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ATHENA

Guidelines and Best Practises for Setting up National Co-operation Frameworks

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eContentplus

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¹ OJ L 79, 24.3.2005, p. 1.

Table of Contents

0. EXECUTIVE SUMMARY	4
1. OBJECTIVE OF THE WORK TO BE COORDINATED BY WP5.....	5
2. INTRODUCTION	6
2.1 THE PURPOSE OF THIS DOCUMENT	6
2.2 TARGET AUDIENCE	6
3. BACKGROUND.....	8
3.1 POLICY CONTEXT	8
3.2 PROJECTS AND OTHER INITIATIVES	9
3.3 DOCUMENTARY BACKGROUND	11
3.4 ATHENA AND EUROPEANA	11
3.4.1 OTHER CONTRIBUTORS TO EUROPEANA	12
4. WHY DIGITISE?	14
4.1 INTRODUCTION	14
4.2 IMPROVED ACCESS	14
4.3 NEW APPLICATIONS AND USES	15
4.4 ADDED VALUE THROUGH AGGREGATION AND COMBINATION	16
4.5 PROTECTION OF THE ORIGINAL	16
4.6 REVENUE POTENTIAL	17
5.1 THE STAKEHOLDERS	18
5.1.1 MEMORY INSTITUTIONS	18
5.1.2 AGGREGATORS	19
5.2 WORKING GROUPS	23
5.2.1 WORKING GROUPS AS CAPACITY BUILDERS	25
5.3 NCF AGREEMENTS	25
5.3.1 INTELLECTUAL PROPERTY	25
5.3.2 PAYMENT & REVENUE	28
5.3.3 JOINING AND LEAVING THE NCF	28
5.4 SUSTAINABILITY	28
6. WHY HAVE A NATIONAL COOPERATIVE FRAMEWORK?	30
6.1 BENEFITS TO THE MEMORY INSTITUTION	30
6.2 BENEFITS TO THE USERS	31
6.3 BENEFITS TO EUROPEANA AND OTHER AGGREGATORS	32
6.4 EU COORDINATION CAN STIMULATE NATIONAL COORDINATION	32
7. BUILDING THE NCF: GUIDELINES.....	33
7.1 SETTING AIMS	33
7.1.1 NCF AIMS AND NATIONAL STRATEGY	34
7.2 REVIEW OF EUROPEAN AND GLOBAL LANDSCAPES AND BEST PRACTICE	34
7.3 IDENTIFICATION OF STAKEHOLDERS	34
7.4 ESTABLISHING LEGAL MODELS AND IPR AGREEMENTS	35
7.5 SETTING TECHNOLOGY STANDARDS	36
7.6 TRAINING AND EDUCATION	37
7.7 LONG TERM PRESERVATION	38
8. EXAMPLES OF NATIONAL COOPERATIVE FRAMEWORKS	39
8.1 INTRODUCTION	39
8.2 AUSTRIA	40
8.2.1 MINISTRIES	40
8.2.2 AGGREGATOR	40
8.2.3 MEMORY INSTITUTIONS	40
8.2.4 INTELLECTUAL PROPERTY	40
8.3 ITALY	42
8.3.1 MINISTRIES AND MANAGEMENT	42
8.3.2 AGGREGATOR	42

8.3.3	MEMORY INSTITUTIONS	43
8.3.4	INTELLECTUAL PROPERTY	43
8.3.5	SUSTAINABILITY	44
8.4	FRANCE	45
8.4.1	MINISTRIES	45
8.4.2	AGGREGATOR	45
8.4.3	AGGREGATOR-MEMORY INSTITUTION LEGAL MODEL	45
8.4.4	MEMORY INSTITUTIONS	45
8.4.5	INTELLECTUAL PROPERTY	45
8.4.6	SUSTAINABILITY	47
8.5	FINLAND	48
8.5.1	MINISTRIES	48
8.5.2	AGGREGATOR	48
8.5.3	MEMORY INSTITUTIONS	48
8.6	BELGIUM (PROVINCES OF LIMBURG & VLAAMS-BRABANT & CITY OF LEUVEN)	49
8.6.1	MINISTRIES	49
8.6.2	AGGREGATOR	49
8.6.3	MEMORY INSTITUTIONS	49
8.6.4	INTELLECTUAL PROPERTY	50
8.7	GERMANY	51
8.7.1	MINISTRIES & AGENCIES	51
8.7.2	AGGREGATOR	51
8.7.3	MEMORY INSTITUTIONS	51
8.7.4	INTELLECTUAL PROPERTY	52
8.7.5	SUSTAINABILITY	53
8.8	MICHAEL	54
8.8.1	MINISTRIES	54
8.8.2	AGGREGATOR	54
8.8.3	AGGREGATOR TECHNICAL APPROACH	54
8.8.4	HOW MICHAEL INTERACTS WITH NCF: ITALY.	55
8.8.5	SUSTAINABILITY	55
9.	ANALYSIS OF EXISTING NCFS	57
9.1	STAKEHOLDERS	57
9.2	AGGREGATOR TECHNICAL APPROACH	57
9.3	INTELLECTUAL PROPERTY MODEL	58
9.4	METADATA	59
9.5	LEGAL MODEL	60
9.6	SUSTAINABILITY	60
10.	CONCLUSION	62
	LIST OF ANNEXES.....	64

0. Executive summary

This document's aim is providing guidelines and good practices for the creation of national cooperative frameworks for digitisation, online accessibility and content aggregation. Some ATHENA providers and other memory institutions that play a role into the European aggregation landscape towards Europeana, pay for a lack of strategy and synergy at country level.

Anyhow many examples of internal concertation on digitisation and related issues across Member States exist; for this reason, it was deemed opportune to support the ATHENA consortium and other memory institutions in setting up National Cooperative Framework.

The deliverable contains four introductory chapters that describe the context in which this deliverable is placed:

- chapter 1 illustrates the overall goals of the ATHENA WP5: to analyse the content that memory institutions put at the project's disposal and which are strategic scenarios that include them.
- chapter 2 describes the purposes and target audience of the document;
- chapter 3 outlines the European background of policy and projects that is the context with whom the national cooperative frameworks interact and benefit;
- chapter 4 sums up the main reasons for digitisation that emerge from the European debate since digitisation of cultural content is the pillar for all the other aggregation initiatives, starting from Europeana and ATHENA themselves.

Then, a definition of National Cooperative Framework (NCF) is given together with information about the possible stakeholders, the articulation of the workflow (working groups, agreement) as well as the sustainability (chapter 5 – What is a National Cooperative Framework?). The benefits are also underlined, according the different categories such as users, memory institutions, Europeana, etc. (chapter 6 – Why have a National Cooperative Framework?).

Chapter 7 (Building the NCF: Guidelines) sets some guidelines for setting up cooperative frameworks at country level elaborated on the existing good practices (examples in chapter 8) which often lead as main result the setting up of national aggregators:

- establish aims clearly; link to national strategy as appropriate
- legal issues and IPR: take EU and global contexts into account
- stakeholder selection: value multi-disciplinary teams, experience, knowledge sharing.
- legal models: balance the interests of the NCF and the individual stakeholders
- Technology aspects: apply appropriate standards at stakeholder<->NCF and NCF<->Europeana
- education: target memory institutions, national and regional government & agencies

The analysis of the good practices presented (chapter 9 - Analysis of Existing NCFs) and the drawn conclusions (chapter 10) show that the ideal NCFs are made up with strategic and technical approaches at the same time, since a clear digitisation and online accessibility strategy can't set aside, for instance, the problems related to IPR or metadata, and that a central endorsement (ministry or agency) is fundamental.

1. Objective of the work to be coordinated by WP5

The overall objective of the ATHENA work package 5 is to coordinate “the digital content contributed by the participating cultural institutions and to realise the full potential of the different content for their effective inclusion into Europeana”.

This could be realised following two integrated ways, which are strategic and practical:

- clarifying the strategies set up by Member States in terms of aggregation of digital content and provision to Europeana in order to avoid any confliction between the participation to the ATHENA project and that ones to the Europeana family initiatives;
- verifying the real substance of the content that are foreseen to be provided (as well as the future ones).

The result of this couple of approaches will allow the ATHENA consortium to gather a significant core of digital European content coming from museums collections, whose metadata and thesauri will be aligned to the Europeana Semantic Elements structure though the ATHENA plug-ins, which are being developed by WP7.

This work is being carried out in full cooperation with both the Europeana representatives that are partner of the ATHENA project through the Stichting European Digital Library, and the “Europeana Content & Partners Group” recently created in the framework of European v1.0 project.

2. Introduction

2.1 The Purpose of this Document

This document brings together and discusses information about the manner in which memory institutions, government ministries and agencies and others may work together to contribute content to Europeana. While the emphasis is on the museum sector, this information applies also to non-museum memory institutions such as cultural sites, architectural bodies, etc.

It was deemed necessary to provide such kind of information since, in the framework of the ATHENA consortium, some partners had difficulties at internal level in providing content to the project and to Europeana because no clear strategy existed at country level about the aggregation of content. In fact, as communicated by some ATHENA providers, they are involved in a wider ongoing process to define the national “landscape” for digitisation, which is independent from the ATHENA and Europeana developments but, however, slows down the aggregation of content at European level.

This deliverable D5.2 offers information and analysis about the **national cooperative frameworks** (NCFs) for digitisation and online accessibility which exist in several member states across the EU. This information is expected to be of particular value for organisations in member states which have not yet established such a framework, or to those ones who wish to benchmark

For this reason it gathers information both provided from ATHENA partners and from other actors who are involved in various ways in the building process of Europeana.

It is anticipated that wider dissemination of information about national cooperative frameworks, and greater appreciation of the various ways in which NCFs can be established, will facilitate cooperation and interoperation at both organisational and technical levels across the EU. It is also intended that the information provided here will facilitate the aggregation and delivery of content to the Europeana project.

2.2 Target audience

The ATHENA project as a whole seeks to serve the museum community, as well as other cultural entities such as the bodies responsible for cultural landscapes and sites, organisations dedicated to built heritage and architectural heritage, etc. An essential stakeholder in almost every cultural heritage environment is the national and/or regional bodies responsible for culture, education and (often) tourism – this document also seeks to inform these organisations in a suitable manner.

