 institutions through public funding, among them Research Centre for Byzantine and Post-Byzantine Art, Institute of Historical Research and Orthodox Cultural Heritage of Chania.

The collections of the cultural digital space of EKT consist of 717.875 items, which include 32.172 religious artefacts and monuments of the Early Christian, Byzantine and the Ottoman period.

Furthermore, the cultural digital space of EKT hosts virtual thematic exhibitions, e.g. 'Thessaloniki, a multicultural metropolis'.

The rich photographic and archival material of the virtual exhibition, which covers the period from the beginning of the nineteenth century until the interwar years, unveils, among others, the important religious monuments of the city, (byzantine

churches, orthodox monasteries, synagogues and mosques). (<https://www.searchculture.gr/aggregator/portal/thematicCollections/Thessaloniki>).

### **6.3.2 The Collection “Monastic Archives: Manuscripts from Mount Athos and Patmos”, in ‘Pandektis’ Digital Repository**

The project ‘PANDEKTIS—A Digital Thesaurus of Primary Sources for Greek History and Culture’ is developed by the National Hellenic Research Foundation under the framework ‘Digital Greece’ ([www.psifiakiellada.gr](http://www.psifiakiellada.gr)) and is co-financed at 75% by the European Union—European Regional Development Fund and at 25% by the Greek Public Domain (Operational Programme for IS—OPIS, 3rd CSF 2000–2006). The PANDEKTIS digitisation and online dissemination has been developed by the Greek National Documentation Centre (EKT).

The project contains major digital collections of Greek history and civilization, which have been produced by the three humanistic Institutes of the National Hellenic Foundation for Research—the Institute of Neohellenic Research, the Institute of Byzantine Research and the Institute of Greek and Roman Antiquity. <http://pandektis.ekt.gr/pandektis/history.jsp>.

The digital collection ‘Monastic Archives: Manuscripts from Mount Athos and Patmos’, hosted in ‘PANDEKTIS’, is part of an infrastructure programme which promotes systematic research of archival and manuscript collections. The collection includes more than 5.009 Byzantine and Post-Byzantine manuscripts and documents from Mount Athos and Patmos: 4902 manuscripts are kept in 10 monasteries of Mount Athos and the Church of the Protaton in Karyes (Haghiou Pavlou, Dionysiou, Docheiariou, Karakallou, Kastamonitou, Xeroptamou, Pantokratoros, Stavronikita, Hilandar and Panteleimonos). The remaining 107 are preserved in the monastery of Saint John the Theologian in Patmos (<http://pandektis.ekt.gr/pandektis/handle/10442/9045>).

## ***6.4 Programmes for the Digitisation of Religious Heritage and the Promotion of Religious/Pilgrimage Tourism***

### **6.4.1 The Re-Cult Project: Fellow Travellers in Religious Greece and Cyprus**

The Re-Cult project is being implemented under the INTERREG V-A Greece—Cyprus 2014–2020 Cooperation Programme.

The main objective of the Strategic Project is to promote the rich tangible and intangible religious cultural heritage of the cross-border region of Greece and Cyprus through the development of coordinated planning and the use of information technology in order to create a holistic tourist product for pilgrims and admirers of art.

The corporate structure of the Act is composed of the Deputy Ministry of Tourism of the Republic of Cyprus, who is the principal beneficiary, the Hellenic Ministry of Tourism, the Holy Archdiocese of Cyprus, the Church of Greece, the Association of Cyprus Tourist Enterprises, the University of the Aegean, the Cyprus University of Technology and the Center for Research and Development of the Holy Metropolis of Syros. The project is co-funded by the European Union and from National Resources of Greece and Cyprus.

Within the project the following activities will be implemented:

- Digital cataloging.
- Design and development of a digital museum, library and mobile app of virtual tour.
- Actions for updating, displaying and highlighting digital repositories.
- Marking of selected points in the intervention areas.
- Pilot development of Certified Routes.
- Training of stakeholders.
- Developing networking and cooperation between tourism operators and cultural and religious monument management bodies.
- Development of common tools to promote the religious heritage of the region (<http://www.recult-greece-cyprus.gr>).

#### **6.4.2 The Action ‘Digital Culture Projects’**

The project is co-financed by the European Union—European Regional Development Fund (Operational Programme ‘Competitiveness, entrepreneurship and innovation’, 2014–2020).

Principal beneficiaries of the project are the Hellenic Ministry of Culture, the Holy Archdiocese of Athens, the Israeli Community of Thessaloniki, such as legal entities under public and private law with responsibilities in the field of culture.

The main objective of the Project is to protect and disseminate the cultural heritage (movable and immovable monuments, collections, archives) and to promote scientific research, education and tourism, through the use of technology (digitisation and documentation of cultural material, creation of digital repositories and digital museums, use of digital technologies, such as immersive, virtual and augmented reality and 3D).

file:///F:/VIRTUAL%20TOURISM/Proskllhsh\_03\_%CE%95%CE%A0%CE%91%CE%BD%CE%95%CE%9A.pdf.

