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JHEP

Coordination action in support of the implementation of a Joint Programming Initiative (JPI) on Cultural Heritage and Global Change: a new challenge for Europe

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Deliverable 5.1

Report on methodology, definition of indicators

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Preamble

This deliverable 5.1 is the first document produced by the Work Package 5 (WP5, Task 5.1) in the frame of JHEP, the first Coordination and Support Action (CSA) for the Joint Programming Initiative "Cultural Heritage and global change: a new challenge for Europe" (JPICH).

According to the JHEP Description of Work (DoW): *This Work Package is dedicated to monitoring and evaluating the Joint Programming Initiative "Cultural Heritage".*

The level of success of this JPI will be evaluated in two areas:
- Implementation of the Strategic Research Agenda and Action Programme (as defined by WP2 and WP3);
- Effectiveness of the pooling of national expertise and resources in order to establish robust collaborations among participating States.

This WP will also provides outputs in order to:
- Assess the benefits and the impacts of using Joint Programming for conducting research at European level (as compared with other existing mechanisms);
- Provide innovative ideas for indicators of performance to be shared by all the EU;
- Give ideas to improve the JPI initiative as it evolves.

Work Package 5 is divided into the three following tasks:

- **Task 5.1:** Definition of the methodological framework (months 10 to 25)
  This task will develop the methodological framework for the evaluation of the JPI. It will identify each key area of the JPI and propose a set of indicators to assess its implementation in the short, medium and long term. The framework will be conceived in order to be usable during all the lifetime of the JPI.
- **Task 5.2:** Monitoring and evaluating (months 24 to 37)
  During the lifetime of the Coordination Action (CA), the methodological framework will be implemented. The indicators will be measured according to the methodology and the timeframe defined in the task 5.1.
- **Task 5.3:** Final recommendations for monitoring and evaluation (months 29 to 37)
  These final recommendations will revise the methodological framework (5.1) according to the actual evaluation performed in 5.2. and will allow for the monitoring and the evaluation of the JPI during its lifetime.

This deliverable 5.1 addresses the two important issues in Task 5.1 – definition of a methodological framework for monitoring and evaluation and development of a set of indicators to assess implementation of the JPICH. Depending on how the work is divided between WP5's three tasks, this deliverable not only represents a first attempt to build a monitoring and evaluation framework to assess implementation of the JHEP coordination action (3 years), but also a starting point for assessment of the whole JPICH lifetime implementation (about 10 years) following a possible revision of its overall methodology and indicators through deliverable 5.2.

Deliverable 5.2 (D5.2, month 36) – "*Report on the implementation of monitoring and evaluation"* – may lead, if necessary, to readjustment of the whole methodology, or the removal,

modification and addition of indicators, at the end of the JHEP coordination action, in September 2014.

As a reminder, JHEP Work Packages are organised as follows in the DoW:

- **WP1** Management and coordination
- **WP2** Development and elaboration of the Strategic Research Agenda (SRA)
- **WP3** Implementation of Joint Programming Initiative
- **WP4** Extending the partnership and cooperation
- **WP5** Monitoring and evaluating the JPICH
- **WP6** Dissemination and communication

All Work Packages, plus the JPICH's Vision Document[1], are necessary to the development of this methodology on monitoring and evaluation, particularly the SRA (WP2) and the Implementation Plan developed in WP3, both of which are essential to the design of appropriate indicators of performance.

This Deliverable is organised into two main parts. The first of these – *Designing a methodological framework* for *JPICH monitoring and evaluation* – presents the scope assigned to the monitoring and evaluation task in the JPICH's unique context, as the overarching methodology and the terms of reference retained for this particular task. It describes the organisation of the preparatory works that led to this document, developing the JPICH's intervention logic and presenting the monitoring and evaluation framework.

The second part of this document – *Indicators for measuring the success of JPICH* – is dedicated to the various findings, in particular the complete set of indicators. It provides details on the methodology used not only to identify, but also to measure indicators. As described in the DoW - "each indicator will be accompanied by; a methodology for its measure […]; an indicative target (if applicable); a time frame (when to measure it?)". Further information on JPICH impact assessment methodology is also provided. The document concludes with important considerations on the planning of the monitoring and evaluation process, on data collection schedules and assignments.

This document was conceived by Alexandre Caussé, WP5 Project Manager, and Sylvie Max-Colinart, Deputy of the Department of Research, Higher Education and Technology, Service for the Coordination of Cultural Policies and Innovation, General Secretariat, French Ministry of Culture and Communication (MCC/SG/SPCI/DREST), with the valuable advices of a Panel of twelve independent experts appointed by the JPICH Governing Board (see Annex IV).

[1] Vision Document

I. Designing a methodological framework for JPICH monitoring and evaluation

I.1 Context

I.1.1 Organisation of the work

Task 5.1 was organised over a 15-month period starting in July 2012. It was conducted by the French Ministry of Culture and Communication (MCC), and "in order to ensure the involvement of all the JPI participating countries, a pool of experts appointed by the Member States and Associated Countries" participated in all the preparatory work[2].

A call for experts addressed to the Governing Board members was therefore launched the 26th October 2012. Governing Board members were invited to designate and submit their own independent experts not necessarily belonging to the national consultation panels but having experience of and an interest in indicators and evaluation. For reasons of convenience, the final selection deliberately limited the size of the panel to 12 independent experts. Their task entailed helping design and validate a list of indicators, working on a methodology to acquire data for each indicator and coming up with a scale that would permit interpretation of each indicator (see the composition of the experts' panel in Annex IV).

The work between the MCC and the experts took various forms. Mostly by phone or by email exchanges, it also involved intermediate reports, work documents, two support documents and two meetings in Paris held on 15th March and 5th July, 2013.

During the first meeting in March 2013, important steps were taken towards identifying a typology of indicators and the prioritization of all JPICH challenges and objectives set out in the Strategic Research Agenda and the Vision Document. An initial list of indicators, presented in a support document, was discussed and revised, taking into account how indicators were to be measured (when, by whom) as well as their sustainability and relevance. An agreement was also reached on the necessity of building a specific monitoring and evaluation framework for the JPICH by conducting a Logical Framework Analysis of the project, and thus reconstructing its intervention logic. In order to stay in line with the European Union's methodological bases for evaluation, this type of analysis would help:

- clarify the objectives and translate them into a hierarchy of expected effects for the purpose of evaluation
- suggest evaluation questions on these effects
- assess the internal coherence of the intervention[3]

This analysis was developed later, in a further support document for experts, and discussed at the second meeting in Paris, on 5th July 2013. During this session a more precise table of indicators was presented, and this served as the basis for discussions on the definition of impact indicators for the project. These exchanges evidenced the necessity of continuing to work on more ambitious

[2] DoW
[3] Evaluation Methods for the European Union external assistance

and more representative impact indicators. However, an almost unanimous agreement had been reached on the overall shape of the monitoring and evaluation framework. A work document on impact indicators distributed in July supported the definition of the final set of impact indicators.

Simultaneous to these sessions with experts, one meeting and three workshops on monitoring and evaluation were organised by the JPIs To Cowork collaboration platform. A meeting held in February 2012 in Brussels explored common dimensions for the evaluation of JPIs; a workshop in Vienna held on 20th and 21st September 2012, was about "foresight and ex-ante impact assessment" and two workshops held in Brussels, on 13th February 2013 and 11th June 2013 addressed collaborations between JPIs on the evaluation task. The JPIs To Cowork platform has the overall purpose of providing a "forum to continue the discussion, exchange of experience and best practices, as well as the implementation of a process of mutual learning, amongst ongoing and future JPIs"[4]. These workshops explored different possibilities for collaboration and harmonization between the different JPIs in their monitoring and evaluation task by proposing a common framework and methodology. The results of these workshops served as a source of inspiration to this document[5].

I.1.2 Purposes and Scope of the monitoring and evaluation

WP5 on evaluation and monitoring answers the recommendations of the European Commission of 26 April 2010 on the JPICH: "27 Member States are encouraged to report regularly to the Commission on the progress made on this Joint Programming Initiative"[6]. However, evaluation and monitoring, as defined below, also serve internal management purposes by providing the JPICH with an opportunity to better attain its objectives.

Evaluation and monitoring

Evaluation is a "judgment of interventions according to their results, impacts and needs they aim to satisfy"[7]. Yet, "monitoring is a continuous and systematic process carried out during the duration of an intervention, which generates quantitative data on the implementation of the intervention, but not usually on its effects. The intention is to correct any deviation from the operational objectives, and thus improve the performance of the programme as well as facilitate subsequent evaluation"[8].

Evaluation thus focuses on the effects of an intervention at a particular time, whereas monitoring is a continuous process not fixed in time and focusing on implementation of an intervention (it would be more apt to speak of a monitoring cycle). This distinction between evaluation and monitoring is quite similar, in programme evaluation, to that between "Summative" and "Formative" evaluation. Formative evaluation is an internal reporting process examining parts of a programme during its implementation in order to improve ongoing action or introduce mid-course corrections, whereas Summative evaluation is an externally-oriented report, which takes place upon programme conclusion and assesses the whole of its actions. It follows that the aim of monitoring is not to provide answers as to how performance can be improved; it only regularly informs a set of indicators to help managers assess if the intervention is on the right

[4] JPIs To Cowork
[5] JPIs To Cowork
[6] EU voluntary guidelines
[7] Evaluating EU activities
[8] Evaluating EU activities

track and better achieve the project's intended objectives. Evaluation, on the other hand, is used to demonstrate programme achievements, estimate what would have happened without the intervention, and provide answers, by examining certain evaluation questions, on how to improve the intervention where necessary. Though it is an important internal tool, evaluation also seeks to reach an external audience by demonstrating programme value. Evaluation questions will be presented in Section I.2.2.

It appears also essential to distinguish different levels of evaluation, depending on when such evaluation occurs during the project's monitoring and life cycle. The evaluation questions will differ in nature depending on whether the intervention is at its beginning or end. There are generally three distinct stages of evaluation: ex-ante evaluation, mid-term evaluation and ex-post evaluation (short, medium and long term; see Section I.2.2 for more details).

I.1.3 Key JPICH monitoring and evaluation documents

The monitoring and evaluation framework finds its source in three key JPICH documents which set out its global vision, challenges and rationales for intervention. This framework is also developed in line with the Implementation Plan (WP3). These three key documents are:

- The Joint Programming Initiative on Cultural Heritage and Global Change: a new challenge for Europe, Vision Document, June 2010[9]
- The 2011 Description of Work (DoW) for the JHEP project, first EU FP-7 CSA supporting implementation of the JPICH initiative[10]
- JPI Cultural Heritage and Global Change, Strategic Research Agenda, 2013[11] (Deliverable 2.5 in the DoW)

Annexes I and II present the main challenges and research priorities contained in the Vision Document and in the Strategic Research Agenda. Since the Implementation Plan (WP3) is still in progress, the aim of this deliverable on monitoring and evaluation is to remain flexible and adaptable enough, providing a framework which projects itself into the future of the JPICH. The three documents quoted above allow for the construction of a hierarchy of objectives, making it possible to anticipate the strategies that will be developed in order to achieve these objectives. They are important prerequisites for a logical modelling of the evaluation procedure, allowing the identification of key performance indicators.

I.2 Methodological framework for monitoring and evaluation

I.2.1 Description of the JPICH intervention logic

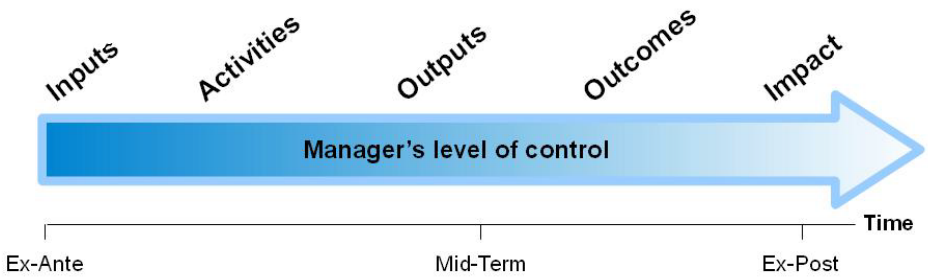
The initial approach adapted to breaking down the JPICH intervention logic is the Logical Framework Analysis (LFA), which is the idea that there is a logical linkage between all expected effects of an intervention. This approach is a practical and useful management tool, consistent with monitoring and evaluation methodologies used at European level. The framework developed

[9] Vision Document
[10] DoW
[11] SRA

by the JPIs To Cowork workshops is also based on this approach. It considers the intervention as a logical chain comprising different levels of performance distributed over time. “Intervention” is understood here as a “generic term to cover all public actions”[12].