This document brings together information about national cooperative frameworks in several EU countries (Austria, Italy, France, Finland, Belgium, and Germany). It also builds on the EU-wide work of teams such as the Minerva project suite¹, the National Representatives Group and its replacement the Member States Expert Group². The intended core audience is those who are considering the creation of a national cooperative framework in their own member state, or who are already involved in a national cooperative framework.

¹ For information about the Minerva, MinervaPlus and MinervaEC projects, see www.minervaeurope.org

² For more on the MSEG, see http://ec.europa.eu/information_society/activities/digital_libraries/experts/mseg/index_en.htm

This includes

- Museums
- Other cultural heritage bodies
- Ministries and national/regional agencies
- Organisations responsible for the coordination of digitisation and (especially) responsible for the aggregation and provision of information to Europeana
- Europeana itself.

3. Background

The ATHENA project represents a recent step in the overall process of the coordination of digitisation and online access to cultural heritage materials in Europe. It builds upon the work of a substantial series of initiatives at both European policy and project levels.

3.1 Policy Context

The coordination of digitisation and online access to cultural heritage has benefited from EU support and the direct involvement of Commission and Council for ten years. The key policy events carried out at European level include the following

- 1999: The launch of the initiative eEurope – An information society for all, which stated “In parallel, European content production, based on its cultural heritage and linguistic diversity, must be promoted”¹.
- 2000: The launch of the eEurope 2002 Action Plan, in which it was stated that “Support for digitisation of production and distribution of European digital content is, therefore, essential”².
- 2001: The formulation of the Lund Principles³, which laid out the objectives for coordination of digitization, and sharing of information and best practice, across Europe. The Lund Principles were followed by the Lund Action Plan⁴.
- 2001: The National Representatives Group, a pan-European collection of experts working together on the setting of standards and the coordination of digitisation, held its first meeting. The NRG would continue to work on the achievement of the Lund Action Plan and its successor for several years. Meetings were held under the patronage of the revolving presidency of the EU⁵.
- 2002: The Council adopted two resolutions on “Culture in the Information Society” and “Role of Culture in the Development of the European Union”⁶.
- 2002: The Council adopted a resolution on “Preserving tomorrow’s memory – preserving digital content for future generations”⁷.
- 2004: The institutionalisation of the NRG was included in the priorities of the Comité des Affaires Culturelles (CAC).
- 2005: The Commission launches i2010, the successor to the eEurope initiative.
- 2005: The “Dynamic Action Plan for the EU co-ordination of digitisation of cultural and scientific content” is launched by the UK Presidency, as a successor to the Lund Action Plan⁸.

1 eEurope – An Information Society for All http://ec.europa.eu/information_society/europe/2002/news_library/pdf_files/initiative_en.pdf (COM/99/0687 final)

2 The eEurope 2002 Action Plan http://ec.europa.eu/information_society/europe/2002/action_plan/pdf/actionplan_en.pdf

3 The Lund Principles ftp://ftp.cordis.europa.eu/pub/ist/docs/digicult/lund_principles-en.pdf

4 The Lund Action Plan ftp://ftp.cordis.europa.eu/pub/ist/docs/digicult/lund_action_plan-en.pdf

5 Information on the NRG can be found at <http://www.minervaeurope.org/structure/nrg.htm> and <http://cordis.europa.eu/ist/digicult/nrg.htm>

6 Resolutions numbered 2002/C C32/01 and C32/02. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:032:0001:0001:EN:PDF> and http://eur-lex.europa.eu/pri/en/oj/dat/2002/c_032/c_03220020205en00020002.pdf

7 Resolution 2002/C 162/02 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:162:0004:0005:EN:PDF>

8 Dynamic Action Plan: <http://www.minervaeurope.org/publications/dap.htm> and <http://www.minervaeurope.org/publications/dap/dap.pdf>

- 2006: The Commission publishes its Recommendation on the Digitisation and Online Accessibility of Cultural Material and Digital Preservation¹. The Recommendation is subsequently endorsed by the Council.
- 2006: The Commission establishes the Higher Level Expert Group on Digital Libraries².
- 2007: The Commission replaces the NRG with a Member States Expert Group on Digitisation and Digital Preservation³.
- 2008: The Commission adopts a Communication “Europe’s Cultural Heritage at the Click of a Mouse – Progress on the digitisation and online accessibility of cultural material and digital preservation across the EU”⁴.
- 2009: The Commission renews the Higher Level Expert Group on Digital Libraries⁵.
- 2009: The Commission adopts the Communication "Europeana - next steps" which looks ahead to the next phase of development of Europeana and its orientation for the future. The Communication is supported by a public consultation to foster the debate on the future of the European digital library.

3.2 Projects and Other Initiatives

The policy and political support for the coordination of digitisation in Europe was concretely manifested by the support of the Commission for several projects across a range of Programmes. Several of these projects involved the member states ministries and agencies which were also involved in the National Representatives Group and served to implement the recommendations and conclusions reached by the NRG and later on by the MSEG.

Among the most important project developments were

- 2001: The European Library project - TEL⁶ which had the objective of setting up a co-operative framework that would lead to a system for access to the major national and deposit collections in European national libraries.
- 2001: ERPANET (Electronic Resource Preservation and Access Network of Excellence)⁷ was launched to make viable and visible information, best practice, and skills development in the area of digital preservation of cultural heritage and scientific objects, bringing together memory organisations, ICT and software industry, research institutions, government organisations, entertainment and creative industries, and commercial sectors.
- 2002: The first of the Minerva⁸ projects, the Minerva Thematic Network, began. This FP5 project brought together national ministries and agencies from seven EU member states for the period 2002-2005 with the aims of coordinating and harmonising digitisation policies.

1 Recommendation # 2006/585/EC, at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:236:0028:0030:EN:PDF>

2 <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:063:0025:0027:EN:PDF>

3 Commission Decision 2007/320/EC <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:119:0045:0047:EN:PDF>

4 http://europa.eu/legislation_summaries/culture/am0001_en.htm

5 http://ec.europa.eu/information_society/activities/digital_libraries/doc/hleg/hleg_renewed09_jo.pdf

6 http://www.theeuropeanlibrary.org/portal/organisation/cooperation_old/archive/telproject_archive/telproject_archive.html

7 <http://www.erpanet.org/>

8 <http://www.minervaeurope.org>

- 2003: The CALIMERA¹ co-ordination action has produced a vast array of key products (reports on every country in the network, guidelines for local cultural institutions on social, management and technical issues underlying digital service delivery, a solutions noticeboard for local cultural institutions providing information emerging from the industrial and research sectors, a research roadmap and other documents and tools.
- 2004: the DELOS² network of excellence on digital libraries started; its main objective was to contribute to the development of the enabling technologies for digital libraries, thus enabling any citizen to access all human knowledge any time and anywhere, in a friendly, multi-modal, efficient and effective way.
- 2004: The Minerva project was extended as MinervaPlus under FP6, with seven additional (new accession state) member states for the period 2004-2006.
- 2004: The MICHAEL³ project, dedicated to the provision of multilingual thesaurus and search for Europe-wide cultural heritage collections, was launched with the support of the eTen programme.
- 2004: PrestoSpace⁴ faces the provision of technical solutions and integrated systems for digital preservation of all types of audio-visual collections.
- 2006: The Minerva initiative continued its activities with the support of the eContentPlus programme, as MinervaEC. This project had 25 member state partners.
- 2006: A second stage of MICHAEL, named MICHAEL Plus, was launched, again with the support of the eTen programme. This ends in 2009.
- 2006: Digital Preservation Europe – DPE⁵ was launched to address the issues related to the long term preservation of the digital content; it was built on the earliest work of ERPANET.
- 2006: The IST project MULTIMATCH⁶ began to develop a new search and navigation tool which uses automated classification of cultural heritage materials in a semantic-web compliant fashion.
- 2006: The MEDCULT⁷ project spread the ‘quality of cultural websites’ work of the Minerva projects into the Arabic-speaking countries of the Mediterranean, with the support of the UNESCO Information for All Programme.
- 2006: The FP6 project IMAGINATION⁸ began work on a novel “Image Web” application, offering a new form of navigation for cultural heritage material
- 2006: the first phase of the 7th Framework Programme’s DRIVER⁹ started to give access to the network of freely accessible European digital repositories with content across academic disciplines, with the potential to store cultural heritage material. A second phase began in 2007.

1 <http://www.calimera.org/default.aspx>

2 <http://www.delos.info/>

3 <http://www.michael-culture.eu/>

4 <http://prestospace.org/>

5 <http://www.digitalpreservationeurope.eu/>

6 <http://www.multimatch.org/>

7 <http://www.medcult.org/>

8 <http://www.imagination-project.org/sendnews.php?id=6>

9 <http://www.driver-repository.eu/>

- 2006: The first of the EDL1 (European Digital Library) projects began, with support from the eContentPlus programme. This provided a single multilingual point of access to the catalogues of several national libraries.
- 2007: The EDLnet project, again supported by the eContentPlus programme, began work on a thematic network for cultural heritage content, focusing on the implementation of the European Digital Library.
- 2008: Europeana, the working prototype portal for European Cultural Heritage, was launched.

The last of these project developments is of particular importance to the ATHENA project, in that a key objective for ATHENA is the provision of content to the Europeana portal. Furthermore, the ATHENA activities are closely connected to those of other ongoing EU-funded projects whose aim is, among others, to feed the European digital library with digital content aggregated on a theme or domain².

3.3 Documentary background

This document (ATHENA deliverable D5.2) builds on several other strategic documents. The most important of these are as follows:

- The reports of the Member States Expert Group³
- ATHENA deliverable D5.1, “First Report on the Network of National Coordination”, which includes national reports from 21 countries addressing issues such as
 - Policy and government
 - Digital cultural heritage research
 - Projects and portals
 - Communication and consultation
 - International activities
- Coordinating Digitisation in Europe, the annual reports published by Minerva⁴ describing the progress of the Coordination of Digitisation in Europe in the period 2002-2007.
- The results of the ATHENA-Europeana Survey for Aggregators, under publication.

3.4 ATHENA and EUROPEANA

The ATHENA project exists specifically to facilitate the contribution of content from sectors other than libraries and archives (i.e. from museums, cultural landscapes, historic sites, architectural bodies, etc.) to Europeana.

