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**RESEARCH JOINT PROGRAMMING INITIATIVE ON CULTURAL HERITAGE:
RATIONALE AND STATE OF PLAY OF RESEARCH AT EUROPEAN LEVEL**

Accompanying document to the

**COMMISSION RECOMMENDATION ON THE RESEARCH JOINT
PROGRAMMING INITIATIVE 'CULTURAL HERITAGE AND GLOBAL
CHANGE: A NEW CHALLENGE FOR EUROPE'**

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EXECUTIVE SUMMARY

The Commission proposes more strategic cooperation between EU Member States on research and development to address major societal challenges. One way to do this is a new 'joint programming' approach. Joint programming (JP) involves Member States engaging on a variable-geometry basis in defining, developing and implementing strategic research agendas. "Cultural Heritage and Global Change: a new challenge for Europe"¹ has been proposed as one such joint programming initiative (JPI).

Europe's cultural heritage is the world's most diverse and rich patrimony that attracts millions of visitors every year to monuments, historical city centres, archaeological sites and museums. Moreover, this heritage is an important component of individual and collective identity. In both its tangible and intangible forms² it contributes to the cohesion of the European Union and plays a fundamental role in European integration by creating links between citizens.

European cultural heritage is of exceptional economic importance for the tourism industry, generating an estimated annual revenue of EUR 335 billion, and many of the 9 million jobs in the tourism sector are linked to it directly or indirectly. The market for conservation of this heritage is estimated at some EUR 5 billion per year³.

Apart from natural ageing, Europe's cultural heritage is exposed to many threats such as climate change and pollution, increasing urbanisation, mass tourism, human negligence, vandalism and even terrorism. It is a fragile and non-renewable resource, much of which has been irretrievably lost over the last century.

In December 2009, the Council advocated⁴ a common European initiative in this field and invited the Commission to contribute to preparation of the JPI, together with the state of play of research in this field, with a view to its being launched in 2010.

The Commission has therefore prepared this Staff Working Paper as a complement to the Commission Recommendation on the research joint programming initiative "Cultural Heritage and Global Change: a new challenge for Europe".

1. CULTURAL HERITAGE AND GLOBAL CHANGE: A NEW CHALLENGE FOR EUROPE

A major issue for public research targeting Cultural Heritage and Global Change

Cultural heritage is the patrimony of Europe. It has an essential and symbolic value, creates links between people and facilitates the study of the past. Most European citizens live in historic cities with which they identify closely because of the uniqueness and irreplaceable value of historic buildings, sites and collections. Over and above its intrinsic value, it is a

¹ The provisional title of this Joint Programming Initiative as presented to the Competitiveness Council of 3 December 2009 was 'Cultural Heritage, Climate Change and Security'. This title was later amended by the consortium of proposing countries.

² For the definition of "tangible and intangible cultural heritage", refer to: UNESCO, Convention concerning the Protection of the World Cultural and Natural Heritage, Paris, 16 November 1972; UNESCO, Convention for the Safeguarding of the Intangible Cultural Heritage, Paris, 17 October 2003.

³ The Economy of Culture in Europe, a study carried out by KEA European Affairs for the European Commission, 2006, pp. 147-155 and pp. 303-306.

⁴ Council conclusions 17226/09 <http://register.consilium.europa.eu/pdf/en/09/st17/st17226.en09.pdf>

major driver of the economy and job creation, attracting millions of tourists from all over the world who come to Europe to visit its historic centres, archaeological sites (including those underwater), monuments and museums, and to discover the multitude of cultures and traditions.

