UK - NCP INPUT

The Common Framework was the template used to provide input to the Strategic Research Agenda (SRA) for the JPI Cultural Heritage and Global Change. These are inputs to the Common Framework from the individual participating country named above. To find out more about the process involved in the creation of the SRA, please go to www.jpi-culturalheritage.eu.

									Criteria				Ranked Priorities	
Main driver (as identified in the DoW)	**Additional drivers**	**Identifier**	**Addition? Include new identifier**	**Research area**	**Research gaps**	**Research needs**	**Keywords**	**Activities/ instruments (for example, collaborative research; SME/industry involvement; knowledge exchange; end-user participation)**	**Benefits of the research area to cultural heritage**	**Societal**	**Economic**	**Environmental**	**Ranked priority (National Consultation Panel priorities)**	**Ranked priority in terms of European collaboration**
Use			**U.1a**	Link existing quantitative data and qualitative interpretation around Cultural Heritage, entailing the interdisciplinarity required.	Need for quantitative and qualitative knowledge and evaluation.					Better decision-making				
Use			**U.3a**	Revitalisation of built and landscape heritage and intangible cultural heritage.	Sustainable strategies for built heritage, landscape use/management and intangible cultural heritage.	Development of policy and strategies, including knowledge and understanding of the historical context of culture.		Involvement of politicians and decision makers; collaborative research; user involvement	Active participation of cultural heritage in economic life of society	Increased quality of life of society, increasing public support for cultural heritage	Increased lifetime of historic buildings/landscapes; increased number of visitors, revitalisation of degraded areas	Reduced CO2 emission due to increased lifetime of buildings		
Use		**U.4**		New uses for cultural heritage	Influence of new uses of landscapes (for example management techniques) and built heritage on their tangible and intangible cultural heritage values	Development and exploration with new management techniques of built heritage, sites and landscapes; in balance with the activities/wishes of the local people.		Exchange of knowledge and good practices	Maintenance of cultural heritage values of built and landscape heritage					
Use			**U.5a**	Changing socio-economic role of cultural heritage.	Better understanding of the position of cultural heritage in society and the benefits of cultural heritage institutions to society and the metrics for measuring and managing this.	Defining what makes cultural heritage institutions different from other institutions and determining whether this requires a specialised management approach. Exploring business models to support and sustain cultural heritage.		Business development strategies; impact measurements; sharing best practice and expertise.	Exploring new types of ownership and stakeholdership, learn from approaches in other fields and perhaps in the past - look at the way museums and concert halls started as initiatives of citizens	Changing societal role of cultural heritage institutions.	Cultural institutions will offer better value for money.	Neutral		
Use	**Access**		**U.6a**	Research that considers the impact and challenges posed by changing models of collecting (co-ownership, distributed collections, deaccessioning) on collection management, care, use and access.	Understanding and analysis of emerging models and their implications for both those responsible for the collections, education and knowledge and members of the public.	Identifying and analysing emerging models of collecting. Understanding the advantages and disadvantages of greater sharing of collections both nationally and internationally and their implications. Understanding where change is needed to facilitate these new models.								