The work of ATHENA vis-à-vis Europeana focuses on

- Encouraging and stimulating museums and other sectors to become involved in Europeana

¹ <http://www.theeuropeanlibrary.org/portal/organisation/cooperation/archive/edlproject/>

² A summary of these projects is published on the eContentplus web site
http://ec.europa.eu/information_society/activities/econtentplus/projects/funded_projects/index_en.htm

³ Accessible from http://ec.europa.eu/information_society/activities/digital_libraries/experts/mseg/meetings/index_en.htm

⁴ <http://www.minervaeurope.org/publications/globalreport.htm>

- Coordination of standards and activities for members of this target audience, with regard to their contribution to Europeana
- Facilitation of the integration of contributions from multiple sectors, to simplify their inclusion in Europeana
- Broader assistance and knowledge transfer regarding digitisation and online access, including issues such as technology, intellectual property and standards, to the target sectors (especially museums).

3.4.1 Other Contributors to Europeana

ATHENA aggregates museum content and promotes the standardised presentation of museum and related sectors' data to Europeana. However, it can be appreciated as one of a series of complementary steps, all of which contribute to the delivery of the Europeana portal. In the Libraries, Museums and Archives sphere, the EDL* and APENet¹ projects are important contributors of library and archive materials respectively. Numerous other initiatives either already “feed into” Europeana, or plan to do in the near future, including

- BHL-Europe (biodiversity data)²
- Europeana Connect (sound material)³
- European Film Gateway (cinema-related material)⁴
- Europeana Local (regional and local content)⁵
- EUscreen (television material)
- Europeana Travel (travel, trade, tourism and migration data)⁶
- Judaica Europeana (Jewish contributions to European cultural heritage)
- MIMO (musical instruments museums material)⁷
- STERNA (content on biodiversity, wildlife and nature in general)⁸

All this helps create Europeana, which is in its turn a EU funded project. The EDL Foundation who leads the European library is a partner in each of these projects to try to help them in standards and normalisation and to ensure open communication channels.

All projects are also in line with some national aggregation portals (BAM in Germany, Culture.fr in France, CulturaItalia in Italy etc.) which respond to the institutional and EC objective of making cultural content publicly available.

1 <http://www.apenet.eu/>

2 <http://www.bhl-europe.eu/>

3 <http://www.europeanaconnect.eu/>

4 <http://www.europeanfilmgateway.eu/>

5 <http://www.europeanalocal.eu/>

6 <http://www.europeanatravel.eu/>

7 <http://www.mimo-project.eu/>

8 <http://www.sterna-net.eu/>

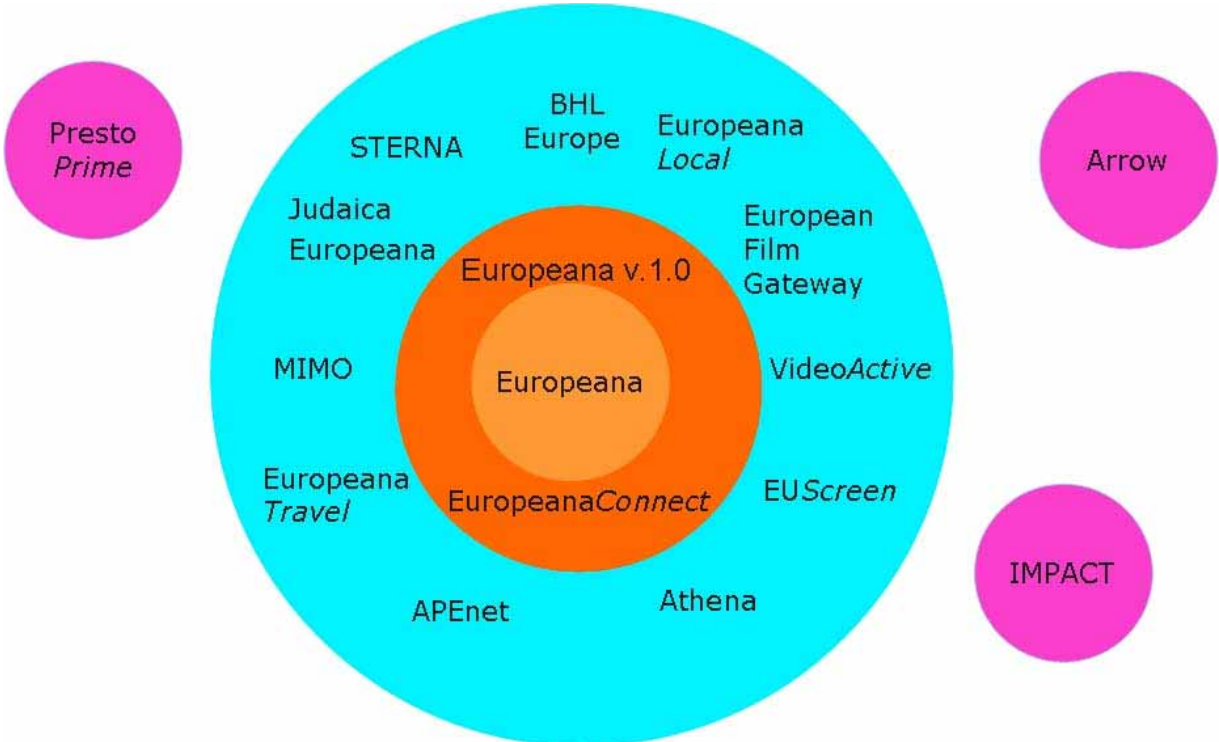


Figure 1 - ATHENA in the Europeana framework

4. Why Digitise?

"Europe's cultural and scientific knowledge resources are a unique public asset forming the collective and evolving memory of our diverse societies and providing a knowledge basis for the development of our content industries in a sustainable knowledge society." (Lund Principles)

4.1 Introduction

This brief chapter reviews the underlying reasons for the digitisation of cultural heritage materials. The level of digitisation activity has risen steeply over the last several years, with ministries, memory institutions, research centres and other organisations all having their own reasons to create digital versions of material in their care. The following sections briefly consider some of the most common reasons for digitisation. These include

- Improving access to holdings
- Adding value through aggregation and combination
- Protection of fragile original items
- Revenue generation
- Creation of services

The underlying reasons and the approaches taken to digitisation can vary considerably from one initiative to another – national cooperative frameworks can help to integrate and add value to these disparate projects.

4.2 Improved Access

Cultural materials such as museum holdings, historic buildings and landscapes, artworks and manuscripts can only be accessed by physically visiting the location at which they are held. While it is of course possible to read books and view photographs of the materials, there is little potential for interaction or deeper exploration of the materials without actually travelling to visit them.

The digitisation and online publication of cultural materials makes them accessible to an enormous global audience, at any time, from almost any location. This increases the impact and value of the cultural materials and enhances their contribution to the quality of life of the community.

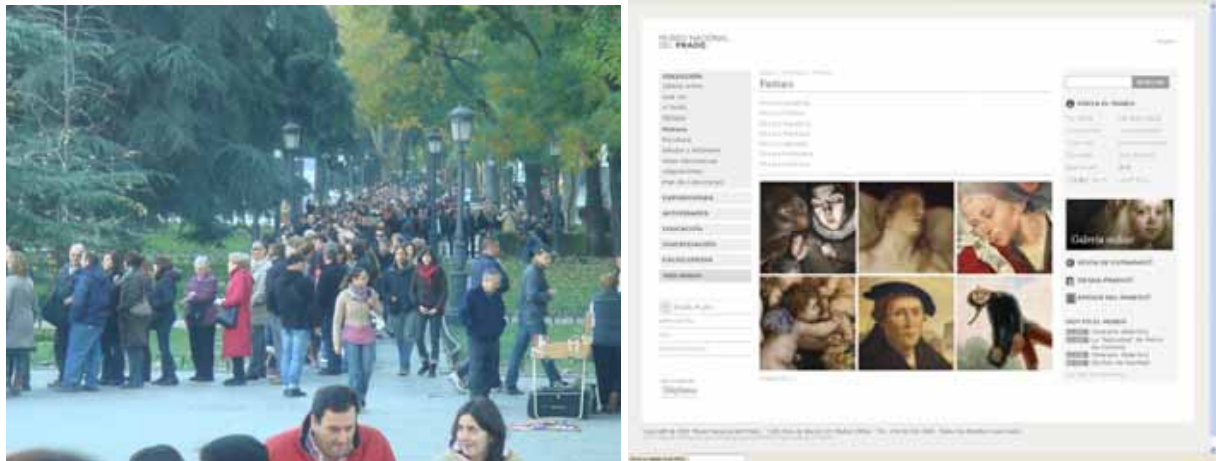


Figure 2 - Two ways to access the masterpieces of the Prado, Madrid

4.3 New Applications and Uses

Once digitised, the cultural materials gain flexibility in terms of how they can be used and applied. The mobility and malleability of digital files mean that scans, digital photographs and 3D models of cultural materials can be readily adapted to a range of new uses. Examples include the integration of cultural materials in educational offerings, in creative and design work, in advertising and publicity, in manufacturing and in interactive applications and games.

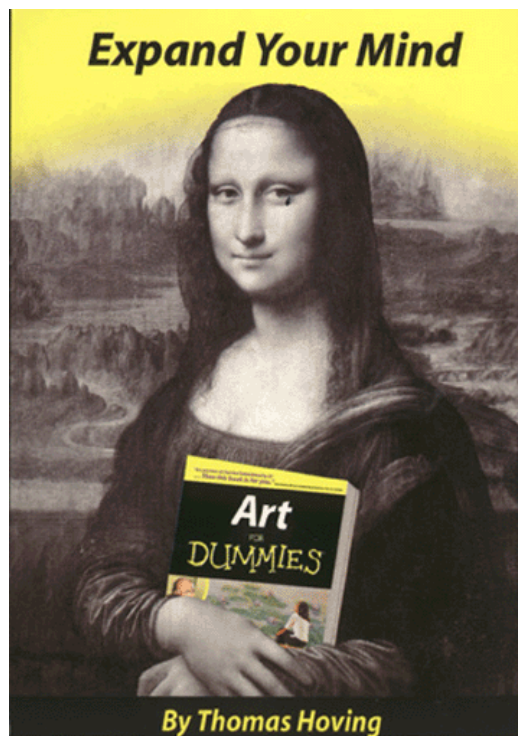


Figure 3 - Example of use of digitised art for advertising

4.4 Added Value through Aggregation and Combination

While certain cultural institutions may hold very important collections, no single institution holds all the important materials relating to any significant cultural domain. For example, while the Cairo Museum holds very important ancient Egyptian artefacts, there are complementary collections in the Louvre, the British Museum and elsewhere.