The Logical Framework Analysis decomposes and prioritises a bench of well chosen and stated objectives and is based on the idea that the attainment of one level of objectives is causally linked to the achievement of the previous level. A typology of five performance levels has therefore been identified for the JPICH intervention (see Fig 1) – inputs/activities/outputs/outcomes/impact – in order to design the methodological framework, facilitate subsequent evaluation and define a set of indicators of performance.

Figure 1



Later in this document, Section I.2.3 affords a broader approach adapting this logical analysis model, which for diverse reasons isn’t always appropriate in dealing with JPICH intervention. First, the JPICH is a complex and multi-level intervention not directly amenable to a limiting and restrictive analysis. Then, the fact that the definitive Implementation Plan (Deliverable 3.1) is still under construction does not facilitate use of this type of analysis. Thirdly, the time lag between the beginning of the programme implementation and its expected final impact is generally significant. As we move toward impact, numerous external, contextual and uncontrolled factors influence the intervention’s effects, making the attribution of effects and the theoretical causal linkage difficult to establish in practice. The difficulty in proving that a particular effect will be due to the JPICH’s intervention, in other words the “attributional challenge” (see Section II.3), has already been noted in the JPND’s report on monitoring and evaluation[13].

It follows from this problem that the later in intervention’s lifetime the effect we want to evaluate occurs, the lower the level of management control in terms of influencing this effect. In addition, the manager’s power over inputs and immediate outputs is consequently higher than that over outcomes and impacts.

Considering these limitations to the Logical Framework Analysis, it is still possible to break down JPICH intervention logic as follows:

Challenges

Challenges represent needs and issues that require intervention and affect society at large. They determine the rationales for intervention, and the corresponding objectives. They include needs, gaps and problems for the Cultural Heritage research area. These core challenges to Cultural Heritage are described well in the Vision Document[14] and constitute the soul of the JPICH. They also include specific rationales for choosing joint programming: The need to align research programmes to increase their impact and effectiveness, reduce duplications and fragmentation in

[12] Evaluating EU activities
[13] JPND
[14] Vision Document

European research, avoid overlaps and exploit synergies "in order to improve the efficiency of the scarce financial resources". The concept of joint programming is "intended to tackle the challenges that cannot be solved solely at the national level".

Given that Cultural Heritage is an indispensable component of European collective and individual identity, playing a vital role in the economy and contributing a great deal to the cohesion and integration of citizens within the European territory, the JPICH provides a response to the increasing level of threats and challenges to Cultural Heritage. These challenges regroup climate change, protection and security of Cultural Heritage and its cultural use by society in a changing environment. The changed "relationships between Cultural Heritage and its meaning, history, value, significance, composition, conservation and enjoyment"[15] constitute the "transformational challenge" of the JPICH.

Objectives

Objectives aim to address - and ideally solve - the initial identified challenges by assigning qualitative and quantitative goals. These objectives can be short-term, addressing immediate and precise effects (input and output objectives), or long-term, addressing future and global impact (transformational effect). The more global the objective, the more difficult it will be to monitor its expected effects. Objectives are not immutable and can evolve at each new cycle of intervention, assuming that a cycle of intervention can have an impact on the initial challenges and change the rationales for intervention.

JPICH objectives have to be found in the four priorities research areas presented below and extracted from the Strategic Research Agenda (SRA), as well as in more operational objectives naturally deriving from these priorities. By creating this common agenda, the JPICH seeks to identify common objectives that will benefit from a joint action.

- **Developing a reflective society**. This priority is broadly based on recognition that the world is changing and that research questions, approaches, methods and reporting need to reflect this change.
- **Connecting people with heritage**. This concentrates on exploring access by addressing themes and issues that enable people and communities to connect with heritage, underpinned by sustainable management plans.
- **Creating knowledge**. This involves deepening our understanding of the context in which Cultural Heritage exists and is formed, and developing innovative approaches, applications and tools that will create added value for society from Cultural Heritage.
- **Safeguarding our Cultural Heritage resource**. This explores how we can protect our Cultural Heritage and the research that is required to support protection.

The joint programming process set up an enabling framework In order to answer these research priorities, with its own operational objectives. These include efficient governing structures and the pooling of national research programmes and resources, in order to create a critical mass and optimize European research funds exploitation. The JPICH has also the objective of helping research implementation through "capacity building", facilitating researcher mobility, providing training and educational programmes, promoting multidisciplinary, best practice and

[15] Vision Document

transnational collaboration, and developing a dedicated Cultural Heritage network of infrastructures.

Inputs

Inputs describe the human, financial and institutional resources used for the implementation of the intervention. They take various forms in the JPICH: the provision of appropriate funding through transnational calls for proposals, the provision of appropriate infrastructures, the financing of a coordinating structure conditioning the functioning of the JPI, the creation of a common virtual pot in order to reach a "critical mass" enabling more ambitious research. In a Logical Framework Analysis, inputs are a vital link in the chain conditioning activities and outputs. But in a multi-level programme as the JPICH, activities and outputs are likely, in turn, to be used as inputs for a later transaction (see Section I.2.3).

Activities

Activities are actions taken, through which human, financial and institutional inputs are mobilized to produce outputs. These activities are distributed between those related to the process of joint programming, and those related to specific research activities. Yet the gap between them is really narrow.

At this stage of the JPICH, activities have to be defined and developed in line with the implementation plan (WP3), but it is already possible to get an overview of their content. Activities will include networking, training and educational activities for professionals, researchers and citizens, pooling activities and the creation of research infrastructures. Joint programming will seek to enable better cooperation between national programmes and settle a common research strategy. Via joint activities, the JPICH will facilitate the exchange of information and data with other projects in Europe and abroad.

In addition, and as provided by the DoW, the expanding plan to new partners (WP4), as well as communication and dissemination activities (WP6) are also important activities of the JPICH.

Transnational calls for proposals are also a significant component of the activities enabled by the JPICH. The first pilot call was launched between 10th January and 15th April 2013 regrouping 14 participating countries and 16 funding structures. By creating a virtual common pot, it helped support projects for durations of 2 or 3 years. A second call for proposals (ERA NET Plus on Cultural Heritage and Global Change Research) is also being prepared for early 2014, regrouping the same number of participating countries and funding structures, for an approximate duration of 5 years.

Outputs

These are the direct results of the work enabled by the inputs and activities. Outputs are under the direct control of the manager of an intervention, since they describe the direct goods, services and effects produced by an intervention according to its short-term objectives and affecting its primary beneficiaries. In a future cycle of intervention, outputs may be converted into inputs. For example, in an initial cycle of intervention, an input of financial funds has enabled the creation of an infrastructure. In the next cycle of intervention, this new infrastructure may serve as an input, to create a broader network of infrastructures.

Immediate outputs enabled by JPICH inputs and activities include, firstly, an increase in number and in quality in many parameters conditioning research in the Cultural Heritage area: an increase in the number of researchers active in this domain; an increase in collaborative projects, mobility and exchanges between Cultural Heritage area actors; an increase in available training and educational instruments and in available infrastructures and information. Direct outputs will also be to give increased visibility and attention to the challenges surrounding Cultural Heritage. By setting common objectives for Cultural Heritage research, through the Strategic Research Agenda, and by creating a dedicated area through pooling of national and European funding programmes and agencies, the Joint Programming Initiative improves coordination and alignment between regional, national, federal and European scientific strategic agendas.

Outcomes

These describe the wider results enabled and created by outputs, although their causal link with the initial objectives and inputs is less tangible. They may not describe a change important enough to be of a societal nature, but sufficient enough to touch the primary beneficiaries of the specific fields of intervention (these do not usually concern society in general). Outcomes may be sufficient to necessitate a change in the primary objectives or an update of the Strategic Research priorities in the SRA.

In terms of Cultural Heritage professionals and researchers, the development of new tools and methodologies will help mitigate global change challenges by improving the conservation, storage and protection of Cultural Heritage and by adopting common standards. The JPICH will also lead to an increased understanding of the various mechanisms threatening Cultural Heritage. The increasing amount of available data, publications and Cultural Heritage dedicated materials will create a real added-value for research - and to some extent, for society – by sustaining the excellence of European research in this field. The JPICH will also help create sustainable cooperation with the private sector and develop Cultural Heritage market potential, thus consolidating the relationship between research and entrepreneurship and supporting innovation and performance in the industrial sector.

Impact

Reflecting the long-term socio-economic changes brought about by an intervention, the impact of an intervention can take a long time to become apparent, and the level of control exercised by the manager of the intervention over its long term impact is very low, as well as difficult to assess during the lifetime of the intervention, even a long time afterwards. This impact may be expected or unexpected, foreseen or unforeseen, desirable or undesirable. The final impact may also influence the initial societal challenges having led to the intervention, thus necessitating readjustment of the intervention objectives.

With regard to the JPICH, this mainly relates to its capacity to respond to the initial challenges and priorities reflected in the Vision Document and in the Strategic Research Agenda (the four priorities mentioned above). It is also related to the ability of the JPICH, by boosting economic growth and improving quality of life for European citizens, to contribute to more general and societal challenges, such as those described in H2020 objectives, even though this contribution will be difficult to assess due to attribution problems. As described in Section II.3, impact, if it is part of the JPICH monitoring and evaluation framework, can mostly be assessed by proxy indicators showing that impact is more or less likely to occur in the future. As an example, the involvement of civil society and citizen representatives in the activities developed around

Cultural Heritage will help build a more reflective society. Also, the increased amount of open-access information and awareness actions towards citizens will doubtless contribute to connecting people with heritage.

I.2.2 Evaluation questions

As mentioned in Section I.1.2, different levels of evaluation can be distinguished, depending on when this evaluation occurs during the monitoring and life cycle of the project. Different evaluation questions will be addressed, for internal or external purposes, depending whether it is an ex-ante, mid-term or ex-post evaluation. The aim of the Logical Framework Analysis is to facilitate the answers to these questions. Questions are generally classified into different families. The JPICH monitoring and evaluation framework focuses on eight such families. These questions could apply to any joint programming model of intervention. Since this is the objective intended by the JPIs To Cowork collaborations (see Section I.1.1), and for coherence and harmonization reasons between ongoing JPIs, the questions below have been inspired by standard questions used to evaluate EU activities[16], as well as by existing evaluation questions in the JPND report on monitoring and evaluation.

- **Relevance:** examines the extent to which the objectives of an intervention are in adequacy and correspond to the initial rationales that gave rise to it. This means that the intervention should remain pertinent to current issues, needs, challenges and problems, while taking account of any potential evolution in the initial situation.
- **Coherence/complementarity:** these issues are consubstantial with the joint programming idea of trying to avoid overlap and duplication in the research area at every level. They concern the extent to which convergence can be observed between the objectives of the intervention and those of other programmes. Coherence also examines whether the intervention contradicts any other interventions having similar objectives.
- **Economy:** the extent to which resources are available in due time, in appropriate quantity and quality.
- **Effectiveness:** evaluates the results of an action and the progress made towards its pre-determined objectives, and whether the results generated correspond with the objectives.
- **Efficiency:** more concerned by the various resources spent on attainment of the objectives. Did the project optimize available resources use, was the input level used to produce the output reasonable? Would it have been possible to produce the same effects using fewer resources?
- **Sustainability:** if positive effects of the intervention are likely to create lasting changes, even once the intervention is over. What is the likelihood of these benefits having a sustainable effect on its public, institutional, and geographical targets?
- **Utility:** examines all expected and unexpected effects of the intervention, whether negative or positive, as well as whether these effects remain in adequacy with the needs, problems and issues to be addressed.
- **Added value:** Why is the intervention timely, and to what extent does the intervention add benefit, in comparison with what the results would have been without it?