But this immense and invaluable patrimony is fragile, and it is estimated that in the 20th century Europe has lost a great part of it not only as a result of natural disasters, wars, negligence, vandalism and even terrorism, but also because of accelerating global change in its most general sense. Pollution, urbanisation, deforestation, over-exploitation of water resources and other environmental changes all affect the European patrimony. Coastal erosion and increasing human activity at sea threaten prehistoric and historic coastal sites submerged by a sea level that has been rising since the end of the last ice age. Mass tourism brings undoubted benefits but increases natural wear and the risk of malicious acts. In the more recent past, climate change is becoming a very important damage factor, adding to the other risk factors and contributing greatly to the deterioration of cultural assets.

Protection of cultural heritage in the face of global change is thus becoming a major concern for decision-makers, stakeholders and citizens in Europe. Research into strategies, methodologies and tools is needed to safeguard cultural heritage against continuous decay.

Before irreversible damage is done, concerted actions, based on sound science, are needed to protect, strengthen and adapt Europe's unique cultural patrimony.

A substantial research effort is needed

A substantial European research effort is needed to tackle all the risks that may endanger cultural heritage.

In order to develop sustainable management strategies, it is necessary to assess thoroughly the carrying capacity and resilience of cultural assets by means of observation, data gathering, synthesising and modelling and the development of indicators and standards for diagnosis, early warning, risk assessment and testing.

A new conservation science should emerge in response to climate change. Advanced technologies are then needed for non-destructive analysis, conservation treatments and monitoring, which will entail the deployment of state-of-the-art knowledge in fields like physics, chemistry, biology and material science, including nanotechnology and ICT.

Research should provide the necessary design inputs for the sustainable use of European cultural heritage for the benefit of European citizens, for tourism, for the improvement of cultural inclusivity with future generations in mind also.

Through the planned objectives and research areas of the JPI on 'Cultural Heritage and Global Change: a new challenge for Europe', a fully operational European Research Area (ERA) on cultural heritage preservation will be created and enlarged, based on a multidisciplinary scientific approach, merging experimental science with engineering, arts and humanities.

This JPI will allow Member States to maximise and exploit fully their combined critical mass through coordination of efforts, enabling common problems to be solved. It will strengthen Europe's position in the world as a leader in developing science-based conservation.

Actions at Member State level

As a result of the ERA-NET 'NET-HERITAGE'⁵ project an overview of existing research programmes relating to cultural heritage in the EU and associated countries⁶ is being obtained.

Some 41 funding mechanisms have been reported by "NET-HERITAGE", and 13 key research programmes in 10 countries (BG, DE, FR, IT, MT, PL, RO, SI, ES and UK) have been identified. Three of those focus mainly on cultural heritage (BG, FR, UK) and seven include the topic in wider research programmes (DE, IT, MT, PL, RO, SI and ES).

Among the dedicated programmes, the focus varies between analysis, testing, conservation and restoration to deal with the challenges of ageing, environmental conditions and global change.

There are more similarities than differences in the management of these programmes. Most of them organise open calls on a regular basis and six programmes do so annually. Evaluation procedures rely in almost all cases on independent peer review and steering committees having the final say.

Scientific excellence is always considered as the main evaluation criterion. Application procedures are standardised and formalised. It is worth noting that in most cases applications have to be made also in English for external evaluation purposes. Control procedures in respect of ongoing projects are also quite similar, involving periodic and final reports.

Some other countries not involved in the 'NET-HERITAGE' project also have programmes where cultural heritage research is mentioned or embedded in broader programmes (AT, CY, CZ, DK, EL, LT, NL)

Information on the state of research in Member States is, however, still fragmented and non-homogeneous. It can nevertheless be estimated that overall research funding for the conservation of tangible cultural heritage ranges between EUR 100 million and EUR 150 million per year, but it is not yet possible to estimate the funds dedicated to other aspects of research in this field.

A very short description of the main programmes and research actors in the Member States for which information is available is reported here below:

In **Austria** the research on the protection of cultural heritage is funded within the following programmes: "Förderung des Bundesministeriums für Unterricht, Kunst und Kultur (BMUKK) für Museen, "Österreichische Initiative für digitales Kulturerbe" und "Forschung an Museen". A network on cultural heritage, "NIKE", will start in 2010. In addition various regional funds, initiatives and activities are implemented, partially in conjunction with European funding like LEADER+.