Digitisation enables ‘virtual exhibitions’ to be created which combine the holdings of several cultural institutions in a single end-user experience. These exhibitions can take place without any need to physically move or disturb fragile or valuable originals. They can be further enriched with complementary audio, visual and textual material, and indeed by submissions and contributions from the public (e.g. using Web2.0 technologies).

4.5 Protection of the Original

In many important domains, the original cultural materials are fragile and should be disturbed as little as possible. An example is ancient documents such as the Dead Sea Scrolls, or indeed old newspapers and documents from around Europe. This leads to understandable reluctance on the part of curatorial staff to allow access to important holdings except for the most important research.

A single digitisation process can lead to the creation of faithful replicas of these fragile materials, which can be manipulated, compared and examined by large numbers of researchers without any impact on the originals. Not only does this increase the cultural resources which are accessible to all, it also protects these originals from frequent disturbance.

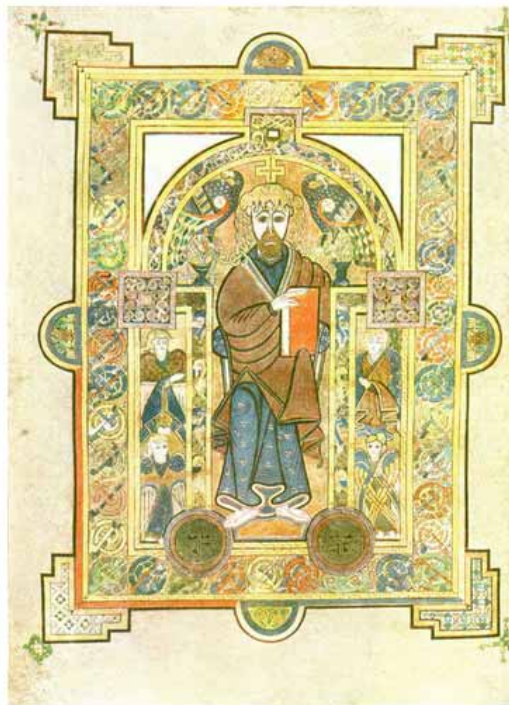


Figure 4 - Page from the Book of Kells, Ireland (Folio 32v, Christ enthroned)

4.6 Revenue Potential

For most cultural heritage institutions, the generation of revenue is an important issue. While significant proportions of revenue typically come from national or regional support, and from the admission fees charged to view the collections, there is important tertiary revenue from the sale of books, prints, replicas, t-shirts and souvenirs.

Digitisation offers a new revenue stream. In particular, the sale of high-resolution images on the global market is greatly facilitated, thus both opening an endless pool of exciting creative material to advertisers, publishers and illustrators and also opening a new audience of customers for cultural heritage institutions. Additional sales of images, audio/video presentations and other digital artefacts for educational, creative and manufacturing is also enabled.



Figure 5 - Online Museum Shop, France

4.7 Creation of Services

Since the development of the World Wide Web in 1989 they have multiplied the services and became much more visible; this led also to an evolution of their role accordingly to the new ways of using and accessing the digital collections.

Thanks to the creation of digital content the memory institutions improve in a new environment the user services they already provide (consultation, loan, etc.) but also generate brand new ones for or produce by the educational, tourist, creative industries areas.

In a few words, beyond the access, aggregation, and preservation, digitising is a way to help future generation in creating 'known unknown' uses and services, i.e. something that now can't be foreseen but will surely happen¹.

¹ See Lorna Hughes, *Digitizing Collections: strategic issues for the information manager*, 2004, pages 29-30.

5. What is a National Cooperative Framework?

A cross-domain national collaboration which supports a common vision of digitisation and online accessibility.

The NCF describes the manner in which memory institutions, aggregators, ministries, national agencies and technology partners work together to improve the digitisation and online accessibility of cultural content. The NCF addresses the wider issue of how best to coordinate the digitisation of cultural heritage material on a nationwide, cross-domain basis. The NCF also answers the question “how should we best work together to provide content to Europeana”.

5.1 The Stakeholders

The entities that have a role to play in the national cooperative framework are referred to as “stakeholders”. These include

- memory institutions,
- aggregators,
- ministries,
- technology partners,
- expert groups,
- and others.

Each stakeholder has its own priorities, but shares a common digitisation and online access mission.

5.1.1 Memory institutions

Memory institutions include museums, cultural landscape management entities, architectural bodies and other cultural bodies and agencies. (ATHENA is not focused on libraries and archives since they are the subject of “sister” EU projects, as discussed in section 0, above).

Memory institutions include **cultural content** within their **collections**. Such content may include historical **items** (e.g. ancient artefacts such as Viking jewellery or Roman ceramics), cultural landscapes (such as the Roman forum or the Acropolis), or other items. They may also include photographs, 3D models and other **representations** of these items. Some memory institutions may also include digital cultural items, which are born-digital (i.e. they are not representations of tangible or analogue items, but are cultural items which have a digital form). Memory institutions may also have intellectual property rights (e.g. copyright) over the items which they hold.

Memory institutions will usually also hold information (**metadata**) about their collections and the items within their collections. Such metadata are in digital form, in a database or collection management system. The metadata may describe the items, as well as providing information about where representations of items may be found online.

In the context of the ATHENA project, the focus is on memory institutions which are not libraries or archives – thus they include **museums**, cultural landscapes, architectural bodies, contemporary arts institutions, etc. Libraries and archives, however, are important stakeholders in the national cooperative framework, acting as centres of expertise and experience in the sharing of metadata and digital content. Through this deliverable ATHENA aims at supporting museums and other cultural bodies in sharing issues and having synergies that can bring benefits beyond the single domain.

Many memory institutions contribute in many ways to the Commission’s strategy “i2010: Digital Libraries”: they provide experts to the related working groups, implement the Recommendations and Council Conclusions on digitisation, contribute to Europeana and to the various ongoing projects on digital libraries.

Role of Memory Institutions

In the context of the national cooperative framework, the memory institutions are the original source of the content which is digitised, published online and made available to Europeana as well as to national, regional and thematic portals. They provide access to the metadata which describes their content, and to the digital content itself, under an appropriate intellectual property agreement.

Examples of Memory Institutions

Memory institutions come from various domains, including libraries, archives and museums. Some examples include

- Central Library of the Bulgarian Academy of Sciences (Bulgaria)¹
- Národní Muzeum (Czech Republic)²
- Koninklijke Musea voor Kunst en Geschiedenis (Belgium)³
- Landesarchiv Baden-Württemberg (Germany)⁴
- The British Library (United Kingdom)⁵

The current partners of Europeana are preponderantly libraries and archives; the ATHENA project is focusing on bringing many more memory institutions, from museums and other sectors, to the table.

5.1.2 Aggregators

An aggregator is an organisation which has agreed to work with memory institutions to bring their metadata and content together for submission to Europeana. Aggregators act as “agents” of Europeana, ensuring access to content, liaising with memory institutions, verifying intellectual property correctness, applying standards and technologies, etc. Aggregators may have national scope, sectoral scope (e.g. an aggregator for all cultural landscapes, an aggregator for all local museums...), regional scope, or other scope.

Role of Aggregators

1 <http://www.cl.bas.bg/>

2 <http://www.nm.cz/>

3 <http://www.kmkg-mrah.be/newfr/index.asp>

4 <http://www.landesarchiv-bw.de/web/>

5 <http://www.bl.uk/>

Where national cultural portals exist (e.g. Culture.fr, CulturalItalia) they frequently take the role of aggregator. They may already gather and publish online metadata and/or digital content from memory institutions in their own domains, as well as defining standards and models of cooperation.

Aggregators may act as ‘reference sites’ and centres of expertise for (other) memory institutions, can be active in providing their peers with the information which they need to enable them to digitise, provide online access and contribute material to Europeana. When aggregators are also memory institutions, they of course also play a similar role to the other memory institutions, as outlined above.

Aggregators play a fundamental role in connecting people to the information; they are a powerful tool to make resources visible. Furthermore, they are often also repositories of digital content for themselves or other institutions and as national channel for the content provision to Europeana.

Examples of Aggregators

Aggregators already involved are often cross-domain in nature (i.e. they work with libraries, museums, archives and other cultural heritage domains). In many cases they also provide national cultural portals.

Examples of aggregators include

- Kultura.hr, Croatia (national cross-domain)¹
- CulturalItalia, Italy (national cross-domain)²
- Culture.fr, France (national cross-domain)³
- Kulturpool, Austria (national cross-domain)⁴
- BAM, Germany (national cross-domain)⁵
- APENet (European, vertical domain – national archives)⁶
- Erfgoedplus, Belgium (regional cross-domain)⁷
- MuIS, Estonia (national, vertical domain - museums)⁸
- Manuscriptorium (European, thematic: digitized manuscripts)⁹

1 <http://www.kultura.hr/>

2 <http://www.culturalitalia.it/pico/>

3 <http://www.culture.fr/fr/sections/collections/accueil>

4 www.kulturpool.at

5 <http://www.bam-portal.de/>

6 <http://www.apenet.eu/>

7 <http://www.erfgoedplus.be/erfgoedplus/index.jsp>

8 <https://www.muisee.ee/muis/app?page=AvalikOtsing&service=page>

9 http://www.manuscriptorium.com/Site/ENG/default_eng.asp

5.1.3 Ministries and public agencies

Within the context of the ATHENA project, the coordinating stakeholders of the national cooperative frameworks are national cultural, educational, tourism and other ministries. In some countries, a single ministry is involved; in others, a number of ministries may collaborate.

Role of Ministries

The key role of the ministry, often supported by public agencies on this task, is to appoint and liaise with aggregators, to encourage memory institutions to engage with the national cooperative framework and with Europeana, and to interact as appropriate with European-level actors such as the Member States Expert Group and the Commission. The ministries may themselves play an active role in such EU-level groups.