Access			A.1a	Understanding the effects, results and implications for cross-cultural and intercultural access to cultural heritage knowledge, including impact on rural and urban landscapes.	Better understanding of those factors that influence or mitigate against engagement with the historic environment amongst different groups	Definition of approaches and study areas/themes that will draw potentially develop minority interest and/or demonstrate relevance to those groups		Increased collaboration with representative groups and key opinion formers	More nuanced and deeper understanding of the past/development of 'multiple pasts'	Wider support for the historic environment	Increased 'market' for historic environment	Increased market' might have negative carbon impact		
Access			A.19 (was A.1b)	Understanding and responding to changing demographics for cultural heritage, including needs and expectations.	Identification of themes/presentational and interprepretive strategies that will engage the internet generation.	Methods of making virtual access to the 'real past' possible, building on the 'everyone is an expert' concept to make monuments and documents accessible and intelligible.		Develop cooperation between national and other heritage agencies, commercial presentation specialists and venues	Wider engagement with the historic environment	Wider support for the historic environment	Increased 'market' for historic environment	Virtual access possibly providing a carbon gain in terms of reduced travel		
Access		**A.2a**		Linking of cultural heritage information	Development of the concept of hybrid collections: material and their digital representations, development of digital platforms promoting creative processes and the effective dimension.	Automated application of domain or object specific knowledge.	Tourism, mobility, digital, visualisation, semantics, security	Collaborative and interdisciplinary research; industry involvement; creative industry involvement	Usability; placing cultural heritage in a meaningful and broader context.	Increased access to cultural heritage	Increased number of visitors; benefits to creative industries; content creation; development of new services and products.	Reduction of environmental impact; potential reduction in footfall to exhibitions, sites etc		
Access			A.2ai			Understanding the impact of hybrid collections on the current affective dimension of cultural heritage, in particular changes to identification, ownership, and affection along with changes in taste and aesthetics in a global context								
Access			A.2ei		Reconceptualisation of methods through digital data (big data problem)	Interdisciplinary research into the strategies and tactics of managing what has become known in the Sciences as the 'Big Data Problem' as it permeates the Humanities. (i.e. new digital systems that generate data very much faster than can ever be examined)								

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Access			A.2eii			Institutionalisation of acceptable loss e.g. Losses in the compression process.								
Access		A.2b			Improving the intellectual, sensory and physical access to heritage through human-machine interactions	Development and evaluation of human-machine interactions.		Collaborate with and learn from the instruments for linking data and working together in 'hard' sciences	Possibly produce new understandings of material through engagement of those whose sensory impact is limited	Wider access including for groups that face sensory or other challenges				
Access			A.2c		Inventorying cultural heritage.	Basic catalogues of some data sets, identification of potentials for utilising complementary data sets		Collaborative research between museums, academic institutions, voluntary sector	Better understanding of aspects of cultural heritage	Engagement of wider sector in research				
Access			A.2d (was A.19)		Linking data between heritage institutions for access: What are the barriers and potential solutions related to sharing data between heritage institutions and what are the opportunities offered by new technologies to create greater connections between data held across heritage institutions?	Potential and implications of linked data, question of compliance with metadata standards across heritage institutions (particular problem within collection management data within museums). Applying and embedding new technologies.		Applying and embedding new technologies.						
Access			A.3a	Visualisation of heritage including Geographic Information System on tangible and intangible cultural heritage.	Increase in amount and complexity of data used on smaller interfaces. Web mapping and Web GIS tools for the tele-monitoring and remote access and monitoring of archaeological sites and cultural landscapes.	Develop understanding of how to visualise complex, unstructured and semantically rich data.		Evaluation tools; study in the computer use of cultural heritage; measuring instruments like eye and hand moving detectors; interaction design. Collaborative research; industry and policy involvement	Better understanding of how people interact in a digital environment.	Increased access to cultural heritage	Benefits to creative industries (e.g. Interactin9o design, 3D techniques, augmented reality, gaming).	Neutral		
Access			A.3b		Haptics and acoustic visualisation.	Development of haptic systems for remote tactile access to heritage	Technology development.	Remote access	Collaborative research; industry and policy involvement	Improved access to heritage	Development of new services and products	Lower environmental impact of new products and services		
Access			A.4a	Using new technologies to establish links between disparate digital contents for knowledge and management, taking into account different spatial frameworks.	Interaction with digital cultural heritage	Acquiring knowledge of the changing behaviour with digital cultural heritage compared to physical digital heritage.		Log analyses (text mining); statistical methods	Better knowledge of the interaction between people and cultural heritage; building better interfaces.	Increased access to cultural heritage; potential to influence behaviour.	Benefits to creative industries (e.g. Interactin9o design, 3D techniques, augmented reality, gaming).	Neutral		
Access			A.4b		Technical recognition of moving and still images	Development of techniques that identify images rather than textual representations.		Pattern recognition; new search technologies for images; artificial intelligence and evaluation methods.	Improved accessibility to large amounts of still and moving images. Potential to aid searching of comparators across different collections	Increased access to cultural heritage	Benefits to creative industries and other commercial uses	Neutral		
Access			A.4c		Technical recognition of handwritten text	Images of handwriting are not searchable	Development of algorithms applicable over wider ranges of text.		Pattern recognition; methods to convert shapes into ASCII; new search technologies for images.	Better access to handwritten text	Potential commercial uses	Neutral		
Access			A.4d		Consideration of the impact of necessary losses that take place in digitisation (i.e. In compression, media specificity, scale, fullest sensory integration etc) and the impact on the concept of cultural heritage as these are institutionally sanctioned (i.e. accepted).									