## **7 New Policies and Measures that Support Digital Transformation of Cultural/Religious Heritage Sector**

### ***7.1 European Union New Policy Instruments***

In 2020, the Commission launched an evaluation of the Recommendation on the digitisation and online accessibility of cultural material and digital preservation (2011/711/EU).

The evaluation highlights the success of the Recommendation in increasing the digitisation and online access to digital resources in the cultural heritage sector, across the EU during the past ten years. However, the COVID-19 crisis has underlined once more the importance of improving online access to digitised cultural material and improving its use/reuse. According to the evaluation, advanced technologies (e.g. 3D digitisation) or emerging technologies (e.g. virtual reality or augmented reality) can empower the potential of the cultural heritage sector and offer new opportunities to digitise cultural tangible and intangible heritage for preservation, conservation, restoration, research, as well as for broader online access and reuse by citizens and various sectors, such as tourism. Moreover making full use of cultural heritage data would be beneficial not only to the cultural sector, but also to other sectors (e.g. research, sustainable tourism, education), while increased collaboration with other Cultural Heritage Institutions at international level and further adoption of common standards for digitised content are important for the promotion of European culture (<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32011H0711>).

### ***7.2 The Digital Transformation ‘bible’ of Greece (2020–2025)***

In December 2020, the Greek Ministry of Digital Governance has launched a Digital Transformation ‘bible’ for the years 2020–2025 outlining a holistic digital strategy. Through collaborations with stakeholders from the public and private sector as well as with the research and academic community and the civil society, the ‘bible’ describes the objectives, the guiding principles, the strategic axes, the horizontal and vertical interventions and the implementation measures of the digital transformation of the Greek society and economy.

The Action Plan of the strategy provides the implementation of more than 400 projects in the following sectors: Economy, Development & Innovation, Foreign Policy, Education, Culture, Sports, Employment & Social Affairs, Health, Environment & Energy, Justice, Public Administration, Transformation of Cities and Communities, Transportation, Maritime Affairs & Insular Policy, Tourism, Migration & Asylum Policy. (<https://www.greeknewsagenda.gr/topics/business-r-d/7379-the-digital-transformation-%E2%80%9Cbible%E2%80%9D-of-greece-2020-2025>).

According to the ‘bible’ Greece has made during the last years significant progress in the area of digitisation of cultural material (archives, libraries, art and archaeological collections), while many museums have websites, which host digitised cultural material.

However, according to the ‘bible’ more activities have to be implemented like the adoption of national common standards for digitised content, the promotion of 3D digitisation of tangible cultural heritage, the digitisation and documentation of all cultural movable material, the use of digital technologies, such as immersive, virtual and augmented reality, the further contribution to Europeana with the submission of digitised cultural content like intangible cultural–religious assets (prayers, songs, ritual and ceremonial practices), the maintenance, upgrade and update of existing digital repositories and platforms (like ‘ODYSSEUS’ portal of Ministry of Culture and Sport) and the enrichment of their content, e.g. with thematic virtual tours.

Furthermore, the ‘bible’ provides the digitisation of the cultural heritage of the Greek Church but also of significant byzantine monuments of Mount Athos.

In my opinion alongside these actions, provided by the ‘bible’ further activities could contribute to the digital transformation of cultural / religious heritage sector, like the enrichment of the content of digital portal for museums, monuments and sites ‘ODYSSEUS’ with:

- a digitised pilgrimage map,
- portable virtual museums,
- virtual thematic religious tours and exhibitions (for instance, about the Palaiochristian and Byzantine Thessaloniki, the places where the Apostle Paul preached, etc.),
- time travelling and virtual visits of religious and other monuments with the use of digital tools, like HistoPad, (a digital mediation tool that allows the visitor to go back in time thanks to its augmented reality, 3D reconstructions and interactive functionalities),
- practical information about accommodation, food, distances, cultural events, etc.,
- web applications that offer a map-based interface and focus on specific cities and regions, giving information about their cultural life and offering virtual visits of their monuments, museums, etc.

## 8 Final Considerations

As already mentioned above, during the past ten years a significant progress has been made across the EU and in Greece in the area of digitisation, online accessibility and digital preservation of cultural material. However, the COVID19 pandemic and the fact that cultural material is vulnerable to various threats that are often difficult to predict or prevent (like the recent fire in Notre Dame) have underlined in EU but also in Greece the urgent need for wider use of digital technologies (such as immersive, virtual and augmented reality and 3D), for increased collaboration between all responsible stakeholders from the public and private sector as well as with the

research and academic community and the civil society and for further adoption of common standards for digitised content.

A holistic digital strategy in the cultural–religious sector would be beneficial not only for the sector itself, but also for the development of a sustainable and innovative tourism at religious heritage sites.

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