The ministries have in many cases several years of experience in the European Digital Cultural Heritage initiatives (e.g. the MINERVA and MICHAEL suites of projects). As such, they can play an important role in translating international best practice into the national context. This may occur through training and education, through the mandating of best practice in funding initiatives, and through the day to day interactions within the National Cooperative Framework.

Where the ministries themselves are responsible for several memory institutions, the ministry may have an active role in encouraging engagement with the National Cooperative Framework. In other countries, ministries are primarily funding bodies, whose approval must be secured before content or metadata can be shared with third parties.

Currently many European ministries are involved in many projects related directly or indirectly to Europeana; in this role they provide expertise and a liaison towards the many memory institutions they manage or support.

They have often the responsibility of defining national aggregation strategy (the construction of the so called ‘culture portals’) and in helping Europeana in managing its content strategy.

Examples of Ministries

The government department or state agency which is responsible for digital cultural heritage varies from one country to the other. In some countries, a single ministry is involved; however, it is quite common for multiple ministries/agencies with a cultural remit to be involved.

Examples of Ministries and Agencies mainly involved in the building process of the European knowledge space

- Ministero per i Beni e le Attività Culturali¹ (Ministry for Cultural Heritage and Activities), Italy
- Ministère de la Culture et Communication² (Ministry of Culture and Communication), France

¹ <http://www.beniculturali.it/>

² <http://www.culture.gouv.fr/>

- Bundesministerium für Unterricht, Kunst und Kultur¹ (Austrian Federal Ministry of Education, Arts and Culture) and Bundesministerium für Wissenschaft und Forschung² (Austrian Federal Ministry of Science and Research), Austria
- CIMEC³ (Institute for Cultural Memory), Romania
- Museovirasto⁴ (National Boards of Antiquities), Finland (it is attached to the Ministry of Education and preserves Finland's material cultural heritage)
- Stiftung Preussischer Kulturbesitz⁵ (Prussian Cultural Heritage Foundation), Germany (this foundation acts in a national role since it embodies the shared governmental responsibility for culture in Germany together with the Federal Government and the Landers).

5.1.4 Technology Partners

The sharing of digital content and metadata across organisational boundaries has a technological aspect. The providers of collection management systems and other memory institution software may have a role to play in the effective extraction, aggregation and re-use of the data stored in their systems. They can be connected to the academic world, national research centres, and private.

Many European initiatives, including Europeana, count on their support.

Examples of technology partners are

- Scuola Normale Superiore di Pisa⁶, who work with the Italian Ministry for Cultural Italia, the Italian culture portal (see 8.3)
- Uma⁷, a proprietary search tool company involved in Austria's Kulturpool aggregator (see 8.2)
- Library management system suppliers such as ADLIB, who are members of the Spectrum Partner Scheme⁸
- Bulgarian Academy of Science⁹, who built the BASLIB system for the museum collections. BASLIB is likely to appear in all Bulgarian ATHENA memory institutions.

5.1.5 Member States Expert Group (MSEG)

The MSEG¹⁰ is a group of experts, from each member state, who advise the EU Commission on issues around digitisation of cultural heritage. The MSEG replaced the National Representatives Group (NRG) in 2007, and continues the work of the NRG in the pursuit of European cultural digitisation and its coordination. Particular focus is applied to the

1 <http://www.bmukk.gv.at/>

2 <http://www.bmwf.gv.at/>

3 <http://www.cimec.ro/>

4 <http://www.nba.fi/>

5 <http://hv.spk-berlin.de/deutsch/index.php>

6 <http://www.sns.it/>

7 <http://www.uma.at/>

8 <http://www.collectionstrust.org.uk/memp>

9 <http://www.bas.bg/>

10 For more information about the MSEG, visit
http://ec.europa.eu/information_society/activities/digital_libraries/experts/mseg/index_en.htm

implementation of the Commission Recommendation of 24 August 2006¹ on digitisation and digital preservation, and of the Council Conclusions of 13 November 2006².

In the context of the ATHENA project, it may be noted that some members of the ATHENA consortium also play roles on the MSEG and thus there may be informal liaison and knowledge sharing in both directions.

Anyhow MSEG can take advantage from the work undertaken by ATHENA since this project involves several European partners from 21 European countries and is building up a wide and solid network of experts from the museum sector.

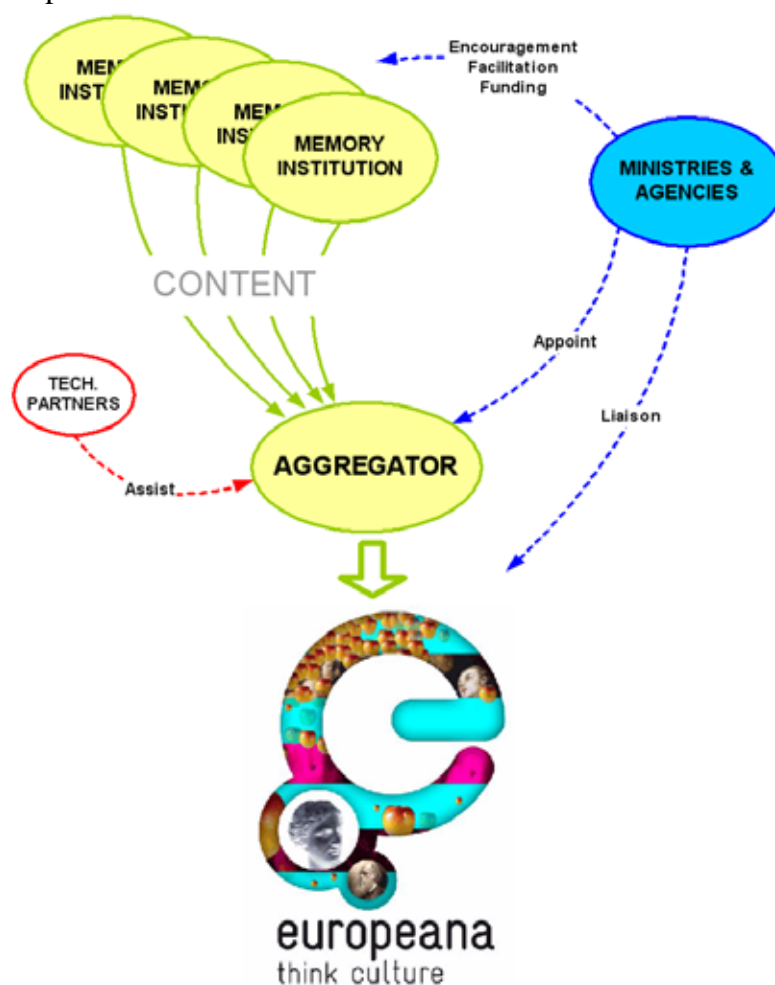


Figure 6 - NCF outline

5.2 Working Groups

An attractive structure for the National Cooperate Framework is the use of Working Groups (WGs). A WG is made up of individuals with interest or expertise in a particular aspect of the coordination of digitisation and/or contribution of content to Europeana. For example, WGs may be established for intellectual property, for technical issues, for training on digitisation, etc.

1 See <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32006H0585:EN:NOT>

2 See [http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52006XG1207\(01\):EN:NOT](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52006XG1207(01):EN:NOT)

Ideally, Working Groups should be **cross-domain** in nature, with representatives from museums, libraries, archives and other domains in order to share troubles and approaches. Similar problems (technical, legal, etc.) arise in all domains – a cross-domain Working Group enables the experience of one domain to be made easily accessible to the others. It also helps the Working Group to avoid any obstacles that may have been experienced in any domain.

The Working Group structure works particularly well where the NCF has a large number of stakeholders – the smaller, more agile WGs focus on particular issues and questions and tend to have a high level of productivity.

A good **example** of the use of WGs is in the **MINERVA** projects, where individuals and small teams from several member states worked together to address issues which are common across Europe. In the framework of MINERVA ‘Guidelines for the organization of a working group’ were endorsed by participants and contributed to the development of an effective workflow that lasted along 6 years and 3 projects.



Figure 7 - Minerva+ Working Groups

Of course, it is critical that any WG have **clear terms of reference**, objectives and performance/progress monitoring processes in place, so that the WG can make a full contribution to the success of the NCF. The choice of leader/rapporteur/chairperson is an important one.

Finally, Working Groups should have a tight liaison with policy makers in order to implement their results. This happened within MINERVA since many partners were also member of the former National Representatives Group for digitisation.

5.2.1 Working Groups as Capacity Builders

The experience of working together in Working Groups equips memory institutions, ministries and other stakeholders with the experience and common trust to address new challenges and opportunities. By collaborating within the NCF and its Working Groups, individuals and institutions build up a knowledge of the strengths and expertise levels of one another. This greatly simplifies the building of new teams for new projects, new opportunities and new initiatives, both at national and international level.

Collaboration within these structures also shares knowledge across domain boundaries about effective organisational structures, about suitable legal and IPR approaches, about useful software and other technology, about the most appropriate standards, etc. This knowledge transfer is a strong contributor to wider capacity and capability across the cultural heritage sector.

5.3 NCF Agreements

The common agreements that govern the stakeholders are at the heart of the NCF. If memory institutions, aggregators, ministries and pan-European initiatives are to work together in an effective manner, each stakeholder must have a clear understanding of its *responsibilities, rights and obligations* vis-à-vis the rest of the Framework.

In so far as is possible, the agreements governing the Framework should be **consistent** across all the memory institutions and aggregators. A consistent approach (as a minimum at member state level) makes the Framework easier to establish and to maintain. It does require the investment of effort during the establishment process, however, to find a model which is acceptable to as many stakeholders as possible, while respecting the priorities and constraints of each.

The most important issue to address is **ownership** – protecting the rights of the memory institutions and ensuring that their ownership of their digital content and any associated intellectual property rights are not compromised.

Other issues include payment and **revenue** allocation (if applicable), technical and other **standards**, and **joining and leaving** the NCF.

5.3.1 Intellectual property

The National Cooperative Framework focuses on making digital content and the metadata which describes it available online. This includes its inclusion in third party facilities such as Europeana.