Access		A.12		Deinstitutionalisation of cultural heritage	What is the role of cultural heritage institutions in a digital world?	Defining where cultural heritage sits in a digital world and determining whether there is a need for a new kind of institution.				New societal role of cultural heritage institutions	New economic role of cultural heritage institutions	Neutral		
Access		A.13		Tagging and tracking	Wireless micro tagging solutions for real-time tracking	Technology development.	Security	Collaborative research; industry and policy involvement	Safety and prevention of illicit trafficking	Safety	Prevention of misappropriation	Neutral		
Access			A.13a		Potential vulnerabilities from increased or easier access	Drivers of and circumstances that encourage Heritage Crime and damage		Sharing expertise and best practice in Centres of Competence	Enhance protection for cultural heritage	Enhance protection for cultural heritage promoting longevity of access	Reduced resources required to combat/investigate crime and damage in relation to cultural heritage			
Access			A.17	Applying techniques of simulated light and acoustics to the presentation, interpretation and access to cultural heritage.										
Access			A.18a	Ethical implications for new forms of access to cultural heritage.	Is there an ethical or cultural boundary to what you can do with cultural heritage?	Raising awareness of/proficiency in digital possibilities (ranging from understanding processes to actual coding).	Tourism, Exploitation function, energy efficiency	Sharing expertise and best practice in Centres of Competence	How does the use of cultural heritage contribute to identity	Increased knowledge of the role of cultural heritage in society; increased wellbeing	New opportunities for the use of cultural heritage in commercial settings (e.g. creative industries)	Neutral		

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Access			A.18b		How does the use of cultural heritage contribute to identity at a personal, national, European, and/or global level?	Determining how cultural identity can contribute to the wellbeing of a community, including recovery from conflict.		Cooperation between national and regional agencies, academics, practitioners and community groups to identify, develop and test case studies	How does the use of cultural heritage contribute to identity	Increased knowledge of the role of cultural heritage in society; increased wellbeing	New opportunities for the use of cultural heritage in commercial settings (e.g. creative industries)	Neutral		
Access			A.18c		Individual rights, collective responsibilities, ownership and the balances between public and private domain around cultural heritage and development of safeguarding measures.	Insights in the attitude to cultural heritage by different stakeholders. Understanding the interrelation between health & safety requirements, structural safety and performance requirements and access for historic buildings and archaeological sites. Lack of protocols for assessment and evaluation leading to logic decision making approach. Knowledge and understanding of the historical context surrounding the issues.		Collaborative research; participatory and transdisciplinary research; perception research	Raising awareness of the value of cultural heritage and the responsibilities of individuals and society	Enlarge the public support and consciousness for cultural heritage and its historical context.	Increasing employment and visitors to historical landscapes, structures, sites and collections.	Neutral		
Access			A.18e (was A.16a)		IP rights, ethical and ownership (e.g. copyright) issues (also for new media)	Legal studies in public domain for digital cultural heritage	Adjusting legislation to a digital environment.							
Access			A.18f		Understanding the effects and dynamics of changing volumes of participants on the access, gateways, and collective ownership of (and responsibility for) cultural heritage.									