⁵ ERA-NET project NET-HERITAGE 'European network on research programme applied to the protection of tangible Cultural Heritage' www.netheritage.eu

⁶ Countries participating in 'NET-HERITAGE': BE, BG, FR, DE, EL, IS, IT, LT, MT, PL, RO, SI, ES, UK.

In **Belgium**, the Belgian Federal Science Policy (BFSP) is responsible for the preparation and implementation of research programmes in several fields (sustainable development, information society, , fundamental research etc.): it supports a large plan to digitalise the collections of the national museums and research centres. Some federal research programmes also contain funding of projects in the field of cultural heritage – namely the so-called "Interuniversity Attraction Poles". However, research and cultural heritage policies are mainly within the remit of the Flemish and French speaking Communities. On the Flemish side, cultural heritage is governed by the Flemish Decree on Cultural Heritage. In the French speaking Community, cultural heritage protection and preservation is embedded in the "Code d'aménagement du territoire et du patrimoine", which is implemented by the Ministry of Planning and Cultural heritage.

In **Bulgaria**, since 2006, the National Science Fund (NSF) managed by the Ministry of Education and Science supports cultural heritage research via a) targeted research programme for preservation, restoration and socialization of cultural sites of national significance, b) development of national infrastructures, c) thematic research programmes and d) co-funding of European research programmes (FP7 and COST). Cultural heritage is also supported under Structural Funds "protection of environment, nature and historical and cultural heritage" and "capacity building for sustainable use of natural resources, cultural and historical heritage".

In **Cyprus**, the main source of research funding is the Research Promotion Foundation, an independent organisation governed by a Board of Directors appointed by the Council of Ministers to promote research through competitive calls, with a yearly allocation of government funds.

In the **Czech Republic**, the Czech Grant Agency supports research in cultural heritage and the Ministry of Culture has been preparing a new programme specifically focused on the National and Cultural Identity Research (NAKI). This programme contains several thematic priorities on the impact of climate change (including natural disasters) and security on cultural heritage.

In **Denmark** the Research Committee of the Ministry of Culture manages a research fund for humanities and cultural heritage in general. The Ministry of Science, Technology and Innovation supports also projects in humanities and cultural heritage and conservation of cultural heritage.

In **France** all research programmes of the Ministry of Culture and Communication are coordinated by the Department for Development and International Affairs / Mission for Research and Technology (DDAI/MRT), with funding belonging to an inter-ministerial budget monitored by the Ministry of Research. In 2002, the Ministry of Culture implemented a national programme dedicated to research on heritage materials and their conservation (PNRC). The National Research Agency (ANR) plays a growing role in funding research projects, also in the field of cultural heritage research.

In **Germany** the responsibility for culture and cultural affairs lies within the realm of the *Bundesländer*. Germany has no national research programme for cultural heritage. The only programme still operational for this area of research is located since 1991 at the German Federal Environmental Foundation (DBU). In 2008, the

Fraunhofer-Gesellschaft, the *Leibniz Gemeinschaft* and the *Stiftung Preussischer Kulturbesitz* signed a Memorandum of Understanding to build up a Research Alliance for the Preservation of cultural heritage in Germany.

In **Greece** the Hellenic Ministry of Culture is the main governmental instrument for the protection of cultural heritage. It is in charge of the organization, supervision and funding of excavations, restorations, conservation, works of infrastructure, educative programs, publications and exhibitions. Its main research priorities are: a) development of non-destructive mobile diagnosis equipment, b) scientific documentation, c) active conservation, d) preventive conservation (natural hazard risk map), e) development of standards in procedures and materials, f) monitoring of the environment.