The digital content and metadata, and the intellectual property rights which govern them, are usually the property of the memory institutions. (There are examples, of course, of items which are held by memory institutions but where the intellectual property rights are held by a third party, such as the donor of the original item¹). A balance must be achieved between the

¹ For more information about intellectual property and digital cultural heritage see the MINERVA IPR Guide at http://www.minervaeurope.org/publications/MINERVAeC%20IPR%20Guide_final1.pdf

rights of the memory institution to retain these assets, and the ability of the NCF to open access to them.

Intellectual property models for national aggregators such as cultural portals may already address this issue and may be consulted before preparing new models. However, a common approach is for memory institutions to allow their metadata to be copied and this copy to be held by other NCF stakeholders (e.g. aggregators) and indeed by third parties (e.g. Europeana). The digital content itself is not copied; end users who wish to access it must visit the website of the memory institution and must comply with whatever terms and conditions apply to it. This enables the memory institution to ensure that all use of its online digital content is carried out subject to its own policies; at the same time, the aggregators and third parties such as Europeana can provide discovery services to the end user, enabling the end user to find relevant information across a multitude of memory institutions.

The ATHENA WP 6 “Analysis of IPR issues and definition of possible solutions“ will be able to give a significant contribution to the matter; it intends to verify if any legal constraints existing in the national legislations of EU Member States, might create difficulties in making available the digital contents present in European museums to Europeana, and propose solutions rapidly applicable. This working group is tightly working with Europeana for offering the museums’ point of view to the elaboration of framework licences.

Note: the details of the Europeana intellectual property model has not yet been finalised. The current working model is at <http://europeana.eu/portal/termsofservice.html>

Metadata

The metadata created by the memory institution is itself an important asset and deserves to be protected. While the memory institution may allow other NCF stakeholders such as a national or domain aggregator to copy (or “harvest”) its metadata, and may also give this privilege to Europeana, this does not mean that the metadata is in the public domain or available to others. The legal agreement may give the right to harvest the metadata, to combine it with metadata from other memory institutions and to make it searchable online, but it may also impose a duty to protect the metadata from further copying or re-use.

Digital Content

The digital content held by a memory institution may be made accessible to the end user within the context of other National Cooperative Framework stakeholders (e.g. a national cultural portal and/or aggregator) or within Europeana. However, it may be important to the memory institution that the user of any of its digital content is aware of the source of the data – such increased visibility for the memory institution is a major reason for digitisation of cultural content in the first place. Thus, the intellectual property agreement between the NCF stakeholders must specify the manner in which the aggregator/Europeana displays the cultural content.

Examples may include

- forcing all content to be opened only within the website of the memory institution, with all branding and internal navigation visible.

- allowing the content to be displayed in a more integrated manner within the aggregator/Europeana, but with a hyperlinked caption which takes the user to the memory institution website
- applying a visible watermark to each item before making it available to the aggregator/Europeana – this does, however, impact on the end user experience and, however, is not fostered by the Commission.

Copyright Issues

A common issue occurs where the memory institution does not own copyright to an item in its collections. This issue may already have been addressed when the item was first digitised or first made accessible online; however, **it is important that copyright is cleared on any item which is to be made available via the National Cooperative Framework**. Holding an item does not automatically mean that the holder (the memory institution) has the right to reproduce the item, or to make it available to others.

Intellectual property and digital cultural heritage is the subject of a set of published guidelines from the MINERVA project, accessible on the MINVERVA website¹.

Existing intellectual property models

The increased use of the Internet has led to a proliferation of new intellectual property models which reflect the Internet's ease of publication. In many cases, the creators of new content are happy to make the content available online, but may not wish others to re-use, modify or benefit financially from their work. Alternatively, they may be happy for work to be re-used, so long as their own contribution is recognised. A broad spectrum of intellectual property models is now available.

The **Creative Commons**² initiative (profiled in the MINERVA IPR document mentioned above) publishes a portfolio of different intellectual property models under the common concept of "some rights reserved". Typically these allow access to content but restrict its re-use, distribution, exploitation or modification. The advantage of Creative Commons licenses, from the NCF point of view, is that they are widely used and so may be more robust than a new model created specially by the memory institution.

A complementary concept is the **Open Access**³ model, which has been applied primarily to scholarly publications and journal papers. The key aspect of this model is that the content creator expects no payment for access to the material, but may restrict when it is released and in what environments it is published. Attribution and integrity are closely guarded, as can be expected in an academic publication context. Given the importance of demonstrable ownership in the online cultural heritage context, this model may have something to offer.

1 http://www.minervaeurope.org/publications/MINERVAeC%20IPR%20Guide_final1.pdf

2 Creative Commons may be explored at <http://www.creativecommons.org>

3 The ECHO initiative at <http://echo.mpiwg-berlin.mpg.de/home> addresses Open Access in a cultural heritage environment.

5.3.2 Payment & Revenue

In general, no payment issues arise in the context of Europeana and ATHENA, because no payment is made at present. However, where any payment is to be made by the aggregator to the memory institution, this should be clearly documented. Where the aggregator is paid for access to digital content which is held by memory institutions, some element of this may be payable to the memory institution.

5.3.3 Joining and Leaving the NCF

Taking part in the National Cooperative Framework places a set of responsibilities on a memory institution, including the sharing of metadata and the making accessible of digital content. The management of the memory institution should explicitly commit the memory institution to these responsibilities and indicate that they are fully aware of the legal basis on which participation takes place.

An **accession document**, which outlines this information, may be appropriate, so that the relationships between stakeholders are clearly defined from the start. The document may be an appropriate place to address issues such as intellectual property, as outlined above.

A model for **leaving** the NCF should also be available. If a memory institution is no longer prepared to make its metadata and content available, a process will be needed to remove their metadata from the aggregated databases, and to no longer link to content from Europeana and/or the aggregator. While such a model places the onus primarily on the aggregator to cease using the metadata or content of the memory institution, it should be made explicit from the start what the memory institution can expect if it chooses to withdraw from the cooperative framework.

5.4 Sustainability

Digitisation and online access to cultural heritage content has become a core strategic activity of memory institutions across Europe. As the Web is used increasingly by researchers, tourists and the public, significant online cultural resources are an important asset for museums, archives and libraries. It is essential that digitisation and online access are a routine, mainstream activity for memory institutions.

Cultural heritage digitisation is frequently supported by fixed-term projects, with narrow terms of reference and no longer-term planning. When the funding for such projects ends, there is no remit to maintain or continue to develop the digitisation activities. Also the aggregators, according to the results of the ATHENA Survey for Aggregators (see Annex I), frequently are not embedded into national digitisation strategies and so lack longer-term funding. This jeopardises much of the value of the digitisation and makes it difficult to extract the full benefit of the process. In some cases, the digitised content is lost when nobody is responsible for its maintenance and preservation.

The ideal situation is where digitisation and online access are ‘mainstreamed’ – made part of the general routine activities of the memory institutions, with a reliable ongoing funding stream. Memory institutions are recognised as national assets which deserve funding on an ongoing basis – the related digitisation and online access work requires similar recognition. In

some countries, notably France, cultural digitisation is recognised as an element in the national development strategy – such a model may be appropriate across Europe.

An important part of the role of **ministries** within the National Cooperation Framework is to raise awareness at government level of the value of cultural heritage digitisation, and to work towards its inclusion in **longer-term, strategic government funding** of memory institutions. While responsibility for delivering this activity may be given to the memory institutions, it is important that suitable additional funding levels are secured, so that digitisation is not seen as a threat to traditional memory institution activities.

In return for such ongoing support, the national bodies (aggregators, ministries) may reasonably expect memory institutions to carry out their digitisation and publication in a manner which facilitates aggregation and re-use of cultural material (e.g. in education, in industry, in cultural portals). Funding can, and should, be linked to compliance with national or international standards in areas such as digitisation, metadata, longer-term preservation, etc.

6. Why have a National Cooperative Framework?

While digitisation of cultural content is valuable, it is equally important that digitised content can be shared, aggregated, searched, re-purposed and exploited in a broad spectrum of application domains. **Digital content should add value not just at the institutional level but at the regional, national and European levels too.** This includes national cultural portals and European digital cultural heritage assets such as Europeana, but also repurposing for creative industries, for tourism, for education, etc. Digital cultural content which cannot be re-used and re-purposed has a considerably lower intrinsic value than content which can be readily be used for education, for industry, for aggregation and for other purposes.

If content is produced by a disparate group of memory institutions across a country or region, it is important that common approaches and standards (of quality, of technology, of approach, of legal model, of intellectual property model) are applied, so that the value of the content can be national or international in nature, rather than limited to the memory institution which digitised the content in the first place. Of particular importance is that there are legal obstacles to the sharing and re-use of digital cultural content. Where such obstacles exist, they undermine the value of technical standardisation and interoperability.

The national Cooperative Framework (NCF) establishes an environment (technical, legal, IPR-wise and other) which, when endorsed by participating memory institutions, enables locally-digitised content to be appreciated and re-used on a wider stage. The NCF may

- Put in place common legal models, so that access to cultural heritage is facilitated.
- Suggest and support technical standards, to facilitate interoperability
- Work at government level to secure strategic ongoing funding for digitisation and online access
- Liaise with European actors to translate best practice into the national environment
- Facilitate the contribution of local and national content to national and international portals and other facilities

A particular application of this is the aggregation of content to the Europeana system, which offers a Europe-wide access point to cultural heritage material held by memory institutions across the continent.

6.1 Benefits to the Memory institution

Engagement with the NCF and adoption of the models which the NCF promotes has real benefits for the memory institution. By working within the NCF, the memory institution can be part of a larger whole, rather than an isolated entity with limited user population.

Benefits include

- Greater visibility of content, due to users accessing the content via major portals such as Europeana and national culture nets.
- Demonstrable added value to funding agencies such as cultural ministries – more users and higher profile supports arguments for ongoing or increased funding, while participation in national and international cultural offerings underlines the value of the digital cultural heritage material.
- Strategic endorsement at national level can lead to improved sustainability.