Interpretation		**I.1**		Cultural interpretations of heritage and the historical context for it.	Understanding factors that shape understanding of and responses to cultural heritage	Determining how local communities and tourists shape the questions asked about cultural heritage.		Collaborative and transdisciplinary approach; end-user involvement; participatory research	Ability to develop more nuanced and relevant presentations	Greater and higher quality engagement with cultural heritage	Increased audience for cultural heritage			
Interpretation			I.2a	Understanding the role of crowdsourcing in cultural heritage e.g. dealing with sensitive material.	Value proposition of social tagging and how to enhance knowledge of the history and context of cultural heritage.	Better understanding of the knowledge of the crowd: automated decision of trustworthiness.	Provenance, dating, authentication, meaning; stories, context; legibility	Augmented interfaces	Added value of cultural heritage	Active involvement of users with cultural heritage	More objects will be described with less effort	Neutral		
Interpretation			I.5a	Impact of instrumentation on the interpretation of cultural heritage.	Development of language technologies for the interpretation of cultural heritage. Lack of integrated web-based risk assessment tools	Integration of existing techniques and development of new methodologies for language recognition (e.g. Text mining, sentiment mining, OCR augmentation, changes in diachronic corpora, speech recognition). Development of web-based software.		Collaborative research; IT sector involvement.	Improved access to cultural heritage. Better protection; effective management of cultural heritage	Innovation in this area will be useful for other fields important for society	Increase of innovation in industry. Reduced cost due to effective resources use.	Neutral. Reduced CO2 emission.		
Interpretation		**I.7a**		(Amended wording) Using technical analysis to understand historical context and meaning of collections.	Knowledge of art and heritage materials, forms and landscapes and how they change over time.	Concerted, collaborative effort using agreed techniques (for example microfading) to look at shared repositories of information, particular objects or groups of objects (for example works by the same artist) or problems (for example a common problem identified relating to a particular material such as modern oil paints, the fading of pastels etc). Shared repositories of information.	Technical art history (could equally extend to material science with respect to technological processes and artefacts)	Collaborative research, knowledge transfer	Improved interpretation: dating, provenance determination, authentication	Improved understanding of heritage	Better interpretation and resource conservation, content creation	Neutral		
Interpretation		**I.7b**				3D hyperspectral imaging (using various parts of the EM spectrum) of objects and works of art, with standardisation protocols. Also valid for historic building and archaeological sites.	Technical art history - Structural identification	Collaborative research, knowledge transfer	Improved interpretation: dating, provenance determination, authentication	Improved understanding of heritage	Better interpretation and resource conservation, content creation	Neutral		
Interpretation		I.11a		Investigating the appropriate balance between historical integrity and authenticity and the different imperatives.	Improving our understanding of the artist's or maker's intent	Improving our understanding of the artist's or maker's intent and determining the effectiveness of modern application of traditional craft skills to cultural heritage?		All activities in header except SME/industry involvement. (Would question exclusion of SMEs given the existence of companies and individuals engaged in developing and producing facsimiles and other objects for displays and re-enactments etc)	Improved interpretation and presentation	Greater opportunities for audiences to handle 'understandable' (i.e. complete/reconstructed) objects	Enhanced presentations			
Interpretation		I.11b			Balance between historic integrity and modern use of buildings, cultural landscape, including tourism and lifestyles	Improving our understanding of the origin and intention of the architects/planners and determining the effectiveness of modern application of traditional uses to		Collaborative research with planners and other engaged in regeneration/redevelopment impacting on the historic environment	Better/less damaging/more sympathetic proposals in relation to historic environment assets		Demonstrations of potential of/value of 'historic environment-led' regeneration. Enhanced value of assets	Less demand for new materials as a result of reuse of historic assets		

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Interpretation		I.11c			How might we relate the unknown impact of intervention to society's need to appreciate the aesthetic and improve understanding of the historical context?	Development of methods.		Collaborative research, knowledge transfer	Increased quality of treatments, interventions. Understanding interactions between stakeholders and cultural heritage	Understanding societal benefits	Development of new services and products	Neutral		
Interpretation			I.11d (was I.13)		Model for accurate assessment, models for interpretation of survey results, models for assessing effects of mitigating intervention of durability of fabric and real benefit to consumptions.	Energy efficiency of historic structures		Government other agency cooperation with academics and historic environment specialists	Less unsympathetic imposition of 'standard' responses to energy efficiency measures		Better use of resources	Better use of resources		
Interpretation			I.11a		The authenticity of restoration and the impact on the user/audience.	Better understanding of authenticity and the need to elicit a certain affect from the user/audience.								