In **Italy**, the Ministry of Education, University and Research (MIUR) has various instruments for research projects funded through the Fund for Investments in Scientific and Technological Research (FIRST). In the National Research Programme (PNR) currently under preparation, MIUR includes, as one of its main axis, the research applied to cultural heritage, developed in cooperation with the Italian Ministry of Cultural Heritage and Activities (MIBAC). Cultural heritage research is also supported under EU Structural Funds and using benefits from the income of the National Lottery.

In **Latvia**, in 2000, the Ministry of Culture in cooperation with the State Inspection for Heritage Protection elaborated the sub-programme “Cultural Heritage” of the National programme “Culture”, stressing out the necessity to encourage cultural heritage research.

In **Lithuania** research policy is conducted by the Ministry of Education and Science (MES) which is the biggest government source of research funds. The Ministry of Culture also closely cooperates with the Ministry of Environment and the Ministry of Economics for the preservation of tangible and intangible cultural heritage and the development of sustainable tourism.

In **Malta**, research on tangible cultural heritage is embedded in the ‘National Strategy for Research & Innovation 2007 – 2010’ managed by the Malta Council for Science and Technology, which provides financial support for basic and applied scientific research to near-to-market innovation, without however specific programmes on cultural heritage. The “Heritage Malta Research Fund’ also encourages research and professional networking.

In **Poland** two governmental bodies are responsible for funding research supporting the preservation of cultural heritage: the Ministry of Culture and National Heritage and the Ministry of Science and Higher Education which is the major governmental source of research funds. Cultural heritage research is financed through core funding for statutory R&D activities of various research organisations and through individual research projects. In 2008, the government established the National Programme of Scientific Research and Development where cultural heritage is included in the priority areas "Society in conditions of a secure, accelerated and sustainable socio-economic development" and "Energy and infrastructure".

In **Portugal** there is no institution whose central core business is the scientific research on cultural heritage. The existing Foundation for Science and Technology⁷ sponsors projects in many areas of research, among which also cultural heritage, within programmes that are not specifically orientated on cultural heritage conservation. Research projects are occasionally funded by other Government bodies, like the Institute for the Management of Architectonic and Archaeological Heritage⁸ and the Institute of Museums and Conservation⁹.

In **Romania** the government approved in 2009 the second National Plan for Research, Development and Innovation where the theme of cultural heritage is included. The Ministry of Culture, Religious Affairs and National Heritage has also a specific annual programme to preserve national cultural heritage but is not specifically devoted to research.

In **Slovenia**, the National Research and Development Programme is implemented by the Slovenian Research Agency. In the field of tangible cultural heritage the Agency cooperates closely with the Ministry of Higher Education, Science and Technology (MHEST) and the Ministry of Culture. Current main topics are: digitalisation of cultural heritage, new law on protection of cultural heritage, establishment of a unified register of cultural heritage, new approaches in the field of written cultural heritage, volatile organics in cultural heritage collections, mobile archaeological heritage.

In **Spain**, the main National body responsible for scientific research funding is the Ministry of Science and Innovation (MICINN). Cultural heritage is spread over different programmes, including humanities. One of the ten key sectors of the National Plan of Research, Development and Innovation 2008-2011 is about "Construction, Planning and Cultural Heritage". In this context, research applied to the protection of tangible cultural heritage is mainly funded within the "Non-oriented Basic Research Programme". However, competences in R&D including cultural heritage are shared between the General Administration and Autonomous Regions. Most Regional Research Plans comprise research on cultural heritage.

In **Sweden** the main governmental institution in charge of cultural heritage including research is the Swedish National Heritage Board.

In **The Netherlands** the Cultural Heritage Agency (RCE) is the national knowledge institute for archaeology, monuments and cultural landscape aiming at the protection and development of the national heritage in these fields. The Netherlands Institute for Cultural Heritage (ICN) is the national knowledge institute for management and preservation of moveable cultural heritage. The Netherlands Institute for Heritage serves as an information centre for and about the heritage sector. At the Netherlands Organisation for Scientific Research (NWO) a multidisciplinary Science for Arts programme is currently in development, aiming at interdisciplinary research in conservation and restoration.