- Interoperability with digitisation initiatives of other memory institutions and of the state, opening new opportunities across institutional boundaries.
- Wider opportunities for re-use, exposure to potential exploitation markets, by creating content and metadata in a manner which complies with international standards and so is acceptable in multiple application domains.
- Opportunity to “exhibit” holdings for which physical display space is not sufficient - there is little effective limit on the number of items which can be exhibited online. There is also excellent potential for personalisation, tagging, community building, user-generated content, etc. By sharing this information across the NCF, arbitrarily-large and comprehensive exhibitions can be delivered.
- Opportunity for thematic and focused exhibitions which combine holdings in a number of different, value-adding ways – the same item can be displayed in several different ways, illustrating different aspects of the item and maximising its cultural, educational and other value. In addition, the content can be aggregated with complementary holdings from other NCF members, to create virtual exhibitions which are greater than the sum of their parts.
- Maximum organisational and national benefit from the investment in digitisation - the key characteristic of digital information is its facility for re-use; the digital content can be redeployed and exploited in several different ways.
- Clear intellectual property arrangement, agreed in advance, which represents the best interests of the memory institutions.

6.2 Benefits to the Users

Users benefit from the coordination of digital cultural heritage activities and the application of common legal and technical models. The NCF works with all stakeholders to make it easier for end users to find what they are looking for, and indeed to browse across the entire holdings of a country, rather than being restricted to a single memory institution at a time. In more detail, the benefits for the wider public include the following:

- Access to a wide selection of digitised content from memory institutions across the nation. This enhances the national patrimony and improves the quality of life for all.
- Clear and consistent intellectual property models, simplifying management and re-use.
- Commercial value from creative industries, tourism, etc. – this is greatly facilitated by the presence of consistent agreements governing intellectual property and re-use.
- Interoperability across institutional boundaries is greatly facilitated, leading to national-level online cultural offerings.
- Opportunities for national, thematic and focused “exhibitions”, which showcase particular aspects of cultural heritage without being limited by any single memory institution.
- Maximum benefit from national investments in digitisation.
- Opportunities for re-use of technology and experience, making cultural expenditure more efficient.
- Ability to contribute to, and benefit from, wider European and global initiatives.
- Easier to justify national strategic investment programmes for sustainability.
- Awareness of national digitisation initiatives.

6.3 Benefits to Europeana and other aggregators

From the perspective of Europeana, or any other major international cultural portal, there are too many memory institutions in Europe to engage with each one directly. Instead, regional and/or national coordination are essential, whereby one or more **aggregators** act as a “gateway” to local content. The following benefits accrue to Europeana from the presence of NCFs

- The NCF encourages memory institutions to share their content via national aggregator stakeholders. In such cases, Europeana needs engage only with a small number of entities (aggregators), rather than with many small memory institutions. Of course, the possibility remains for Europeana to interact directly with local and small institutions within and beyond the NCF.
- Content and technology (e.g. metadata formats) will comply with national (or European) standards, so that the technical work of Europeana and other portals remains manageable.
- Best practice and standard approaches to aggregation, to technology and to legal models can be propagated.

6.4 EU Coordination Can Stimulate National Coordination

Where no national cooperative framework exists, participation in European initiatives such as Europeana can have a stimulating effect on coordination at a national level. By engaging with the international project, national stakeholders benefit from exposure to best practice and to the experience and expertise of other countries that “have done it all before”. Such exposure can also make clear the potential benefits from digitisation and from the coordination of digitisation at a national level- when one member state sees the benefits which another has gained, this acts as a model and a benchmark.

7. Building the NCF: Guidelines

The establishment of the National Cooperative Framework (NCF) is a collaborative and consultative process which has clear and specific goals. In order to put in place an NCF which meets its objectives while respecting the input of every stakeholder, a series of interlinked processes must be carried out. These include

- Setting aims
- Review of European and global landscapes and best practice
- Identification of stakeholders
- Establishing legal models and IPR agreements
- Setting technology standards
- Training and Education

Each of these is briefly addressed here.

7.1 Setting Aims

Before beginning the process of establishing an NCF, it is important to establish clear aims and objectives for the NCF. Failure to do so will make delivering the NCF difficult and performance and progress monitoring will also be impeded.

The aims and objectives should be expressed in terms which are as concrete as possible. This will simplify performance monitoring and progress tracking. Examples of metrics may include

- Number of memory institutions contributing content
- Number of metadata records shared
- Number of digital items to which access is enabled
- Level of conformance with relevant metadata standards
- Impact on websites and physical facilities of memory institutions

It may be noted that these metrics do not reflect the use of Europeana or the popularity of the items in Europeana searches; both of these are beyond the control of the NCF stakeholders.

In the ATHENA context, the overall aim of the NCF is to ensure the supply of high-quality content to the project and to Europeana. The aims of the NCF must reflect this, while also respecting any national, sectoral or regional priorities or constraints. In this context, ‘quality’ may refer to the cultural or historic importance of the items, the completeness of the metadata, the compliance of the contributions to appropriate standards and also the clarity regarding copyright and other legal issues.

Aims for an ATHENA NCF may commonly take the form of

- a certain number of metadata records in a specific format (often OAI PMH-formatted DCMI records).
- access to a certain number of digital items
- online publication rights on all such contributions

7.1.1 NCF Aims and National Strategy

In many cases it may be desirable that the concept and objectives of the NCF receive endorsement and backing from government. This can be an important enabler for longer-term funding, as discussed in section 0, above. A documented national strategy for digitisation of cultural heritage, plus a commitment to engage in international cooperation, can be useful into the future.

7.2 Review of European and global landscapes and best practice

Before establishing legal and IPR aspects of the NCF, stakeholders (ministries and aggregators) should review the existing work carried out European and global levels. Several initiatives already exist which address similar issues and topics. Examples are the MINERVA series of EU projects, and also the MICHAEL series, the European Library series and many others. Section 0 of this document surveys several important initiatives which are relevant to NCFs.

7.3 Identification of Stakeholders

A key decision when establishing the NCF is the selection of the appropriate stakeholders. Stakeholders should ideally represent a cross-section of different domains (libraries, museums, archives, cultural landscapes, etc.). This will allow memory institutions in one domain to learn from the experience of institutions in other domains. In particular, the libraries domain has been especially active in digitisation and aggregation for several years – other domains such as the museums domain (on which ATHENA focuses) can learn from this experience.

Stakeholders may be selected using a wide range of **criteria** – the selection process will vary from NCF to NCF. Examples of selection criteria include

- Experience in digitisation and related technologies
- Ownership of digital collections
- Willingness to share metadata and enable access to holdings
- Strategic commitment to digitisation and online access
- National or regional leadership (e.g. national museums)
- Track record of similar projects
- Technical expertise.

In the ATHENA context, the stakeholders in the NCF may include

- Major national and regional museums, cultural landscapes, architectural heritage bodies, etc.
- Libraries and archives already active in related projects such as the EDL series of projects and the archive project APENET. These stakeholders are well positioned to share the benefit of their prior experience.
- Centres of expertise in digitisation and online publication. Such centres may include university departments, specific state agencies, teams within national ministries or agencies, particular libraries or museums who have relevant experience, etc.

- Memory institutions who have an online presence, already contribute to national portals or who have content which is compliant with the relevant technology standards and so can be easily aggregated.

In some countries, there are particular **memory institutions** which have demonstrated leadership in the relevant fields, and which take part in the NCF “by default”. In other cases, a particular **ministry** has built up experience on the European stage, and is well positioned to provide leadership nationally.

Stakeholders (memory institutions, aggregators, ministries, etc.) may formally sign a **cooperation agreement** or **contract** which sets out the rights and responsibilities of each participant. Such an agreement establishes a useful baseline against which progress can be judged and adds shared clarity to the entire process.

7.4 Establishing Legal Models and IPR agreements

The setting of legal agreements and clarification of IPR issues can assist the smooth functioning of the NCF. It may be necessary to clarify these issues before memory institutions and aggregators are recruited – this may be part of a pre-contract negotiation process.

Any legal model and IPR agreement must balance the aims of the NCF and the priorities/constraints of each participant. Review of best practice and of the experience of other domains (e.g. libraries and archives) is to be recommended, to ensure that no essential issues are neglected and to identify solutions to common issues. From the perspective of the ministry and/or aggregator, a consistent set of legal models, applied to all memory institutions, is to be preferred. This provides a single legal environment and greatly simplifies management of the NCF.

Topics included in the scope of a legal agreement (including a cooperation agreement) may be

- the process for joining the NCF
- the manner in which (copyright) material provided the NCF will be used
- any potential for further re-licensing of access to copyright material
- processes for withdrawing items and/or metadata from the scope of the NCF
- the process for leaving the NCF
- availability of metadata to third parties, including Europeana (where Europeana visibility is an important part of the promotional strategy for a memory institution, it is important that this visibility can be relied upon)

In the ATHENA context, the legal models and IPR agreements in one country may provide a useful basis for others, or at least a checklist of issues to consider.

All legal models and IPR agreements must of course be endorsed by the management of each stakeholder.

7.5 Setting Technology Standards

If digital cultural heritage content is to be re-usable and to be shared across organisational and/or national boundaries, it is important that it can be imported and used by third parties. In effect this means that the content should comply with some technical standard or standards, thus promoting interoperability.

The choice of standards is very wide – which standards to support, in which way, are topics which can be very usefully researched in concert with other projects and other memory institutions across Europe. Best practice and technology guidelines are available, for example, from the MINERVA project at www.minervaeurope.org.

Some examples of the areas where standards are important include

- metadata creation and storage (fields, data types, order, etc.)
- metadata transmission (from memory institution to aggregator, for example)
- image sizes, formats, etc.
- audio and video formats, quality, etc.

In the specific context of ATHENA, there are **two kinds of standards profiles** to be considered:

- those which apply to the provision of content by memory institutions to an aggregator,
- and those which apply between an aggregator and Europeana.

In some countries, where a national portal already exists, it may be undesirable to apply new standards to each memory institution – in such a case, existing national standards profiles may be maintained, and a mapping from this national standard to the Europeana standards profile may occur at the aggregator. On the other hand, where no national standards apply, it may be appropriate to use the Europeana technology standards at both levels (memory institution to aggregator, and aggregator to Europeana).

Anyhow, ATHENA is contributing to this issue, especially for museums. WP3 ‘Identifying standards’ is developing LIDO (Lightweight Information Describing Objects)¹. LIDO is not really a new metadata schema, a harvesting format, instead; it builds on existing standards and best practise from a number of different countries in Europe and the rest of the world.