Protection and safeguarding			P.3a	Digital content and security and object preservation.	Long-time preservation of digitised and born-digital cultural contents	Risk assessment costs; format knowledge; aspects of look and feel; tools development, evaluation of applicability of research results to heritage materials; complex digital objects including software (applications like games. software based art, visualisations etc.) preservation; web preservation, moving image material. Preservation and security assessment of storage solutions including analogue originals.		Identification of archiving bodies and development of funding streams to ensure longevity of digital material and its migration between systems to ensure continued access	Preservation of digital content	Safeguarding the cultural representations of a society; long-term easy access to the cultural heritage.	Better return on investment in the longer term; reduced recovery costs of lost digital content; development of creative industries.	Environmental impact does not need to be repeated		
Protection and safeguarding			P.3b			Value assessment of cultural heritage including the symbolic, intangible as well as economic aspects.								
Protection and safeguarding		**P.4a**		(Amended wording) Managing material, site and structural change in the context of different environments and global change.	Protection, exposition, conservation and restoration of cultural heritage, taking into account the criteria of durability, minimal intervention, reversibility, compatibility and retreatability	Development of material and techniques.		Collaborative research; industry involvement; knowledge exchange	Preservation of authentic substance and value of cultural heritage	Raising awareness of the standards required for cultural heritage protection.	Increased competitiveness of European industry	Reduction of CO_2 emission due to protection of original materials		
Protection and safeguarding		**P.4b**			Long-term effects of conservation treatments, carried out at present and in the past, on historic materials, objects and sites, including modelling and simulation of these effects, in order to improve the materials and procedures of the conservation practice	Development of evaluation methodologies.		Knowledge exchange, interdisciplinary research; industry involvement; participation of end-users	Preservation of authentic substance and value of cultural heritage	Raising awareness of the standards required for cultural heritage protection.	Decreased cost of misguided conservation treatments due to increase time span between conservation treatments	Neutral		
Protection and safeguarding			**P.4c**		Understanding mixed modern assemblages and their contexts, for example, those made of plastics, ceramics, information carriers, concrete and other composite objects and constructions, electronics, new alloys, glasses, dyes, mortars and materials used in artists' installations.	Development of models, theoretical concepts, novel tools, methods and materials for conservation of contemporary arts. Development of a greater understanding of how materials adversely interact with each other. Models to guide conservation decision making for these complex objects, for example how to prioritise conditions for the benefit of one material over another etc.	Conservation	Knowledge exchange, interdisciplinary research; industry involvement; participation of end-users	Preservation of authentic substance and value of cultural heritage; optimisation of the use of resources, development of standards	Raising awareness of value of contemporary art; preservation of contemporary heritage	Reduced financial losses caused by degradation of contemporary art; better use of resources	Neutral		
Protection and safeguarding			**P.4e**		Understanding of the stability of modern and contemporary photographic materials.	Studies of modern photographic materials and mounting methods and how they impact the stability of modern and contemporary photography. Analysis of current collection management strategies for these materials.								
Protection and safeguarding			**P.4g**		Modern paints - how they deteriorate, the impact of conservation treatments and the development of better treatments.	Comparative studies across collections, field trials, multi site studies of problems emerging from how artists are using materials and problems inherent in the materials themselves.								
Protection and safeguarding			**P.4h (was P.6b)**		Stabilisation of historic structures endangered by adverse changes in environmental conditions and natural hazards.	Development of technologies for stabilising.		Collaborative research, user involvement	Preparedness to impact of global climate change	Safety of buildings and structures ensured	Improvement of industry competitiveness; revitalized degraded areas	Reduced CO_2 emission due to increased lifetime of buildings and structures		

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Protection and safeguarding			P.5a (was P.4d)	Develop new conceptual frameworks to create and manage emerging cultural heritage.	Sustainable strategies for the conservation of time-based media works of art.	Collaborative efforts to develop tools, envision shared structures and strategies for the conservation of time-based media works of art.								