[16] Evaluating EU activities

It has to be stressed that these questions are assessed during the three distinct evaluation phases, as defined below.

Ex-ante evaluation

Occurs at the beginning of the project and focuses on "whether the objectives of a policy intervention correspond with the challenges"[17]. The ex-ante evaluation assesses the relevance and coherence of the action, its adequacy and pertinence to initial rationales (social challenges, needs, issues). These rationales, generally expressed through the main research objectives in the SRA, have been identified previously and have given rise to the intervention. Ex-ante evaluation also assesses whether the planned intervention is likely to be efficient and effective. For the first coordinating action (JHEP) of the JPICH, no ex-ante evaluation has been conducted for one main reason: the overall framework for monitoring and evaluation had yet to be developed. Since the overriding objective of JHEP Coordination Action is to provide a framework for the future phases of the JPICH, ex-ante evaluation should apply to the next Coordination Actions, as described in Section II.4.

Mid-term evaluation

Occurs at the mid-term of the intervention and seeks to measure its initial or immediate effects in order to improve its quality. Mid-term evaluation focuses as much on the action's efficiency (the optimization of resources dedicated to it) as on the relation between the level of inputs used and the outputs directly generated. Interim evaluation is an efficient tool for evaluating the effectiveness of an action on the immediate beneficiaries of that action, but it generally intervenes too soon for measurement of its impact on the social sphere.

JHEP mid-term assessment was conducted on 16th May 2013 and was unable to make use of the monitoring and evaluation framework. Nonetheless, some questions concerning mid-term evaluation may still be assessed at the end of JHEP's first monitoring cycle in March 2014 (see Section II.4).

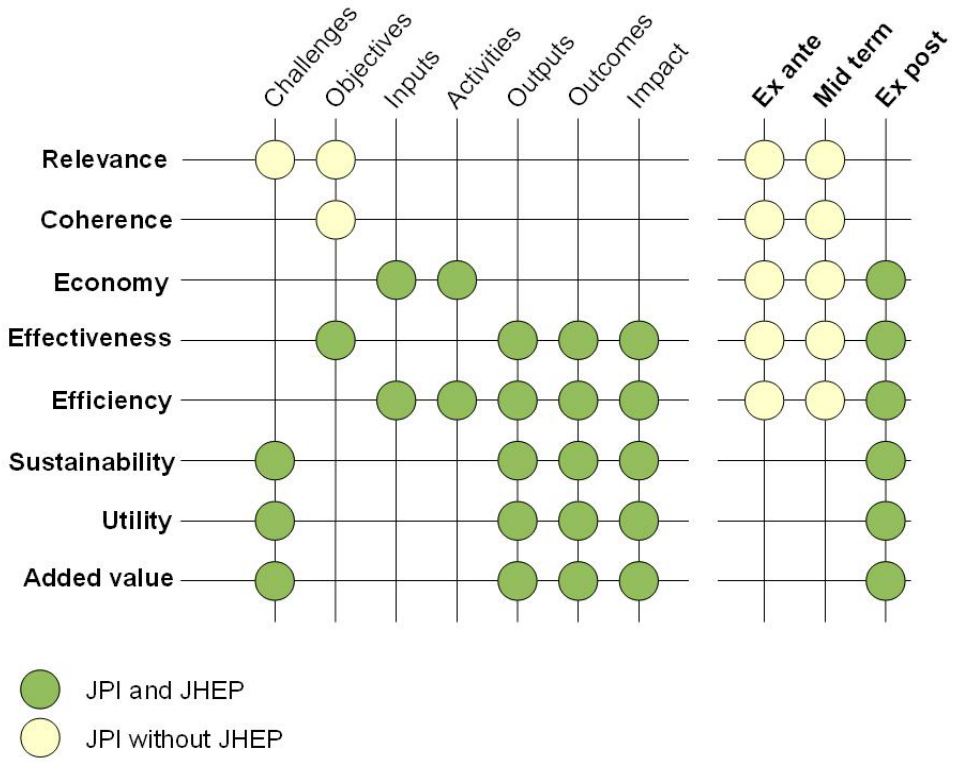
Ex-post evaluation

Ex-post evaluation focuses more particularly on the outcomes and broader impacts on the initial challenges that gave rise to the intervention. It primarily addresses the question of the effectiveness of the action, in other words, whether the outcomes and impacts generated by the supported intervention correspond to the initial objectives. It is the last stage to evaluate progress made towards completion of the pre-determined objectives. This final task also generates indications on the action's utility (do the expected and unexpected effects of the intervention respond to the initial challenges?) and sustainability (whether the impact will last in the future).

[17] JPND

Figure 2 below summarizes the evaluation questions, the phase of the evaluation during which they will be addressed and the intervention elements necessary to providing answers.

Figure 2

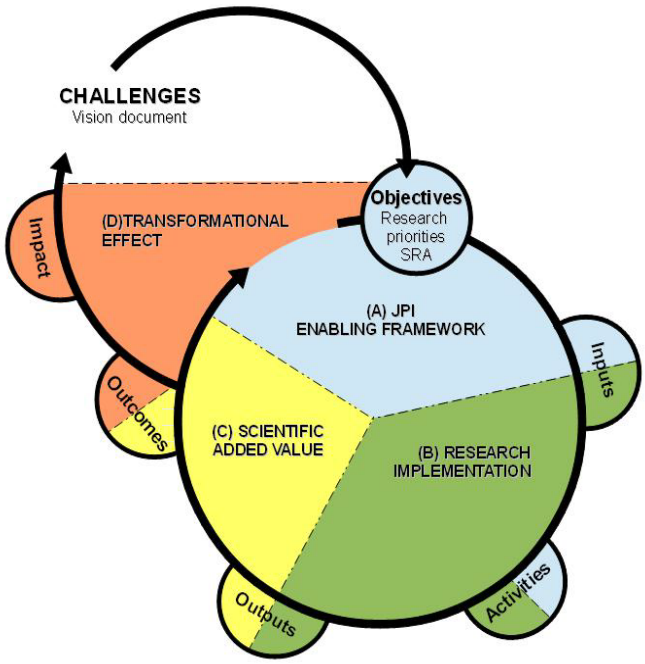


I.2.3 JPICH decomposed life cycle

The Logical Framework Analysis described above remains convenient to provide a frame for future evaluations. However, it has the main drawback of presenting the intervention as a logical chain of objectives and effects, which is not completely the case when assessing a complex programme such as the JPICH.

In the context of answering the core question - does the logical framework make sense in terms of the objectives we are trying to achieve - and given the previous elements, an objective-driven framework has been designed, built on the typology of achievable levels of objectives. It establishes a link between these objectives and the monitoring cycle; this link makes it possible to define the evaluation questions assessing the completion of these objectives and propose criteria and indicators for responding to them. As mentioned above, distinct levels of objectives, addressing the short and medium term effects, as the final and global effects of the intervention exist.

Figure 3



The scheme presented (see Fig 3) proposes a succinct overview of the project's lifecycle and its monitoring cycle. The five levels of objectives are represented: inputs – activities – outputs – outcomes – impact (see Section I.2.1 and Fig 1). The lower circle corresponds to one intervention cycle of the JPICH, starting with the objectives and research priorities defined in the SRA. The upper circle represents the social, economic, environmental and political sphere, in which the JPI's challenges are located and where every project begins and ends. The two circles together represent the project as a whole.

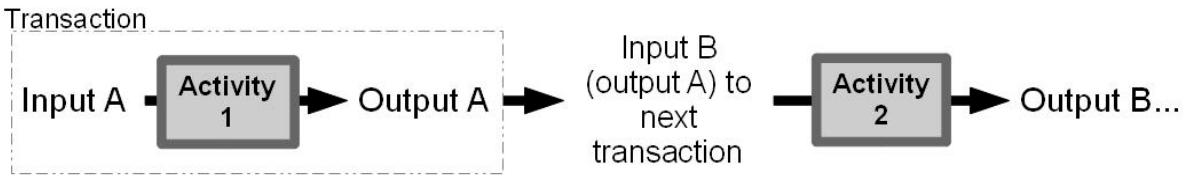
The manager's level of control is maximal on the lower circle, but weak on the upper circle. The 4 colours represent the four categories of indicators of performance: (A) JPI enabling framework, (B) Research implementation, (C) Scientific added value and (D) Transformational effect (these categories match the four categories of indicators developed in the list of Indicators in Annex III and in the developed tables in Section II.2).

They are positioned to match the monitoring cycle, in order to see the correspondence between these indicators and the level of achievement they seek to evaluate. For instance, if we need to evaluate the research implementation (category B) for a specific evaluation, it will be necessary to observe not only the inputs for the research implementation, but also some immediate outputs evidencing this implementation. And should we want to evaluate the project's scientific added value (category C), it will be necessary to observe immediate outputs, as well as broader outcomes.

The outcomes of an intervention can be sufficient to redefine its objectives. They can also be effective enough to have a broader social, economic, environmental and political impact, though this impact is generally hard to monitor, and mostly appears at the end of a project, or many years later. Yet some interventions can have a desirable or undesirable, foreseen or unforeseen impact on the initial challenges prior to the end of the project, which is why it seemed important to maintain a category of indicators assessing the intervention's impact (transformational effect). The challenges relating to the definition of impact indicators are broadly described in Section II.3.

The whole Figure 3 decomposing the JPICH life cycle is also based on the idea that the JPICH will be composed of different cycles of intervention. These interventions are, in turn, composed of different transactions leading to specific sub-levels of objectives. Transactions are defined as "planned units of programme activity for which there is a measurable output/outcome". This measurable output/outcome can then serve as an input (enabling output/outcome) for a further transaction until the terminal expected impact occurs as shown in Figure 4. It follows that when we try to assess the JPICH as a whole, the border between inputs, activities, outputs, etc. appears increasingly blurred. On the contrary, if we break the project down into its individual successive transactions, this border will be much easier to define.

Figure 4



This distinction between the overall JPICH's lifecycle and the more targeted transactions is of great importance to evaluators. By scaling their approach to the intervention's transactions up and down, it is possible - depending on the level of achievement they want to assess - to adapt the use of specific indicators. Consequently, some indicators evidencing an output at an initial stage, may evidence an input in subsequent transactions.

II. Indicators for measuring the success of JPICH

II.1 Identification of indicators

II.1.1 Methodology

Indicators allow us to know when we have achieved our desired objectives, and to measure the gap which separates us from these expected achievements. They answer the questions: *How will we know success and achievement when we see it?* and *Are we moving in the right direction?* These indicators may be quantitative or qualitative and reflect every step of the logical framework. Quantitative indicators are generally easier to inform than are qualitative indicators. Indicators have to be direct enough to avoid being affected by other issues that are tangential to the project's effects.

But the effects of an intervention are sometimes difficult to measure using a direct indicator, either because they can't be measured efficiently, or because their connection to the intervention is too indirect to be evaluated. In such cases, proxy indicators are needed. These shall be neither too indirect, nor too much of a proxy, nor too abstract - rendering assessment of performance difficult, if not impossible. Indicators also facilitate monitoring and evaluation, making findings more compelling because of the fact that they are no longer based on subjective judgments.

In this document, the proposed set of indicators presented in Section II.2 aims to serve the whole life of the JPICH, yet it may naturally evolve and therefore should remain flexible. As underlined in Section I.2.1 when describing the JPICH objectives, planned or unplanned effects of an intervention that are revealed by monitoring and evaluation may necessitate readjustment of the initial objectives of the intervention. Within the lifetime of the project, it may also become necessary to add, modify, or remove some indicators listed.