⁷ Fundação para a Ciência e Tecnologia

⁸ Instituto de Gestão do Património Arquitectónico e Arqueológico

⁹ Instituto dos Museus e da Conservação

In the **United Kingdom**, the Arts and Humanities Research Council (AHRC) has become recently the lead research Council for heritage science and has announced the launch of a Science and Heritage programme to fund research and other activities in this area. The AHRC supports also research training through postgraduate awards, but only a small portion of research funded is directly relevant to cultural heritage research. AHRC has developed a targeted support for "Landscape and Environment" looking at the relationship between culture and environment. Other funding directed to cultural heritage are provided by the Museums and Galleries Research Programme.

Synthetic information is also available for some of the countries associated with the 7th Framework Programme:

In **Croatia** the Ministry of Culture takes care of cultural heritage primarily through the protection and preservation of the national legacy of material and spiritual culture. Cultural heritage research is mainly funded within the Directorate for the Protection of Cultural Heritage of this Ministry.

In **Iceland** the Ministry of Education, Science and Culture administrates matters concerning the national cultural heritage. Support by the State is spread out to various institutions such as museums and agencies active in the field. There are three funds in the field of cultural heritage financed by the State: The Archaeological Fund, the Architectural Heritage Fund and the Museum Fund.

In **Norway**, the Ministry of the Environment finances most of the research in the field of cultural heritage. The funding is passed on to the Norwegian Research Council which distributes the funds to R&D institutions (universities and research institutes).

Actions at European level

Cultural heritage research has featured in all Framework Programmes since 1986, with the aim of reinforcing the scientific and technical basis for protecting and rehabilitating the European patrimony and setting up joint methodologies, technologies and tools¹⁰.

In FP5 (1998-2002), the Key Action "City of Tomorrow and Cultural Heritage" was especially designed to ensure rapid EU-wide take-up of practical new approaches to urban governance, planning and management. Regarding cultural heritage the research goals were related to improved damage assessment, development of innovative conservation strategies and integration of cultural heritage in the urban setting. Around 40 projects were funded to the tune of EUR 40 million. Other funds were provided through the 'Socio-economic research' Key Action and through the 'Fellowship' and 'Infrastructure' programmes.

In FP6 (2002-2006), "Cultural Heritage and Conservation Strategies" was funded through the "Scientific Support to Policies" (SSP) Programme, including for the first time the impact of climate change, as well as of tourism. It supported 23 projects with funding of EUR 18 million. The 'Citizens and Governance in a knowledge-based Society' Programme looked at

¹⁰ For all funded projects see the following website:
http://ec.europa.eu/research/environment/index_en.cfm?pg=cultural

cultural heritage in the context of perceptions of history and identity, while, as in FP5, other funding was provided by the Marie Curie and the Research Infrastructure programmes.

Within FP7 (2007-2013), cultural heritage is mainly funded within the sub-activity "Protection, conservation and enhancement of cultural heritage, including human habitat" of the "Environment (including climate change)" Theme. Research goals are focussed on models and tools for advanced and non-destructive techniques for damage diagnosis, new products and methodologies for conservation, mitigation and adaptation strategies for the sustainable management of both movable and immovable cultural assets.

In its first four years, FP7 has supported 16 projects with total funding of EUR 32.5 million, including the large-scale project "CLIMATE FOR CULTURE"¹¹ on the impact of climate change on cultural heritage conservation strategies, a subject first addressed by the FP6 "NOAH'S ARK"¹² project, which was awarded the Europa Nostra Prize in 2009. "CLIMATE FOR CULTURE" aims to identify the risks for cultural heritage associated to climate change in specific regions. Appropriate sustainable mitigation/adaptation strategies will be developed and applied. The results will be incorporated into an assessment of the economic impacts and are intended to be a European contribution to the future IPCC Reports.