Protection and safeguarding			P.5b (was P.4f)		Conservation and management of mutable and non-object based artworks and other emerging forms of artistic practice.	Interdisciplinary research looking at models for conservation and management of non-object based artworks, drawing on research and practice from other forms of intangible heritage.								
Protection and safeguarding			P.5c (was C.9)		Impact on artists and makers of changing technological environments and globalisation.	Different meanings associated with certain technological shifts within different socio/geographical contexts								
Protection and safeguarding			P.8a	Development of safeguarding measures and policies, acknowledging ownership and authority of communities and/or originators.	Safeguarding of cultural heritage landscapes, structures, traditions and networks.	Understanding of 'local values' that encourage communities and owners to recognise, support and maintain historic environment assets.		Engagement of historic environment professionals and academics with 'third sector' community and owners groups	Better protection/greater sustainability of Historic Environment assets	Greater engagement with the Historic Environment and individual assets	Greater locally-sourced funding for Historic Environment assets from Friends Groups, owners etc. Less pressure on other budgets and/or wider range of assets maintained			
Protection and safeguarding			P.8b (was P.6a)		Protection of emerging and existing industrial heritage	Development of strategies towards protection of industrial heritage in relation to other forms of cultural heritage.								
Protection and safeguarding		**P.9a**		Understanding and modelling of material decay	Development of models for reliable prediction of the behaviour of materials, objects, structures and assemblies under various combinations of stressors (chemical, physical, biological)	Development of models and theoretical concepts.	Conservation, climate	Collaborative research	Optimisation of the use of resources, development of standards	Sustainable use of heritage	Optimisation of the use of resources	Better use of energy		
Protection and safeguarding		**P.9b**			Understanding and modelling future risks of biological decay due to spread of species (mould, insects, rodents etc) with climate change	Development of models.		Collaborative research, knowledge transfer	Optimisation of the use of resources, development of new products. More informed/better decision re potential for/use of preservation in situ of vulnerable deposits.	Improved access to heritage	Development of new services and products	Neutral		
Protection and safeguarding		**P.9c**			Development and understanding of new lighting solutions, including the effect of light on materials	Development of tools such as microfading, consideration of how these might impact lighting policies within museums and other cultural heritage institutions. Research into the potential mitigating strategies for example Anoxic framing.	Lighting							
Protection and safeguarding		**P.9d**			Developing and defining the concept of usable lifetime for various forms of heritage and knowing when or whether to intervene.	Development of models and theoretical concepts.	Conservation	Collaborative research, participatory research, end-user involvement	Optimisation of the use of resources, development of standards	Sustainable use of heritage	Optimisation of the use of resources	Better use of energy		
Protection and safeguarding		**P.11a**		Investigation of damage mechanisms and mitigation	Multidisciplinary approach on the interactions between specific environmental factors (temperature, moisture, ...) and complex artefacts made of different materials. Degradation of chemically unstable materials	Understanding of interactions between environment and materials/objects/collections/buildings and archaeological sites; development of new tools and methodologies..		Collaborative research; Interdisciplinary approach; involvement of industry	rising awareness of potential threats	reduced risk of potential losses; knowledge transfer between sectors as health, security, safety etc.	Understanding of damage mechanism of materials can be used by other sectors of industry experiencing problems with product durability. In consequence competitiveness of European industry will increase. Reduced cost of potential losses	When the objects are buildings, archaeological sites and landscape, research will output strategy for more stable and durable environments, leading to increased sustainability.		