II.1.2 Categories of indicators

Decomposing the JPICH challenges and objectives, as presented in the various source documents (see Section I.1.3), it appeared natural, following a logical chain of reasoning, to distinguish four categories of indicators covering the different sets of actions developed by the project. These four categories are shown in the scheme (see Fig 3) as well as in the list of indicators (see Annex III): (A) JPI enabling framework, (B) Research implementation, (C) Scientific added value and (D) Transformational effect.

(A) JPI enabling framework

These indicators will help monitor implementation of the main JPI coordinating structures and Work Packages. Not every aspect of JPI implementation is covered, given that many are already subject to internal control, agreement and evaluation mechanisms. This category of indicators focuses on essential enabling tasks considered prerequisite to the next levels of objectives, as well as on indicators that are essential to answering the evaluation questions posed in Section I.2.2. The objectives stated in this category of indicators shall be considered by the

evaluators to be overarching elements conditioning the subsequent steps of the project. The (A) category mainly comprises input indicators.

(B) Research implementation

These indicators regroup inputs, activities and outputs indicators, describing the implementation of necessary parameters for the construction of JPICH research capacity and excellence. They include the definition of common research objectives thanks to the joint programming mechanisms and SRA. They also include some important outputs for research enabled by the pooling of financial, human and material resources, such as infrastructures, that can serve as "enabling outputs" for other cycles of intervention.

(C) Scientific added value

The (C) category of indicators encompasses outputs, and to a lesser extent, certain outcomes indicators. This category assesses how the JPICH intervention produces effects and added value affecting the primary beneficiaries of the intervention by producing meaningful results and developing knowledge transfers between the research community, Cultural Heritage professionals, various stakeholders and all close collaborators. It also assesses JPICH's 'scientific productivity' as a proxy indicator for evaluation of the increase in information available on Cultural Heritage to the global research community.

(D) Transformational effect

This set of indicators examines, through the use of proxy outcome and impact indicators, how the JPICH generates a transformational power on the initial challenges having given rise to the intervention - notably the "transformational challenge" described in Section I.2.1. It also assesses JPICH's responsiveness to its initial research objectives, as stated in the SRA: developing a reflective society, connecting people with heritage, creating knowledge, and safeguarding our Cultural Heritage resource. The indicators presented mainly aim to prove the existence of pathways to impact, or attempt to identify the initial proof that the intervention is likely to have a positive impact on initial challenges.

In addition to these four categories, a set of more precise transversal indicators covering, as an example, the assessment of calls for proposals may be developed later trough WP5 remaining tasks. These indicators will aim to complete the already existing instruments proposed by the WP3 (which also has the task to "collaborate with WP5 framework for Monitoring and Evaluation in feedbacks analysis of the initial joint call as well as [...] to draw the lessons learned and amend the next joint calls"[18]), as well as instruments developed by other Work Packages.

[18] DOW, Task 3.3

II.1.3 Presentation of the "indicators measurement framework"

The table presented in Figure 5 is the main tool used in the developed tables of indicators presented in Section II.2: the indicators measurement framework.

Figure 5

Topics	Goals, Objectives	Success Criteria /Target	Indicator	Indicator Definition	How to measure (multiple sources)	Who is responsible for data collection	How often to be measured

As described in the DoW, "each indicator has to be accompanied by a methodology for its measure". It allows us to see if the indicator clearly measures whether the expected accomplishment has occurred and whether it can be measured effectively. The result enables the definition of what is called S.M.A.R.T. criteria for indicators "**S**pecific, **M**easurable, **A**chievable, **R**elevant and **T**ime bound"[19]. The framework allowing assessment of the strength and weaknesses of the different indicators comprises 8 columns: Topics, Goals/Objectives, Success Criteria/Target, Indicators, Indicators Definition, How to measure, Who is responsible for data Collection, How often to be Measured. These eight parameters are defined as follows:

- **Topics:** these group together the main topics under which the various sub-goals and sub-objectives have been classified. There are 19 identified topics. These topics arise out of objectives in the SRA, and objectives of the JPICH stated in the DoW or Vision Document.

- **Goals/Objectives:** this column lists the full set of precise objectives. Most of the topics comprise a list of different objectives chosen according to their pertinence with regard to the whole project, as well as to the availability of information enabling their monitoring. These objectives are S.M.A.R.T. objectives allowing the definition of corresponding S.M.A.R.T. indicators.

- **Success Criteria/Target:** success criteria show how we will know whether we have reached our given objectives, and on which criteria a specific indicator will focus. The target indicates a benchmark from which it is considered that the assessed objective has been fulfilled. This benchmark is more often quantitative, whereas the success criteria can be qualitative and subjective. These targets and success criteria are correlated with their corresponding objectives and indicators, and do not provide specific information about the 'topics' listed in the first column. For some objectives and their corresponding indicators, it either seemed unnecessary to define a success criteria or indicative target, or these may be defined later on.

- **Indicators:** this column lists all sets of indicators (also presented in the list of indicators in Annex III), numbered 1 to 60 for practical reasons. Some indicators have also been brought together in order to create indices of sub-indicators, creating one indicator to assess two or more sub-objectives, as for indicator 21 or 27.

- **Indicator definitions:** it seemed necessary to specify the terminology used for some indicators, referring sometimes to the source documents (Vision Document, DoW, SRA).

[19] UNDP

This column also provides additional information, when necessary, on the purpose and scope of the indicators concerned.

- **How to measure:** concerns the multiple sources from which an indicator can draw information. Some sources (such as minutes of meetings) are already part of the JPI databases, while others (such as specific questionnaires) may be set up later for evaluation and monitoring implementation.

- **Who is responsible for data collection:** concerns the multiple participants in the project who will be responsible for collecting data for each specific indicator. Some project actors are in the best position to access specific data. The distribution's aim is to ease the monitoring process. The monitoring team plays a vital role, centralizing all data transmitted by the different Work Packages as indicated in the column. The monitoring team is also responsible for collecting specific data itself, as appropriate. More details on sources and responsibility for indicator monitoring are given below, in Section II.4.

- **How often to be measured:** this last parameter in the indicators measurement framework organises the monitoring cycles in line with the main delivery dates and important WP5 and JPI milestones as stated in the DoW. This choice is also linked to the pertinence of the indicator concerned to certain important evaluation questions, as well as at what point in the monitoring cycle this question arises (see Section I.2.2).

II.2 Developed indicators tables

Figure 6

(A) Enabling Framework

Topics	Goals, Objectives	Success criteria /Target	Indicator		Indicator Definition	How to measure (multiple sources)	Who is responsible for data collection	How often to be measured
Governing structures	To ease communication and exchange of information within and between the governing bodies	Member States satisfaction	1	Development of effective and diverse communication tools between Member States	Member States are satisfied with the developed Communication tools including web-based platform, video conferencing system, allowing circulation of information, access to documentation and meetings' follow-up, good communication flow and visibility on the project's advancement.	Questionnaire among Member States	Monitoring team (WP5)	Each coordination action final evaluation
	To facilitate financial and administrative management	Member States satisfaction	2	Appropriate financial management of the coordination budget	Member States are satisfied with the European Commission financial contribution administration, distribution. Contractual issues are appropriate			
	Increased Member States' participation to the official meetings	Percentage of Member States (by mean of their representatives) attending meetings per year reaches 80%	3	Proportion of Member States attending the meetings	A semi-annual average of the percentage of the total number of Member States attending JPICH meetings (only the official meetings are being counted), considering possible evolutions in the total number of Member States from one meeting to another	Minutes of official meetings Information provided by Coordinator	Coordinator (WP1)	Each monitoring cycle
Extending cooperation and partnership	To extend network and cooperation to external organisations	At least one annual formal or informal collaboration with an international organisation	4	Number of collaborations with organisations	Both formal and informal collaborations, joint activities with International organisations (including UN, UNESCO, NGOs, ICOMOS, ICOM...), NGOs, regional organisations, other...	Information provided by WP4 leader	WP4 leader	Each monitoring cycle
	To establish quality contacts with other JPIs	Organise at least one joint activity with another JPI before the end of 2014	5	Number of joint activities with other JPIs	Other JPIs (Urban Europe, Clik'EU, FACCE etc.). Joint activities including definition of common schemes for evaluation and monitoring, coordination or clustering, definition of common SRA, joint training activities, personnel exchange, mutual opening of facilities and infrastructures, of programmes, joint calls design and implementation, other...			

Extending cooperation and partnership	To build links with other transnational collaboration activities	At least one annual formal or informal link with transnational cooperation activities other than JPIs	6	Existence of links with other transnational collaboration activities	Existence or not of formal and informal links with transnational activities other than JPIs; Joint technology initiatives, Article 185 projects...	Information provided by WP4 leader	WP4 leader	Each monitoring cycle
	Sustainable cooperations and partnerships	10% of cooperations and partnerships lasting more than 3 months	7	Proportion of cooperations and partnerships lasting more than 3 months	Duration of both formal and informal collaborations, joint activities, cooperations and partnerships with organisations, JPIs, transnational activities, as described above (ind. 4, 5, 6)	Information provided by WP4 leader	WP4 leader	Each coordination action final evaluation
	To cooperate with non European countries	Cooperate with at least one non European country before the end of 2014	8	Number of cooperative projects involving non-European countries	Cooperative projects involving non-European countries, particularly advanced economies (Japan, USA...), neighbourhood Mediterranean countries, BRICs...			
JPICH attractiveness	JPICH is attracting new countries	Initial countries' membership enlarged to include at least one new country	9	Number of new countries that joined the project	Cumulated number of Countries that joined the project and that were not present at the beginning of the project	Minutes of Governing Board meetings information provided by Coordinator	Coordinator (WP1)	Each monitoring cycle
	Participating countries are strongly committed to the project	Number of participating countries doesn't decrease from one year to the next	10	Total number of participating countries and number of countries participating per year	Cumulated number of participating countries starting from the beginning of the project, and information about the number of countries that participated to the JPICH per year			Each coordination action final evaluation
		No country opts out of JPICH	11	Number of countries having withdrawn from project	Countries that opted out. Opt out of participating countries means both no longer partners or observators			Each monitoring cycle
SRA and implementation plan	Member States are satisfied with SRA	90% of participating countries satisfied with JPICH goals and objectives as stated in SRA	12	JPICH participating countries' satisfaction towards JPICH goals and objectives mentioned in SRA	90% of the participating countries consider that JPICH goals and research objectives mentioned in the SRA are timely, adapted and reflect JPICH main challenges and priorities	Questionnaire amongst Member States	Monitoring team (WP5)	Each coordination action final evaluation
	Implementation plan's funding quantity and type matches SRA needs	–	13	Adequacy of research needs in SRA and Implementation Plan	The SRA is reflected by the Implementation that identifies the most useful funding instruments and pooling capacities for implementation of selected research topics in SRA			
	Research priorities and gaps identified and reflected in the SRA are timely and regularly updated	Up-to-date SRA	14	Number of SRA updates	Number of possible amendments, modifications, additions, suppression to the original text in order to better adjust it to the initial challenge, or to adapt it to the changing context	SRA WP2 leader	WP2 leader	

Dissemination strategy	To identify and contact key stakeholders across and within the EU	Key stakeholders identified and contacted	15	Number of new stakeholders reached by the dissemination strategy within EU and number of stakeholders across the EU	One number for the stakeholders reached by JPICH dissemination strategy in the EU, one number for stakeholders reached outside the EU. They include the four categories used in the Dissemination Plan: Policy makers and influencers ; Cultural Heritage research community ; Parallel projects and organisations ; Industry, SMEs ans civil society	Information provided by WP6 leader	WP6 leader	Each monitoring cycle
	Accessibility of updated informations for stakeholders	At least two different communication tools provided for stakeholders' information	16	Number of communication tools for stakeholders' information	Depending on the information requirements for groups, and their potential for engagement at different time periods during the initiative, a set of methods will be developed for communicating with each group, including printed promotional materials, websites, newsletters, events, links to databases and resources.			
	To Involve various types of stakeholders	Involve at least two different types of stakeholders	17	Stakeholders diversity	How many different types of stakeholders are reached by the dissemination plan? These include the types of involvements and ' categories of the Dissemination Plan describe in indicator 15			