Within the Public-Private-Partnership on Energy Efficient Buildings, launched by DG RTD in cooperation with industrial partners as part of the European Economic Recovery Plan in 2008¹³, the large-scale project "3ENCULT" on improving the energy efficiency of historic buildings has been selected following a cross-thematic call including the topic on "Compatible solutions for improving the energy efficiency of historic buildings in urban areas" launched at the end of 2009.

Moreover, within the FP7 actions on Research Infrastructure, the Integrated Infrastructure Initiative "CHARISMA"¹⁴ (7,6 Million Euro) has been funded, bringing together 21 leading European institutions developing research on artwork materials and their deterioration finalized to the conservation of cultural heritage. The consortium has the objective to optimise the use of infrastructures through a coordinated program of transnational access, joint research and networking activities.

In the framework of ERA-NET projects, the NET HERITAGE project built up a partnership between ministries, funding agencies and national research directorates from 14 countries. It will ensure a comprehensive overview of the status of cultural heritage research throughout Europe and provide help in coordinating the sector by allying different domains such as art, history, conservation, maintenance and restoration with architecture, chemistry, physics and engineering. It acted as a cradle for the development of this JPI.

In the FP7 theme 'Research in the Social Sciences and Humanities (SSH)', cultural heritage is explored in relation to European diversities and commonalities. The use of cultural heritage in

¹¹ CLIMATE FOR CULTURE "Damage risk assessment, economic impact and mitigation strategies for sustainable preservation of Cultural Heritage in times of climate change" www.climateforculture.eu

¹² NOAH'S ARK "Global climate change impact on built heritage and cultural landscapes" <http://noahsark.isac.cnr.it>

¹³ COM(2008)800 final.

¹⁴ CHARISMA "Cultural Heritage Advanced Research Infrastructures: Synergy for a Multidisciplinary Approach to Conservation/Restoration" <http://ec.europa.eu/research/infrastructures/pdf/charisma.pdf>

shaping identities is examined by the "CRIC"¹⁵ and "IME"¹⁶ projects. Current SSH projects deal with 'European identities: inner and outer perceptions of Europe and the EU', and 'Reinterpreting Europe's Cultural Heritage: towards a 21st Century Library and Museum'.

The Network of Excellence CLIOHRES.net¹⁷ aims at achieving and disseminating greater understanding of both the actual histories and the self-representations of the past, and looks at the role of CH in the context of history.

The MuSOMED project¹⁸ aims at making source material that includes tangible CH available to researchers. DG RTD SSH has an open call on "Reinterpreting Europe's Cultural Heritage: towards a 21st Century Library and Museum".

In addition, the ERA-NET Plus action "HERA"¹⁹ recently launched research projects on issues such as cultural heritage and memory, cultural heritage in music, and cultural heritage and intellectual property. "HERA" brings together one pan-European and 13 national research funding agencies across Europe in order to coordinate research activities and to develop new Europe-wide research agendas.

"ERNEST"²⁰ is another ERA NET Project gathering a large group of regions and organisations developing sustainable practices for tourism including cultural tourism.

The European Agenda for Culture²¹, proposed by DG EAC and endorsed by the Council, is founded on three common sets of objectives: promoting cultural diversity and intercultural dialogue, promoting culture as a catalyst for creativity in the framework of the Lisbon Agenda for growth and jobs (including the further development of cultural and creative industries), and promoting culture as a key component in international relations, with a clear and vital role for cultural heritage in these three dimensions.