Protection and safeguarding			**P.11b (was P.18)**		The effects that new legislation brought in to reduce carbon emissions has on the physical nature of historic materials, for instance energy efficiency legislation and historic buildings, or low energy lighting and environmental controls in a museum setting	Monitoring of historical materials following alterations to their character or environmental surroundings	Climate change legislation	Collaborative research, knowledge exchange, interaction between researchers and policy makers.	Ensuring that legislation to benefit the environment is not carried out to the detriment of heritage	Maintenance of historical landscapes and artefacts	Reduced damage to historic buildings as an inadvertent result of "improvements"	Ensuring that climate legislation is correctly applied		

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Protection and safeguarding			P.16	Management strategies for secure access to objects, archaeological sites and cultural landscapes	Materials and techniques for safe exhibition, storage, handling, packing and transport of the artefacts, with related monitoring systems and guidelines. Techniques/approaches for sustainable management, mechanisms for public presentations and access of sites and landscapes.	Development of better materials, techniques and systems. Development and exploration of access policy of built heritage, sites and landscapes.		Collaborative and interdisciplinary research, industry involvement. Knowledge and experience exchange, best practices.	Reduced risk related to extensive public access; mobility of collections	Wide and easy public access to cultural heritage	Increased competitiveness of European industry; increased number of visitors	Reduced carbon footprint		
Protection and safeguarding			P.17a	Security technologies and systems in museums, libraries, archives and historic buildings	Integrated systems for effective detection, prevention and reaction to risk situations such as fire, theft, vandal attacks	Development of systems for effective protection.		Collaborative and interdisciplinary research; industry involvement	Reduced risk related to fire, theft and vandal attack	Treasures of society better protected	Increased competitiveness of European industry; increased number of visitors; reduced cost of insurance of cultural heritage objects	Neutral		
Protection and safeguarding			P.17b		Techniques to support the identification of fakes or stolen artefacts, as well as the related data bases, with special reference to the insurance issues	Development of adequate techniques and databases.		Collaborative research; knowledge exchange	Art market better controlled	Society better protected against fraud	Reduced cost of insurance of cultural heritage objects	Neutral		
Protection and safeguarding			P.18a	The effects of changing legislation on the conservation of cultural heritage	Understanding the impact of changes on legislative and policy frameworks and the effect on interpretive frameworks	What metrics and frameworks are required to inform decision-making on cultural heritage by understanding values and identity in a changing global context.								
Protection and safeguarding			P.18b		Impact on materials and collections of broadening environmental control parameters in a desire to reduce carbon emissions.	Develop of methods to judge the impact, studies assessing the impact on collections and carbon emissions								
Recognition			R.2a	Cultural memory and value	Cultural value of treatments, interventions	Development of an approach/methodology/new theoretical concepts.	Values, representation, identity (sense of place), perception, meaning, significance	Collaborative research; knowledge exchange; participatory research; end user involvement	Increased quality of treatments, interventions	Better understanding by the public of cultural heritage and quality of life	Increase/decrease in visitors	Neutral - no negative environmental impacts		
Recognition			R.2b		To understand the perceptions and aspiration of people for cultural value	Application of existing knowledge and approaches to this area.		Collaborative research; knowledge exchange; participatory research; end user involvement	Understanding interactions between stakeholders and cultural heritage	Better understanding by the public of cultural heritage and quality of life	Increase/decrease in visitors	Neutral - no negative environmental impacts		
Recognition			R.2c		Changing values/meanings of physical heritage in a digital world	Development of an approach/methodology/new theoretical concepts.		Interdisciplinary research, evaluation tools, theoretical prepositions	Renewing value of physical heritage	Better understanding of the role of cultural heritage		Neutral		
Recognition			R.2d		Lack of knowledge in how we perceive aspects of cultural heritage and understanding of its historical context.	Application of existing and development of new knowledge and approaches to this area, perception research. Cognitive-perceptual theory.		Collaborative research; knowledge exchange; participatory and transdisciplinary research; end user involvement	understanding interactions between stakeholders and cultural heritage; understanding of decision making process of professionals managing cultural heritage field	Improvement of life quality due to understanding of esthetical needs of society	An important increase of competitiveness of industry due to better design based on improved theory	Neutral		
Recognition			R.2e (was P18)		Impact of context and histories on collections	Analysis of the differences in appearance of collections and expectations driven by the type of collection and geographical context								
Change			**C.6**	Role of cultural heritage in conflict resolution										
Change			C.7	Effects of population demography on cultural heritage.	Impacts of increasing/decreasing populations in terms of pressures on, or support for/maintenance of Historic	Historic Assets survival/security modelled against population data		Historic Environment collaboration with social scientists	Identification of potential vulnerabilities					