Figure 7

(B) Research implementation

Topics	Goals, Objectives	Success criteria /Target	Indicator		Indicator Definition	How to measure (multiple sources)	Who is responsible for data collection	How often to be measured
Joint transnational calls for proposals	To launch joint transnational calls for proposals	Launch at least 2 joint transnational calls for proposals after 3 years	18	Number of new joint transnational calls for proposals	Number of new joint transnational calls for proposals published by the JPICH	WP3 annual report	WP3 leader	Mid term Each coordination action final evaluation
		At least one new joint call for proposals planned for the future	19	Number of joint calls planned for the future	Number of joint transnational calls for proposals planned for future of JPICH			
	To increase the amount of allocated funding through transnational calls for proposals	Number of applications granted and average funding allocated per application increase from one call to the next	20	Evolution in the number of applications granted and average funding allocated per application through calls for proposal	For each call, total amount of allocated funding related to the number of applications finally granted and average funding allocated to each granted project, compared to preceding call	WP3 annual report	WP3 leader	Each monitoring cycle (if applicable)
	Applications meet the objectives of the calls for proposal	–	21	Relation between total number of projects submitted, number of projects selected after peer review, and final number of granted projects	For each new call, percentage of projects selected after peer review related to total number of applications after eligibility check and percentage of projects granted compared to number of projects selected after peer review			
	To allocate funding to as many projects selected after peer review as possible	100% of selected applications are granted after peer review						
Capacity building and Enabling activities	To facilitate researcher mobility	–	22	Number of researchers exchanged across the partner research institutions	Number of researchers exchanged mainly through transnational calls, collaborative cross-border projects, specific training programmes, workshops, seminars and institutional exchanges	WP3 annual report WP4 Coordinator (WP1)	Coordinator (WP1) WP3 leader	Each monitoring cycle
		10% of exchanged researchers moved more than 3 months	23	Number and proportion of researchers who have moved more than 3 months	Compared to total number of exchanged researchers across partner research institutions (ind. 19), researchers who moved more than 3 months (cumulated or consecutive) for JPICH related activities			

Capacity building and Enabling activities	To promote transnational collaboration between researchers	Involve at least two different countries in research projects	24	Share of transnational collaborative projects	Share of project involving at least two different countries (concerning researchers and Cultural Heritage professionals, not for funding institutions or management staff)	WP3 annual report WP4 Coordinator (WP1)	Coordinator (WP1) WP3 leader	Each monitoring cycle
	Development of advanced training	At least one training instrument implemented annually	25	Number and diversity of training instruments implemented	Inform as to number of seminars, conferences, thematic workshops, e-learning platforms developed for Cultural Heritage researchers and professional training purposes.			
	Multidisciplinary approaches to Cultural Heritage	Cross at least two different research or professional areas	26	Share of multidisciplinary projects	Share of developed projects crossing at least two different research or professional areas (applied/basic research; research/mechanic industry; climate/materials research...), compared to total amount of research projects			
	Development of a Cultural-Heritage-dedicated network of infrastructures	Develop and pool digital infrastructures for Cultural Heritage Develop and pool research facilities, laboratories, infrastructures	27	Share of digital and built infrastructures compared to total number of infrastructures participating in the JPICH	Number of new or pre-existing infrastructures participating in JPICH activities. Physical (CHARISMA...) and digital (DARIAH...) infrastructures. Open laboratories, networks (HERA...)	WP3 annual report WP4 WP6 report Coordinator (WP1)	Coordinator (WP1) WP3 leader WP6 leader	Each monitoring cycle
Collaboration with private sector	Private sector participation in the research process	At least one collaboration implemented with the private sector	28	Number of research collaborations and partnerships with private sector	Participation of industry and SMEs through calls for proposals, access to research infrastructures, training programmes, informal collaborations, and commercial projects. Projects co-financed by private sector, access to private infrastructures	WP3 annual report WP4 WP6 report Coordinator (WP1)	Coordinator (WP1) WP3 leader WP6 leader	Each monitoring cycle

Figure 8

(C) Research added value

Topics	Goals, Objectives	Success criteria /Target	Indicator		Indicator Definition	How to measure (multiple sources)	Who is responsible for data collection	How often to be measured
Calls outputs	Development innovative Cultural-Heritage-dedicated tools and technologies	–	29	Number and proportion of patent applications, license agreements, invention disclosures, studies underway, technology demonstrators	Development of cross disciplinary tools and methodologies for repair, treatment and maintenance... of Cultural Heritage, including new or improved products, technologies (advanced hybrid technologies, diagnostic tools, nanotechnology), processes (single early warning intelligent system crossing chemical, biological or physical sensors, climatic-security- behaviour interdisciplinary model, mapping earth observation with the help of spatial technologies) and equipments.	WP3 annual report JPICH & Heritage Portals	Coordinator (WP1) WP3 leader WP6 leader	Mid term Each coordination action final evaluation
	Development innovative frameworks and methodologies for conservation and risk assessment	–	30	Number of new specific frameworks and methodologies dedicated to Cultural Heritage conservation	New frameworks, methodologies and dedicated to risk assessment & prevention, Cultural Heritage conservation, natural and man-made disasters developed during JPICH research projects. Specific management and risk assessment protocols			
	Digitization of Cultural Heritage	–	31	Share of research projects developed through JPICH addressing the specific challenge of digital Cultural Heritage	Share of research projects addressing or concern with the problems of conservation of materials used in cultural information storage, conservation of digital heritage, digitization of tangible and intangible heritage, digital database... compared to total number of research projects during the period in question	WP3 annual report Coordinator (WP1)	Coordinator (WP1) WP3 leader	Mid term Each coordination action final evaluation
	Improved accessibility of materials and data	–	32	Share of project addressing improvement in accessibility of materials and data	Share of research projects concerned with improving accessibility of materials and data, by using data mining, database, infrastructures... compared to total number of research projects during the period in question			
	Research projects' initial objectives completed	Majority of research projects reached their expected objectives	33	Number of research projects having reached expected objectives, compared to number of research projects not completed or prematurely aborted	For the period in question, number of research projects that reached a majority of their initial objectives compared to number of projects prematurely aborted because ineffective or inefficient, or unable to reach the majority of their initially stated objectives			

Publications	To enhance visibility of JPICH activities in the Cultural Heritage specialized publishing	–	34	Number of publications in specialized, academic and high-impact journals	Number of publications resulting from JPICH-related activities and research projects, notably in specialized, academic and high-impact journals (those considered highly influential in the field of Cultural Heritage and in specialized professional fields)	WP3 annual report JPICH & Heritage Portals	Coordinator (WP1) WP3 leader WP6 leader	Mid term Each coordination action final evaluation
	Available publications of specific JPICH related activities	–	35	Number of collective works, conference proceedings, monographs, etc.	Number of collective works, conference proceedings, monographs, etc. resulting from JPICH-related activities and research projects			
Training	To include students and professionals still in training in JPICH activities	–	36	Number of degrees achieved and theses presented by students collaborating in JPICH during the life time of the project	Students having achieved important degrees (master, doctoral) or presented their thesis during JPICH lifetime and having participated in JPICH activities in one way or another, through research projects, workshops or training programmes.	WP3 annual report Coordinator (WP1)	Coordinator (WP1) WP3 leader	Each coordination action final evaluation
Efficiency benefits through pooling	Capacity and financial gains through pooling	The benefits of international calls for proposals and non-project funded activities outweigh transaction and administrative costs of JPICH	37	Cost of coordination compared to size of research budget	The total costs of preparing JPICH coordination (mostly working hours spent on preparation, selection and contracting) measured in relation to the size of the research budget, costs of non-project-funded activities (total costs).	Questionnaire among Member States	Monitoring team (WP5) WP3 leader	Each coordination action final evaluation
		Involve a group of funding bodies wider than the total number of States participating to the JPICH	38	Number of funding bodies participating to JPICH activities compared to total number of Member States and share from non Member States	Number of funding bodies from JPICH Member States, observer States or non member countries participating in the funding of JPICH activities, compared to the number of Member States of the JPICH. Share of total funding bodies originating from observer or non member countries.	WP3 annual report Coordinator (WP1)	Coordinator (WP1) WP3 leader	Each coordination action final evaluation
	JPICH representativeness in the Cultural Heritage research financial landscape	Funding coordinated through JPICH reaches 5% of total European research funding in this domain	39	Amount of JPICH common research funding for Cultural Heritage as share of total EU research funding in this domain	Funding in Cultural Heritage areas commissioned jointly as a proportion of the aggregated national research funding, including from the European Commission & European Research Council.	WP3 mapping information Questionnaire among Member States	Monitoring team (WP5) WP3 leader	Each coordination action final evaluation

Coordinated and streamlined research	Increased coordination of JPI and European scientific strategic agendas	Development of an European agenda mirroring the JPICH agenda	40	New mechanisms for coordination with regional, federal, national and European agendas	Innovative mechanisms implemented for coordination, interactions between institutional strategic agendas in the Cultural Heritage area: common research agendas, forums, subsidiarity principle... as innovative funding concepts likely to influence national, regional, institutional funding policies	WP3 mapping information Questionnaire among Member States	Monitoring team (WP5) WP3 leader	Each coordination action final evaluation
	High coordination of JPI and National/Federal scientific strategic agendas	Participating States align their scientific strategy to the JPICH agenda						
	To share common institutional agendas	Share the JPICH agenda with at least one institution	41	Number of institutions sharing JPICH Strategic Research Agenda	Number of International organisations, national ministries or departments, agencies, councils, regional organisations, public research organisations and others... sharing JPICH agenda or for which the SRA of the JPICH is explicitly mentioned as a cornerstone	WP3 mapping information	WP3 leader	Each coordination action final evaluation

Figure 9

(D) Transformational effect

Topics	Goals, Objectives	Success criteria /Target	Indicator		Indicator Definition	How to measure (multiple sources)	Who is responsible for data collection	How often to be measured
Developing a reflective society	To improve the way Cultural Heritage reflects changes in terms of values and ethics	–	42	JPICH contribution to adoption, introduction and enforcement of charts, standards, ethical codes and declarations	At the transnational and national/regional/federal levels, JPICH contributions to the adoption of innovative charts, standards, ethical codes, declarations (regulating Cultural Heritage social inclusion in terms of values and ethics) or to better enforcement of existing ones (ICOMOS, UNESCO, ICOM, etc.)	Questionnaire among Member States	Monitoring team (WP5)	Mid term Each coordination action final evaluation
	To reflect society's changing identity and perception of Cultural Heritage	–	43	Involvement in JPICH activities of civil society and cultural minorities representatives	Number of collaborations, research projects, workshops etc. developed through JPICH activities and involving civil society (non governmental organisations, community associations, social movements, religious organisations, clubs, centres) and representatives of national/European cultural minorities (ethnic, linguistic, religious).	WP3 annual report WP4 WP6 Coordinator (WP1)	Coordinator (WP1) WP3 leader WP4 leader WP6 leader	Mid term Each coordination action final evaluation
Connecting people with heritage	To improve Cultural Heritage accessibility	50% of total created, updated and pooled multidisciplinary databases are in open access	44	Increased access to Cultural Heritage information through database development, and share of open access databases	Number of multidisciplinary databases created, updated and pooled through JPICH activities, and share of open access sources compared to total.	WP3 annual report WP6 Coordinator (WP1)	Coordinator (WP1) WP3 leader WP6 leader	Mid term Each coordination action final evaluation
		The use of existing databases on Cultural Heritage increased before and after JPICH intervention	45	Increased use of Cultural Heritage databases thanks to JPICH	Use of selected key databases on Cultural Heritage before and after they were completed, updated and promoted through JPICH intervention.	WP3 annual report	WP3 leader	Each coordination action final evaluation