In the digital field, outstanding cooperation between Member States already exists and a Commission Recommendation on digitisation and related tasks, endorsed by the Council²², has been issued. The Commission, through DG INFSO, is actively pursuing policies, networks and projects that provide considerable support for research into and introduction of

¹⁵ "Identity and conflict. Cultural heritage and the reconstruction of identities after conflict" http://ec.europa.eu/research/social-sciences/projects/363_en.html

¹⁶ "Identities and modernities in Europe: European and national identity construction programmes and politics, culture, history and religion" <http://fass.kingston.ac.uk/research/european/ime/>

¹⁷ "Creating Links and Innovative Overviews for a New History Research Agenda for the Citizens of a Growing Europe" www.cliohres.net

¹⁸ "Mutual Sources on Modern Mediterranean Architecture: towards an open and shared system" <http://invisu.inha.fr/musomed-Mutual-Sources-on-Modern>

¹⁹ "Humanities in the European Research Area – Joint Research Programme" www.heranet.info/

²⁰ Europe Research Network on Sustainable Tourism. The following regions of Member States are involved: Regione Toscana (Italy) as coordinator, Cité de la Culture et du Tourisme Durable (France), Basquetour (Spain), Prefecture of Iliia (Greece), South-East Romania Development Agency (Romania), Govern de Illes Balears (Spain), Regional Development Agency of North Hungary (Hungary), South West Tourism (United Kingdom), Danish Forest and Nature Agency, Nord Zealand (Denmark), Generalitat de Catalunya (Spain), Conseil Régional d'Aquitaine (France), Regione Emilia Romagna (Italy) http://cordis.europa.eu/fp7/coordination/pdf/ernest_en.pdf

²¹ http://ec.europa.eu/culture/our-policy-development/doc399_en.htm

²² Commission Recommendation on the digitisation and online accessibility of cultural material and digital preservation (2006/585/EC) and Council Conclusions of 13 November 2006 (2006/C 297/01).

digital libraries, archives and museum collections, and new forms of access to and use of these cultural resources²³.

In particular, research on the digitisation and visualisation of tangible cultural heritage and on the preservation, access and use of digitised cultural assets can contribute significantly to reducing the stress on fragile objects and sites²⁴.

It is worth mentioning that the digitisation and virtual representation of cultural artefacts and sites might be of interest to the JPI. Projects such as "EPOCH (NoE)", "3D-COFORM", "V-City", "Venus" and TNT conduct research in the creation of digital 3D representation of artefacts, sites and cities as well as related aspects concerning the use of ICT in cultural heritage, thus reducing the stress on the real objects and sites which might endanger their sustainable conservation.

As far as the conservation of digital cultural heritage is concerned, the two Integrated Projects "PRESTOSPACE" (FP6) and "PrestoPRIME" (FP7) specifically address issues of preservation and use of audiovisual sources and the intangible cultural heritage that is preserved in these collections.

In addition, the DG INFSO supported several actions on the use of ICT for Cultural tourism. A number of FP6 projects like "ISAAC", "iTACITUS", "CINeSPACE", "AGAMEMNON" conducted research on enabling users to enjoy and discover cultural heritage sites or whole cities with the use of ICT, using augmented reality and virtual reality technologies, often applied to mobile devices. Although these projects are central to research, the developed applications may potentially contribute to the conservation of intangible cultural heritage and to link it virtually to objects and sites.

DG INFSO recently launched the ERA-NET "DC-NET"²⁵ under the e-Infrastructure-Capacities Programme of the FP7. The main aim is to develop and to strengthen the co-ordination of the public research programmes among the European countries in the sector of the digital cultural heritage.

Cooperation with Mediterranean Countries

Through DG AIDCO, the 'Euromed Heritage'²⁶ Regional Programme has since 1998 committed a total of EUR 57 million to fund partnerships between conservation experts and heritage institutions from Mediterranean countries. In line with the 'Strategy for the Development of Euro-Mediterranean Heritage: priorities from Mediterranean Countries (2007-2013)²⁷, and funded through the European Neighbourhood Partnership Instrument (ENPI), Euromed Heritage 4 (2008-2012) aims to make it easier for local populations to learn about their own national and regional cultural heritage and to benefit from it.