Connecting people with heritage	To improve Cultural Heritage accessibility	Visits to the Heritage Portal and the JPICH website increased from the beginning of the JPICH	46	Increase in the amount of visits on the Heritage Portal and on the JPICH website	From the beginning of the JPICH, evolution of unique visitors visits to the Heritage Portal (http://www.heritageportal.eu/) and JPICH website (http://www.jpi-culturalheritage.eu/)	JPICH & Heritage Portals analytics	Coordinator (WP1) WP6 leader	Each coordination action final evaluation
	To help leaders in their use of Cultural Heritage (policy making) and to improve Cultural Heritage inclusion in research and sectoral policies	–	47	Increased and diversified actions to bring knowledge developed in the JPICH to political level	Number and type of actions developed by the JPICH to promote knowledge, tools and policy making instruments developed through its activities at political regional/federal/national/European/transnational levels: lobbying, political advisory groups, advocacy groups, transnational forums	WP3 annual report WP4 WP6 Coordinator (WP1)	Coordinator (WP1) WP3 leader WP4 leader WP6 leader	Each coordination action final evaluation
Creating knowledge	To develop multidisciplinary frameworks, methodologies and protocols for integrated risk assessment	–	48	Share of projects addressing multidisciplinary frameworks for integrated revitalisation of artefacts, buildings and landscapes.	Compared to the total number of research and multidisciplinary projects developed through JPICH activities, share of projects proposing multidisciplinary frameworks, methodologies, protocols for integrated risks assessment	WP3 annual report Coordinator (WP1)	Coordinator (WP1) WP3 leader	Each coordination action final evaluation
	To move the field towards truly interdisciplinary studies	–	49	JPICH ability to attract and increase investments for existing and new Cultural Heritage educational programmes	JPICH participations in creation of new Cultural Heritage curricula, in enforcement of the existing one, and its expenditure on pre-existing and new educational programmes	WP3 annual report Coordinator (WP1)	Coordinator (WP1) WP3 leader	Each coordination action final evaluation
		New academic and educational instruments with targeted approach to SRA research priorities were developed thanks to JPICH	50	Increase in the amount of existing academic and educational instruments with targeted approach to present SRA priority research areas	Number and type of new instruments having potential academic and educational application, targeting current SRA research priorities, and developed through JPICH research projects and activities	WP3 mapping information & annual report	WP3 leader	Each coordination action final evaluation

Creating knowledge	To generate knowledge	–	51	Integration level of available Cultural Heritage information in targeted Cultural-Heritage-related fields of study	In selected key fields of study (conservation, architecture, urban studies, climate studies...), increased integration of Cultural Heritage information in representative research processes and in educational programmes, before and after JPICH intervention	WP3 mapping information & annual report	WP3 leader	Each coordination action final evaluation
		Available information on the Heritage Portal and on the JPICH website increased from the beginning of the JPICH	52	Increase in the amount of Cultural Heritage information available on Heritage Portal and on JPICH website	From the beginning of the JPICH, increase in the amount of information available on the Heritage Portal (http://www.heritageportal.eu/) and on the JPICH website (http://www.jpi-culturalheritage.eu/)	JPICH & Heritage Portals analytics	Coordinator (WP1) WP6 leader	Mid term Each coordination action final evaluation
Safeguarding our Cultural Heritage resource	Conservation, revitalisation of artefacts, buildings and landscapes	–	53	Share of collaborative projects addressing and investigating renewal and restoration of historic areas	Share of the total projects and activities developed through JPICH addressing and investigating the fields of historic architecture, renewal and restoration of historic areas with an innovative, global and multidisciplinary safeguard approach	WP3 annual report Coordinator (WP1)	Coordinator (WP1) WP3 leader	Mid term Each coordination action final evaluation
	Adaptation to and mitigation of climate change effects	Contribute to H2020 goals to reduce energy demand by factor of 5 to 20%, or more	54	JPICH potential contribution in reduction in energy demand and use	Potential impact on energy demand and use (in %), of results achieved through JPICH-related projects addressing or trying to tackle the challenge of renewable energy in the Cultural Heritage domain with reference to Europe 2020 goals	WP3 annual report	WP3 leader	Each coordination action final evaluation
		–	55	Share of collaborative projects addressing and investigating the issue of climate change	Share of total projects and activities developed through JPICH addressing and investigating the issue of climate change effect on Cultural Heritage	WP3 annual report Coordinator (WP1)	Coordinator (WP1) WP3 leader	Mid term Each coordination action final evaluation

Transversal indicators	JPICH ability to address research priorities identified in the SRA	80% of research priorities identified in the SRA were addressed by JPICH activities	56	Proportion of priorities identified in the SRA addressed by JPICH activities, and number of collaborative scientific networks working on each priority	Among the priorities identified in the SRA and implementation plan: Developing a reflective society, identity and perception, values, ethics; connecting people with heritage, protection through use, sustainability, security, heritage information; creating knowledge, linking information, change, methods and measurements, integrating risk; safeguarding our Cultural Heritage resource, conservation, adaptation and mitigation A proportion of these priorities addressed through JPICH activities and detail on the number of projects addressing each priorities	WP3 annual report Coordinator (WP1)	Coordinator (WP1) WP3 leader	Each coordination action final evaluation
	To open JPICH activities to non-researchers	–	57	Proportion and type of non researchers taking part in JPICH activities	Through activities developed by the JPICH, proportion of non-researchers (not directly belonging to the research system) directly taking part in these activities (rather than as an audience or external staffing), and their type (civil society, SME representatives, NGO representatives), compared to total amount of people directly taking part in these activities	WP3 annual report Coordinator (WP1)	Coordinator (WP1) WP3 leader	Mid term Each coordination action final evaluation
	To help Europe's economical growth and jobs	–	58	Number of transversal jobs directly or indirectly created through JPICH activities and their sustainability	Through activities developed by JPICH, number of jobs directly or indirectly created, and their sustainability rate one year later.	WP3 annual report Coordinator (WP1)	Coordinator (WP1) WP3 leader	Mid term Each coordination action final evaluation
	Public visibility of JPICH activities	–	59	JPICH ability to attract the general public	Number and type (presentation, engaging, involving participatory kinds...) of outreach communication, exhibitions and other events addressed to the general public and developed through JPICH activities	WP3 annual report WP6 Coordinator (WP1)	Coordinator (WP1) WP3 leader WP6 leader	Mid term Each coordination action final evaluation
		Increased visibility of JPICH activities on European/ regional/ national/ international mass media	60	JPICH visibility on communication and dissemination mass media	Visibility and mention of JPICH activities in European/regional/federal/national/international mass offline and online media	WP3 annual report WP6 Coordinator (WP1)	Coordinator (WP1) WP3 leader WP6 leader	Mid term Each coordination action final evaluation

II.3 Assessing JPICH's impact

As shown in Section I.2.1, impact indicators are necessary to prove something - more for policy makers and grant providers than for the project's managers. The (D) category "transformational effect", in the tables presented in Annex III and Section II.2 proposes some proxy indicators to assess completion of the main challenges and objectives stated in the SRA and Vision Document, in spite of the many problems arising in the identification of adequate impact indicators. It is possible to describe two of these problems in brief:

The attributional challenge

How will it be possible to prove exactly that an impact observed at societal, environmental or politic level is due to the effects of the JPICH intervention? Given that many other external and uncontrolled effects can have significant impact on the very same intervention field as that of the JPICH, attribution is problematic.

The long time lag between an intervention and its expected impact

This complicates both the attribution factor and the definition of appropriate indicators. As explained in Section I.1.2, the objective of monitoring and evaluation is to help improve the effects of an ongoing action. Since the impact becomes manifest only a long time later, it seems very difficult to draw valuable lessons from impact assessment and feed them back in order to improve an ongoing intervention. "The more impact is defined at a large distance in time and in causal relations from the research activities, the less appropriate it is for the evaluation purposes"[20].

It is for this reason that this deliverable, in order to keep pace with the monitoring and evaluation purposes defined in Section I.1.2, focuses on two methods of assessing the impact of the JPICH:

- Impact is assessed through proxy indicators listed in the (D) Transformational effect category, in line with the methodology presented below (Section II.3.1)
- Impact is assessed by changing the conceptual vision of the Logical Framework Analysis method, and by considering that, rather than being an effect occurring at the end of a logical chain of effects, impact is a single notion encompassing all other measurable effects (Section II.3.2 and Fig 11).

II.3.1 identifying proxy indicators for impact

JPIs should be making efforts toward defining more effective indicators. Better harmonisation of monitoring and evaluation methods between JPIs would ensure improved comparability of the impact via standardization of available data. Although this is not yet the case, it is still possible to build indicators to assess progress made towards the JPICH long-term strategic objectives, by combining different factors[21]:

[20] SIAMPI
[21] Luoma P. and al.

- The *accumulation factor*: when accumulation during the project of a specific effect makes a later impact more likely
- The *improvement and development factor*: when an effect becomes sufficiently important that progress is observable in certain specific areas, in comparison with selected benchmarks and similar projects
- The *systemic factor*: when an effect concerning only few parts of a system starts to become *holistic*, affecting the system as a whole
- The *global factor*: when an effect formerly reaching only regional or national levels begins to affect higher (international) levels
- The *relevance factor*: when it becomes possible to assess that the ongoing effects of a project are both representative and a good fit with the initial rationales for intervention and the societal challenges

The indicators presented in the (D) category of the table were identified by following these methods, along with the idea that "it is more helpful to have approximate answers to a few important questions than to have exact answers to many unimportant questions"[22]. Most of these are short-term, proxy indicators that appear predictive of long-term impact.

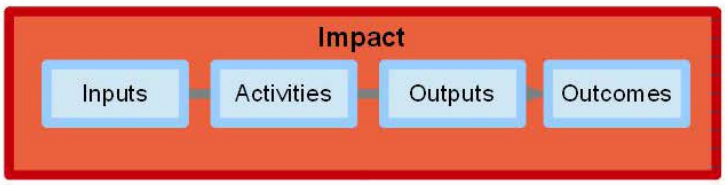
As shown in Figure 10, below, this method still considers impact to be an effect occurring at the end of the Logical Framework Analysis chain, while acknowledging that some of its early manifestations can be measured prior to the end of the monitoring cycle.

Figure 10

II.3.2 Impact as an encompassing concept

The second method considers impact as an encompassing concept (see Fig 11 below). The condition for the JPICH to reach impact and respond to the initial challenges is respect for the basic conditions making impact likely to occur in the near future. Consequently, impact is considered to be an ongoing process (rather than an end product) and project managers may be able only to create the conditions and the ideal situation favourable to impact.

Figure 11



[22] UNDP

In other words, final impact is related to overall long-term strategy, whereas specific objectives are an indispensable tactic in fulfilling this overall strategy. During the early years of JPICH, it will mainly be possible to focus on immediate tactics (inputs, activities, immediate outputs, and sometimes outcomes). Impact will be a by-product, influenced by many external factors, and partially attributed to the JPICH action.

II.4 Developing and assigning data collection schedules

II.4.1 Time frame for the data collection process

In the tables presented in Section II.2, the *How often to be measured* column (see also Section II.1.3 about the indicators measurement framework) indicates a schedule for the monitoring and evaluation task. It is developed in accordance with the first Coordination Action (JHEP, October 2011 – late September 2014). But as stressed in the Preamble, this document also seeks to provide a framework for assessment of the JPICH as a whole. Therefore, the *How often to be measured* column should organise data collection schedules for potential upcoming JPICH coordination cycles. The JHEP monitoring plan and schedules are largely developed in Annex III.

Three evaluation moments for data gathering have therefore been identified in this column, in line with the typology presented in Section I.2.2. These shall apply to all Coordination and Support Actions in the JPICH frame, with the exception of the JHEP Coordination Action – which will follow different schedules concerning the mid-term and ex-ante evaluations, as described below.

Mid-term evaluation

Since the JHEP mid-term assessment has already been conducted, the indication mid-term in the table only concerns the next JPICH coordination cycles. With regard to the JHEP Coordination Action, one 'substitute' mid-term assessment will be conducted to test its monitoring and evaluating framework through WP5's MS8, as described below in Figure 12, when evaluating implementation of the JPICH for the very first time.