²³ http://ec.europa.eu/information_society/activities/digital_libraries/cultural/index_en.htm

²⁴ For all funded projects see the following website: http://cordis.europa.eu/fp7/ict/telearn-digicult/digicult-projects_en.html

²⁵ Digital Cultural heritage NETwork www.dc-net.org

²⁶ <http://www.euromedheritage.net/index.cfm?lng=fr>

²⁷ <http://www.euromedheritage.net/doc/Culture%20strategy%202007%20-%202013.pdf>

International cooperation for the protection and conservation of cultural heritage, with a particular focus on the Mediterranean region, was supported within FP5 and FP6, and is a mainstream activity in FP7.

Actions at intergovernmental level

COST and EUREKA are intergovernmental programmes that actively contribute to networking, research and innovation in the cultural field.

Within COST, the Cultural Heritage Interest Group currently supports various networks, such as 'EnviArt'²⁸ and 'WoodCultHer'²⁹, which focus on the environmental protection of tangible cultural heritage.

In 2006 the new EUREKA umbrella E!3790 EurekaBuild was launched on the initiative of the European Construction Technology Platform (ECTP) as follow-up to EURO CARE2000; it also promotes projects related to cultural heritage in cooperation with the Focus Area Cultural Heritage (FACH) of ECTP³⁰.

The benefit of better coordination

It is already apparent from the "NET-HERITAGE" project that European research in the field – and the connected educational/training activities – is very fragmented, and will benefit greatly from more widespread coordination.

There also appears to be considerable overlap of the financial resources used by Member States. Joint Programming will therefore help to streamline the national programmes addressed by the JPI in order to reduce overlaps and to exploit synergies.

The focus of actions at European level will thus be sharpened, addressing the research gaps and the key challenges that can be better tackled on a Europe-wide scale.

The preparatory stages of the JPI 'Cultural Heritage and Global Change: a new challenge for Europe' indicate that the scale and scope of its activity go well beyond what either the EU or Member States can achieve on their own.

The JPI will also foster mutually reinforcing alignments between research and other policies at European level. Such synergies will ensure that the impact of research in addressing societal challenges can be maximised.

A shared European effort

The Commission may provide complementary measures for this JPI, which could include support for the management structure and establishment of the SRA, the provision of data, information and analysis on the state of play in this field in Member States and at EU level. Therefore the Commission will explore the scope for supporting cooperation on development of concepts and solutions, both at national and at EU level, promoting a holistic approach to the preservation and enhancement of cultural heritage. Moreover, once the JPI is operational,

²⁸ D42 'Chemical Interactions between cultural Artefacts and Indoor Environment' www.costd42.org

²⁹ IE 0601 'Wood Science for Conservation of Cultural Heritage' www.WoodCultHer.org

³⁰ Strategic Research Agenda of the ECTP/FACH 'Cultural Heritage - Vision 2030', February 2009 www.ectp.org

the Commission will coordinate with the JPI to define which research work ought to be carried out at EU level.

Real international involvement

The strategic approach to international collaboration on research includes identification of major cooperation countries and regions. The most relevant international organisations active in the field of cultural heritage protection include: the United Nations Educational, Scientific and Cultural Organisation (UNESCO), the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM), the International Council on Monuments and Sites (ICOMOS), the International Committee of Museums (ICOM), the Council of Europe and Europa Nostra. All these actors have been already considered by the JPI as future members of its Advisory Board.

Experience with other coordination actions suggests that looking into possible forms of consultation and cooperation on this subject with scientifically advanced groupings at international level is an important part of solving global challenges.

This JPI could foster cooperation at international level. Interested non EU countries will be able to join the initiative at a later stage, once the common vision and strategic agenda have been formulated between the countries participating and in accordance with the rules on participation in the JPI based on specific international arrangements.