Each coordination action final evaluation

This will be equivalent to the ex-post evaluation described in Section I.2.2. A final evaluation will be conducted for each Coordination and Support Action, and eventually one ultimate evaluation at the end of the JPICH. For the JHEP Coordination Action, this evaluation will take place at the end of 2014, corresponding with the end of WP5's Task 5.2 and the deliverable on "recommendations for future monitoring and evaluation activities" as described below in Figure 12.

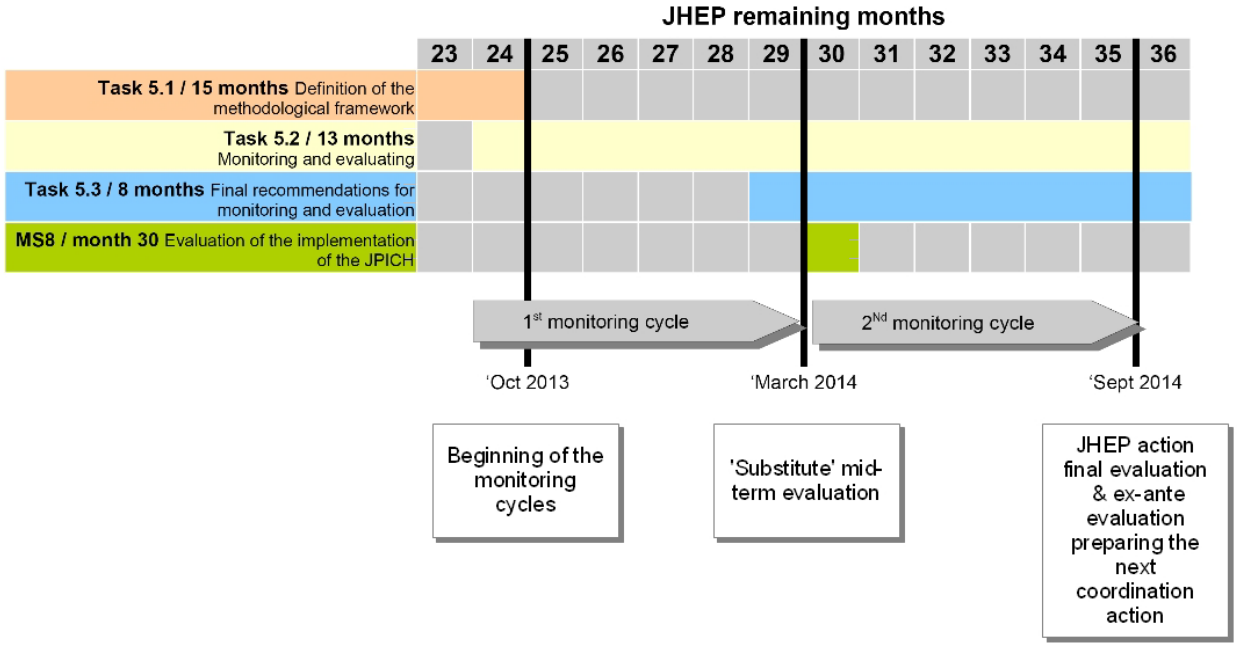
For the next Coordination and Support Actions, an ex-ante evaluation will generally be concomitant to the final evaluation of the previous Coordination Action. It follows that in the indicators table, the indication "Each coordination action final evaluation" concerns indicators that will help provide lessons from the previous coordination cycle, feeding them back to help with preparation of the next coordination cycle, with the possibility of updating the SRA and Implementation Plan.

Each monitoring cycle

This indication concerns indicators that will need to be monitored regularly. For the JHEP, as described in Figure 12, the remaining months have been broken down into two monitoring cycles of approximately 6 months each. The end of the first JHEP monitoring cycle will also correspond with JHEP substitute mid-term evaluation as described above. The end of the second monitoring cycle will correspond with the JHEP action's final evaluation. For the next Coordination Action, monitoring cycles should be well-defined in order to correspond with important milestones - ideally falling in, if possible, with a 6-month period - even if this 6 months period may be too short for some Work Packages to allow the repetition of the monitoring exercise.

Figure 12 shows how the monitoring and evaluation schedules for the JHEP Coordination Action were organised in line with the three remaining tasks and the main WP5 milestone.

Figure 12



II.4.2 Allocation of data collection

In the tables presented in Section II.2, the *who is responsible for data collection* column shows how the data collection task will be shared among the various Work Packages leaders of the first CSA.

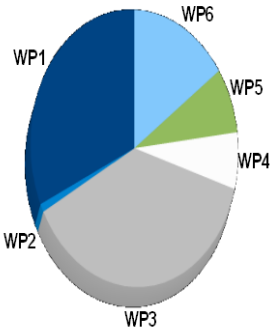
This precise point demands further discussion, as does the overall strategy for collecting and analysing data. The main challenge is to be sure that data will be available to inform indicators and that monitoring users will be able to absorb the information produced.

The indications in the table concerning delegation of the collecting tasks are based on practical considerations. Using the DoW, it tries to determine which Work Package leader

has best access to the necessary data. Indeed, many Work Packages, outside the WP5, are vested in the DoW with responsibility for collecting, monitoring or reporting on specific data. Some are also vested with facilitating access to data, such as the Coordinator (WP1) whose responsibility is, amongst other tasks, to "structure communication and information and make it available and stored in centralized E-data repository"[23]. One of the Coordinator's stated objectives in the DoW is also to "monitor ongoing activities and results of the JHEP Coordination Action".

The WP3 leader also is asked to "collaborate with WP5 framework for monitoring and evaluation in feedback analysis of the initial joint calls as well as in order to draw the lessons learned and amend the next joint calls"[24].

Figure 13



Another important source of information will be the Heritage Portal[25]. WP6 is responsible for developing a set of methods for communicating with stakeholders, and these "methods for communication will include a public website using the existing infrastructure of Net Heritage observatory"[26].

Finally, WP4 concept papers on how to extend cooperation and partnership in Europe and abroad will be useful for informing key indicators on the extension of cooperation and partnerships.

The chart above (Fig 14) proposes an overview of how data collection will be distributed among Work Packages leaders (with the exception of the monitoring team). A better idea of the monitoring task distribution is given in Annex III.

II.4.3 Beginning data collection

The monitoring team is in charge of centralizing the data collection process, in order to make it accessible as necessary. This team is "responsible for the collection of indicators and reporting on the monitoring. All other beneficiaries and associated participants provide feedback on the monitoring and evaluation methodological framework"[27].

An agreement will have to be reached on whether subsequent evaluations post-JHEP will be conducted by the monitoring team or by internally designated experts, independent experts, or an independent consulting team...

The drawing up of two questionnaires is also planned by the evaluation and monitoring framework for the near future. One of these will concern certain important

[23] DoW, Task 1.1
[24] DoW, Task 3.3
[25] http://www.heritageportal.eu/
[26] DoW, Task 6.2
[27] DoW, Task 5.2

aspects of the *(A) Enabling framework* category of indicators), and another will concern certain aspects of *(C) Research added value* category of indicators). As provided for in the indicators tables (Section II.2), these two questionnaires should be used for final evaluation of the Coordination Action, and should thus be available some months beforehand, in order to allow their completion by the Member States.

Conclusion

Meeting the European Commission recommendations of 26th April 2010 – *27 Member States are encouraged to report regularly to the Commission on the progress made on Joint Programming Initiatives*[28] – and respecting instructions given in the Document of Work (DoW) for JHEP, the first JPICH Coordination and Support Action (CSA) - a framework for evaluation and monitoring supported by a set of 60 performance indicators - has been developed.

In order to facilitate JPICH results assessment, improve the ongoing intervention and ensure it does not deviate from its initial objectives, JPICH intervention logic has been decomposed following a Logical Framework Analysis (see Section I.2.1), and divided into five levels of performance: inputs, activities, outputs, outcomes and impact. In this way, the newly-formed monitoring and evaluation framework will allow us to answer certain key evaluation questions (Section I.2.2) concerning not only the first Coordination Action implementation (JHEP), but also subsequent cycles of coordination.

Therefore, Work Package 5 (WP5) will have the next important task of implementing this evaluation framework for the remaining months of the JHEP (task 5.2), according to the schedules established in this document (see Section II.4) and reviewing it according to the evaluation performed (Task 5.3). It will then be usable for the following coordination cycles.

It is necessary to remain aware that the JPICH, and more generally the Joint Programming Initiative (JPI), is a fairly recent transnational cooperation instrument, benefitting from very little comparative data, with the exception of those tools developed by the JPIs To Cowork[29] workshops and the JPND monitoring and evaluating framework[30].

As a consequence, the evaluating tools developed in this document may evolve towards more standardized and comparable evaluating instruments. In order to allow a better comparison over time, as well as better impact assessment of these initiatives, the mapping, evaluating and monitoring exercises will need to be regularly repeated, and care must be taken to ensure that this exercise is harmonized among ongoing JPIs.

[28] EU voluntary guidelines
[29] JPIs To Cowork
[30] JPND

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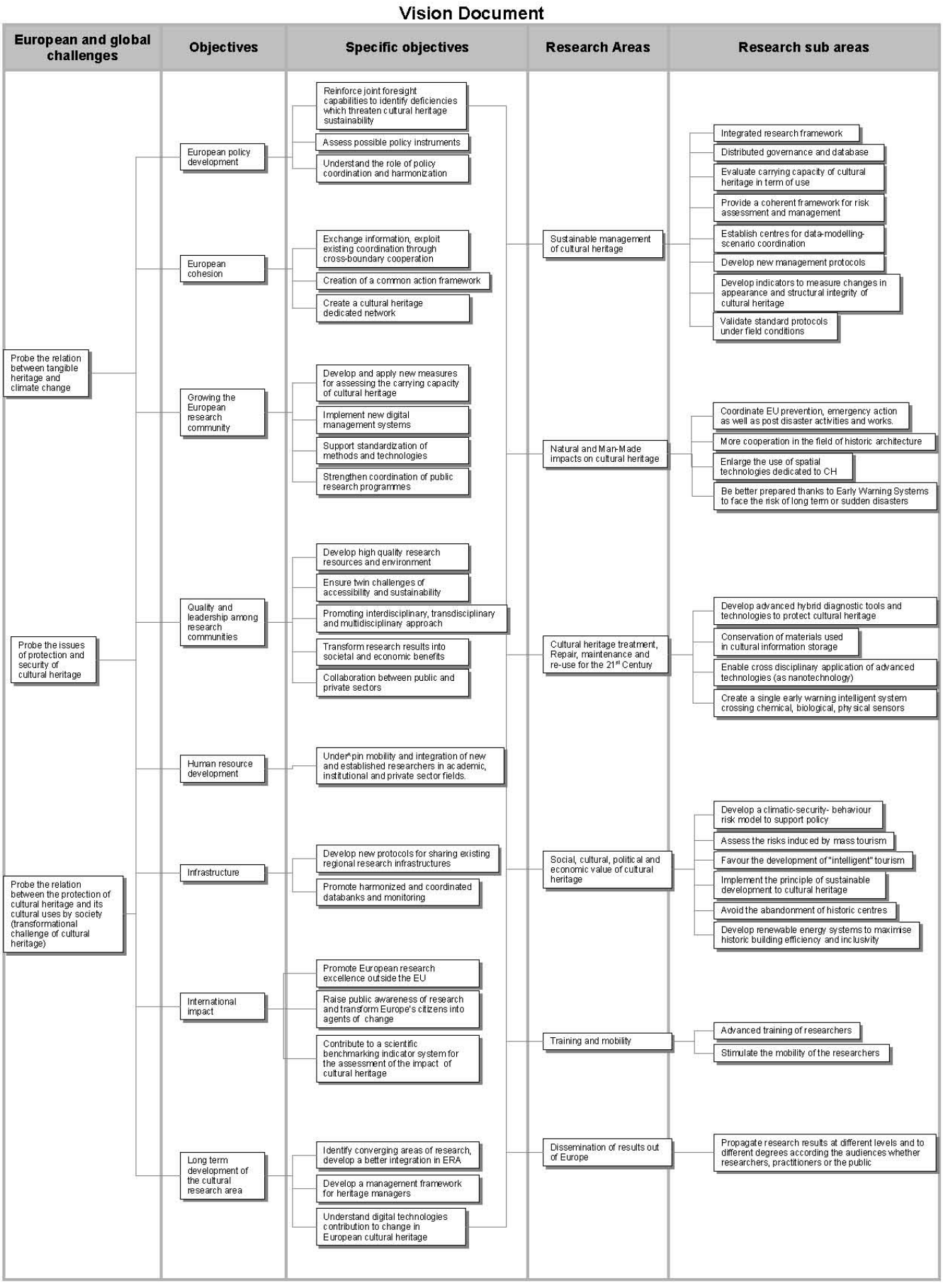
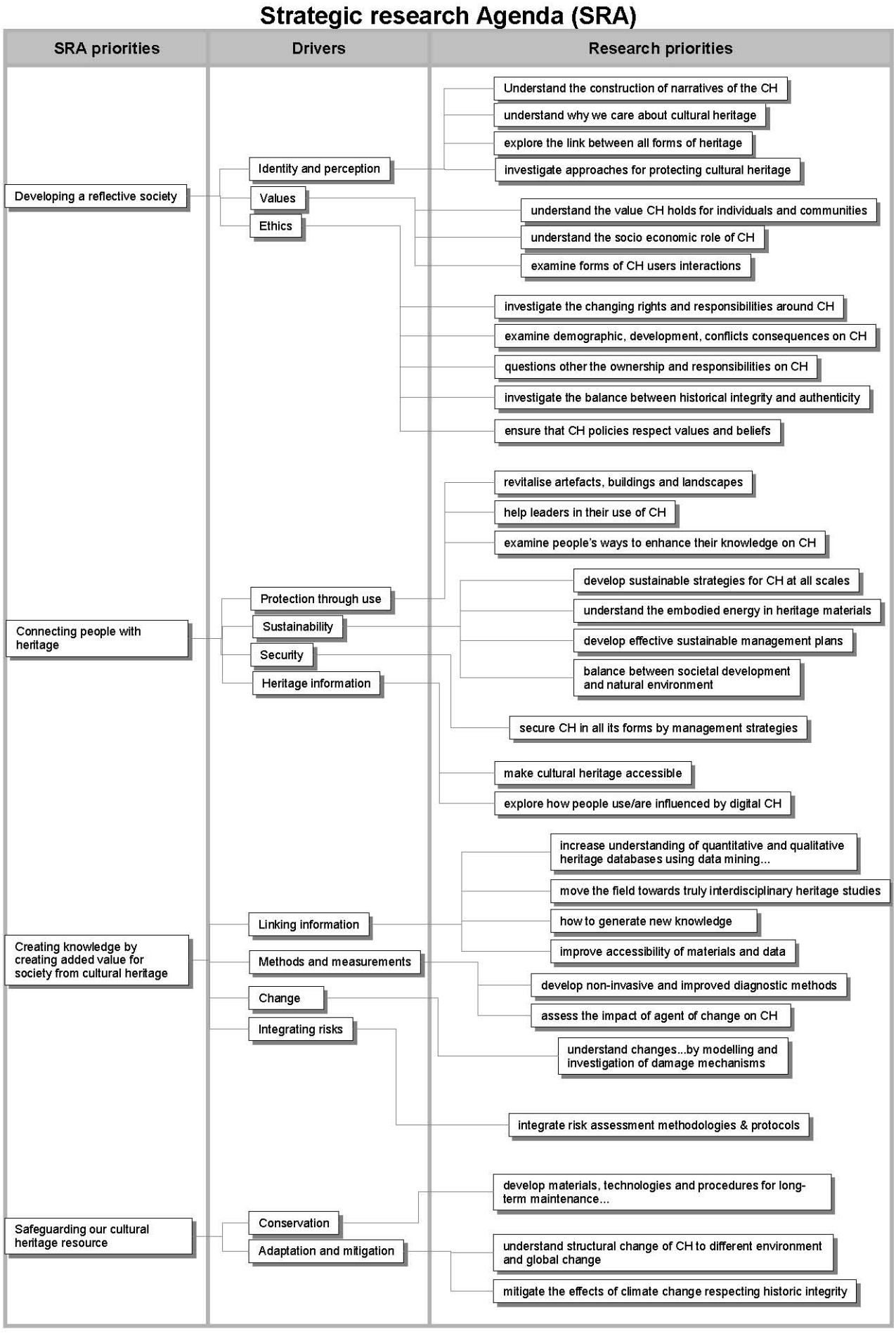
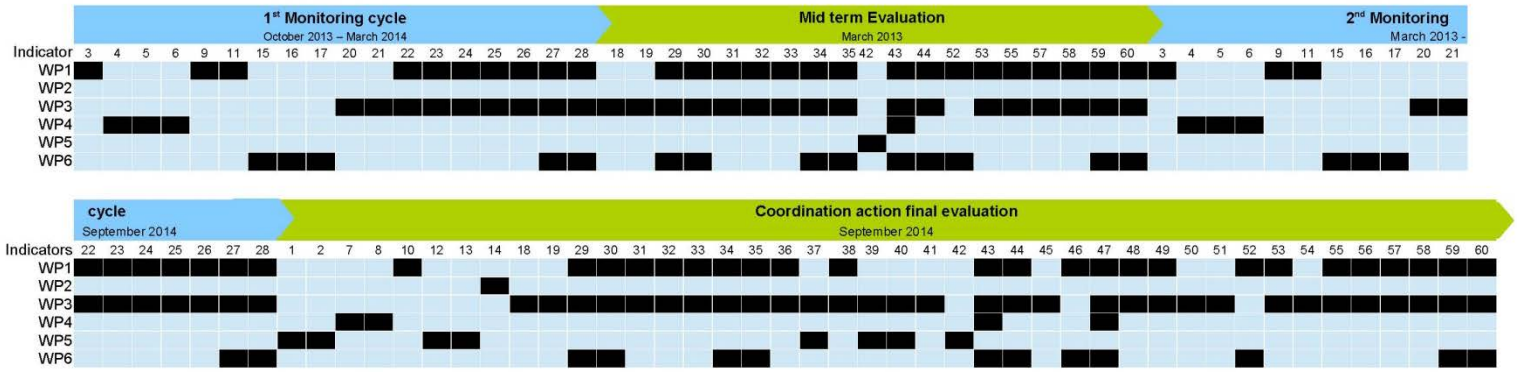
ANNEX I Vision Document structure



ANNEX II Strategic Research Agenda (SRA) Structure



ANNEX III Indicators list & Monitoring Plan applicated to first JHEP CSA



(A) Enabling framework

1- Development of effective and diverse communication tools between Member States
2- Appropriate financial management of the coordination budget
3- Proportion of Member States attending the meetings
4- Number of collaborations with organisations
5- Number of joint activities with other JPIs
6- Existence of links with other transnational collaboration activities
7- Proportion of cooperations and partnerships lasting more than 3 months
8- Number of cooperative projects involving non-European countries
9- Number of new countries that joined the project
10- Total number of participating countries and average of countries participating per year
11- Number of countries having withdrawn from project
12- JPICH participating countries' satisfaction towards JPICH goals and objectives mentioned in SRA
13- Adequacy of research needs in SRA and Action plan
14- Number of SRA updates
15- Number of new stakeholders reached by the dissemination strategy within EU and number of stakeholders across the EU
16- Number of communication tools for stakeholders' information
17- Stakeholders diversity

(B) Research Implementation

18- Number of new joint transnational calls for proposals
19- Number of joint calls planned for the future
20- Evolution in the number of applications granted and average funding allocated per application through calls for proposal
21- Relation between total number of projects submitted, number of projects selected after peer review, and final number of granted projects
22- Number of researchers exchanged across the partner research institutions
23- Number and proportion of researchers who have moved more than 3 months
24- Share of transnational collaborative projects
25- Number and diversity of training instruments implemented
26- Share of multidisciplinary projects
27- Share of digital and built infrastructures compared to total number of infrastructures participating in the JPICH
28- Number of research collaborations and partnerships with private sector

(C) Research Added Value

29- Number and proportion of patent applications, license agreements, invention disclosures, studies underway, technology demonstrators
30- Number of new specific frameworks and methodologies dedicated to Cultural Heritage conservation
31- Share of research projects developed through JPICH addressing the specific challenge of digital Cultural Heritage
32- Share of project addressing improvement in accessibility of materials and data
33- Number of research projects having reached expected objectives, compared to number of research projects not completed or prematurely aborted
34- Number of publications in specialized, academic and high-impact journals
35- Number of collective works, conference proceedings, monographs, etc.
36- Number of degrees achieved and theses presented by students collaborating in JPICH during the life time of the project
37- Cost of coordination compared to size of research budget
38- Number of funding bodies participating to JPICH activities compared to total number of Member States and share from non Member States
39- Amount of JPICH common research funding for Cultural Heritage as share of total EU research funding in this domain
40- New mechanisms for coordination with regional, federal, national and European agendas
41- Number of institutions sharing JPICH Strategic Research Agenda

(D) Transformational Effect

42- JPICH contribution to adoption, introduction and enforcement of charts, standards, ethical codes and declarations
43- Involvement in JPICH activities of civil society and cultural minorities representatives
44- Increased access to Cultural Heritage information through database development, and share of open access databases
45- Increased use of Cultural Heritage databases thanks to JPICH
46- Increase in the amount of visits on the Heritage Portal and on the JPICH website
47- Increased and diversified actions to bring knowledge developed in the JPICH to political level
48- Share of projects addressing multidisciplinary frameworks for integrated revitalisation of artefacts, buildings and landscapes.
49- JPICH ability to attract and increase investments for existing and new Cultural Heritage educational programmes
50- Increase in the amount of existing academic and educational instruments with targeted approach to present SRA priority research areas
51- Integration level of available Cultural Heritage information in targeted Cultural-Heritage-related fields of study
52- Increase in the amount of Cultural Heritage information available on Heritage Portal and on JPICH website
53- Share of collaborative projects addressing and investigating renewal and restoration of historic areas
54- JPICH potential contribution in reduction in energy demand and use
55- Share of collaborative projects addressing and investigating the issue of climate change
56- Proportion of priorities identified in the SRA addressed by JPICH activities, and number of collaborative scientific networks working on each priority
57- Proportion and type of non researchers taking part in JPICH activities
58- Number of transversal jobs directly or indirectly created through JPICH activities and their sustainability
59- JPICH ability to attract the general public
60- JPICH visibility on communication and dissemination mass media

ANNEX IV Composition of the Experts Panel

Mr	**CASATI**	Roberto	Senior Researcher, Institut Jean Nicod / CNRS	France
Mr	**CURRAN**	Brendan	Evaluation Manager, Health Research Board	Ireland
Ms **Mr**	**HERNANDEZ** **SANMARTIN**	Laura Joseba	Fondación Española para la Cienca y la Tecnología (FECYT)	Spain
Ms	**DE BOER**	Maartje	Programme Manager for Dutch Heritage, Cultural Heritage Agency	Netherlands
Ms	**LUGG**	Laura	Head of Evaluation, Arts & Humanities Research Council (AHRC)	United Kingdom
Ms	**MISIANI**	Anna	Senior Expert, Ministero dei Beni e delle Attività Culturali e del Turismo (MIBAC)	Italy
Mr	**PASHIARDIS**	Petros	Professor of Educational Leadership, Open University of Cyprus	Cyprus
Mr	**SCHRØDER**	Kim Christian	Professor of Communication at the Department of Communication, Business & Information Technologies, Roskilde University	Denmark
Ms	**STEGMEIJER**	Eva	Cultural Heritage Agency	Netherlands
Ms	**SZMELTER**	Iwona	Professor of Conservation and Restoration, Polish Academy of Fine Arts	Poland
Mr	**VAN BALEN**	Koen	Training and Research Programme Director, R. Lemaire International Centre for Conservation.	Belgium
Ms	**VAN ROMPAEY**	Sara	Evaluation Expert, European Commission	Belgium

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