It will help museums to aggregate their metadata without loosing the richness of such information. In fact, there is a common view within the museum community that a DC derived metadata schemas do not deliver a rich enough view of museum content. The importance of a museum object, especially outside the area of fine art, is often not covered adequately. DC-based systems ‘flatten out’ museum metadata, with most of the data going into limited subset of elements.

LIDO will also be mapped on ESE and allow the full interoperability with the Euroepana current schema.

Finally, Europeana itself can act as a catalyst for promoting standards and technologies for the description and aggregation of cultural content. In fact, many features that hare being developed in its framework, from open source aggregation software to licences, will be made

¹ See ATHENA deliverable 3.3.

available for the user community, i.e. the cultural institutions that will start up digitisation and aggregation projects in the future.

7.6 Training and Education

Knowledge transfer (training/education) is essential for the successful establishment and delivery of the NCF. Such knowledge transfer may address topics such as

- The value of digitisation and online accessibility of cultural heritage material
- The benefits of the NCF
- Strategic value of the NCF
- Legal and IPR issues
- Technology and standards

Digitisation and online accessibility of cultural heritage adds enormous **value** to the cultural heritage itself. It makes the patrimony more accessible to more people, it encourages visits to museums, cultural landscapes, etc. and it enables re-use and re-purposing in a large number of different application domains.

Appreciation of the value of cultural heritage digitisation is not universal – some memory institutions, some curatorial and management personnel and some state, regional and governmental administrators may not yet be fully aware of the opportunities that are opened by the translation of cultural heritage to the digital medium.

Awareness of the **benefits of the NCF** must be communicated to management at several levels, including

- National (ministry, government, funding)
- Regional (cultural agencies, associations of memory institutions) and
- Memory institution (museums, galleries, libraries, archives...).

In each case, it is important to communicate the benefits of the NCF and the new opportunities which collaborations such as ATHENA and Europeana open up. These are discussed in Chapter 6, above.

The NCF can be a **strategic enabler** for the cultural heritage sector. As a side effect of working together on the NCF and on the provision of material to an international initiative such as Europeana, the cultural heritage sector may be stimulated to work together in a more strategic manner. The NCF opens new opportunities and highlights the types of goals which can be achieved by longer-term planning and by integration and collaboration on a national level. Education and training (seminars, workshops, meetings) are needed to get this message across and to encourage all stakeholders to build on the work done within ATHENA.

Information about **IPR and legal** issues must of course be communicated clearly to the management and personnel of all stakeholders. Without this knowledge transfer, it may be difficult to gain the buy-in of the memory institutions. The correct process for this may vary from one country to another, depending on the usual nature and frequency of communication across the cultural heritage sector. Seminars may be useful as a part of the process of identification and recruiting of stakeholders, as discussed in section 0 above. A national, regional or sectoral ‘champion’ or ‘reference site’, such as a memory institution with experience in similar projects, may be valuable in this context.

Information about **technology and standards** must be propagated in order to ensure that memory institutions and aggregators will be able to interoperate within the NCF, and to simplify subsequent collaboration with Europeana and other third parties. Guidance documentation, online discussion and information resources, as well as seminars and workshops, may all be useful here.

In the specific ATHENA context, cross domain education and training is of particular relevance. ATHENA seeks to build on the experience and success of related projects in the libraries and archives sectors. The transfer of knowledge from these sectors to the museum, cultural landscape and other areas within cultural heritage can be an important stimulus and enabler for these less-developed (in the sense of digitisation and online accessibility) areas. Valuable work in digitisation technology, in IPR, in metadata and in data sharing which has been completed over decades within the library community in particular can be (and is being) adapted and re-used by other sectors. In some cases, these cross-domain knowledge assets are combined with standards, models and approaches which have been developed specifically for museums (e.g. SPECTRUM, LIDO).

7.7 Long Term Preservation

Within some NCF configurations, there may be potential for the inclusion of long term preservation. The NCF establishes and strengthens foundations on which common approaches can be adopted to IPR, to technology and to other aspects of cultural heritage digitisation. When this foundation is in place, it represents an opportunity to take a strategic approach to long-term preservation of digital cultural heritage. Long-term preservation is a critical issue for all digital cultural heritage (and other digital material of long-term value). Common approaches, high quality implementation and ongoing commitment are required if long-term preservation (and thus access to digital cultural heritage) is to be achieved. The NCF can act as a communications channel and a facilitation network for long-term preservation at the European, national and regional levels.

8. Examples of National Cooperative Frameworks

8.1 Introduction

National Cooperative Frameworks (NCFs) exist in several member states already. The form of the NCF varies quite significantly from one country to another – this reflects the different relationships between the various stakeholders, as well as particular emphases and priorities at the national level. Elements of these NCFs may be usefully replicated by countries who are establishing an NCF for the first time. Alternatively, existing NCFs may be improved by reviewing the NCF models used in other countries.

Every NCF to date (late 2009) includes one or more ministries, a single aggregator and several memory institutions. The most important variations from one NCF to another are typified by the different relationships between the aggregator and the other stakeholders. Thus, the examples of NCFs given in this chapter focus primarily on the aggregators.

It should be noted that new frameworks are emerging continuously, and that existing NCFs are not static.

The NCFs outlined here are those of the following countries or regions

- Austria
- Italy
- France
- Finland
- Belgium (two provinces)
- Germany (Baden Württemberg)

In general, **the NCF is an aggregation strategy**, which is typically realised through a cultural portal for the country or region, and the relationships which it has with the memory institutions and other stakeholders. It should be noted that not all Europeana aggregators are also national cultural portals, although many go aggregate the cultural holdings of other entities. Examples of aggregators that are not national portals include

- Knowledge Management in Museums (Sweden)
- ACE Association des Cinémathèques Européennes (international)¹
- Scran (Scotland), a charity & online learning resource base with over 360,000 images & media from museums, galleries, archives and the media²
- Het Geheugen van Nederland – Memory of the Netherlands (the Netherlands), a gigantic digital treasury, full of information about the Dutch past³

¹ <http://www.acefilm.de/>

² <http://www.scran.ac.uk/>

³ <http://www.geheugenvannederland.nl/>

8.2 Austria

Austria's NCF governs the interactions between two ministries, a national aggregator and several leading memory institutions.

8.2.1 Ministries

The Austrian NCF is supported by two ministries, the Ministry of Education, Arts and Culture (BMUKK) and the Ministry for Science and Research (BMWF).

8.2.2 Aggregator

The Austrian aggregator is Kulturpool¹. Kulturpool is Austria's national cultural portal and will act as the aggregator in the context of Europeana. To date it offers 75,000 digital items and their metadata. A significant amount of content is offered in both German and English.

Aggregator Technical Approach

The Kulturpool aggregator is implemented as a proprietary system by the **technology partner** (uma information technology), who use their own search tool 'Melvil', on top of the IBM WebSphere platform.

Aggregator Metadata

The Kulturpool system has its own metadata model, based on Dublin Core. The metadata model which is provided by each memory institution is mapped manually to the Kulturpool model.

Aggregator-Memory Institution Legal Model

Austrian memory institutions who work with Kulturpool sign a **legal** agreement which enables the re-use of their material by Europeana

8.2.3 Memory institutions

The following memory institutions are members of the NCF

- Albertina
- Institut für Realienkunde
- Kunsthistorisches Museum
- Museum für Völkerkunde
- Österreichische Mediathek
- Österreichisches Theatermuseum

8.2.4 Intellectual property

Items which are governed by the Austrian NCF and aggregated by Kulturpool are marked with a visible watermark indicating the memory institution which holds the intellectual property rights. Each item page clearly indicates the source of the item, and links to its website.

¹ <http://www.kulturpool.at/>

Horse



Title
Horse

Description

Medieval and early modern visual culture: a digitized piece of art.

Artist:

Date: 13th century

Where to find: Eggenburg - Lower Austria - Austria

Inventory number
at.imareal.004808

 [enlarge](#)

provided by:

IMAREAL

Information about the institution in Kulturpool
Institut für Realienkunde

Figure 8 - Example of an item in Kulturpool



Figure 9 - Watermarking of items with copyright information

8.3 Italy

Italy's NCF governs the interactions between 3 ministries, the local authorities, a national aggregator and several leading memory institutions. It is be realised with CulturaItalia, the national culture portal.

8.3.1 Ministries and Management

The Italian NCF is coordinated by the **Ministry** for Cultural Heritage and Activities (MiBAC) and supported by the Ministry of Public Administration and Innovation, the Ministry of Public Education and Universities and all the Italian regions. A national **steering committee** is responsible for overall planning and strategic direction. This is assisted by a **technical and scientific committee**, responsible for technology and standards. At the regional level, CulturaItalia has a network of regional points of reference.

The Ministry provides also help desk for supporting content providers in the activities related to digitisation and aggregation, as well as periodic training courses for all kind of institution to raise awareness on the importance of digitisation of cultural heritage.

8.3.2 Aggregator

CulturaItalia is Italy's national cross-domain aggregator and acts as the country's main supplier into Europeana. It has contributed 40,000 images (postcards) to Europeana already, and is adding 8,000 museum images shortly. It is an initiative of the Ministry for Cultural Heritage and Activities, and implemented by the Ministry in collaboration with a major university, the Scuola Normale Superiore di Pisa.

To date it offers

- Thousands of articles about Italian cultural heritage
- Over 100 cultural videos
- Over 2 million metadata records
- Access to the national online library catalogue of 11 million records

Aggregator Technical Approach

CulturaItalia is implemented using open-source technologies as much as possible. While the search engine is currently a proprietary one (Autonomy), the project is moving to Lucene. OAI PMH tools and other related software are available for download from the CulturaItalia website, in order to encourage/enable memory institutions to easily interoperate with CI.

Aggregator Metadata

CulturaItalia uses a cross-domain application profile ("PICO") built on qualified **Dublin Core**¹. It harvests regional and memory institution metadata using **OAI-PMH**, and represents the data in XML format. This approach reflects the best practice as outlined in the **MINERVA** project. A **SKOS**-compliant thesaurus associated with the PICO application profile is also used.

The CulturaItalia team works with each memory institution to map the database structure of the memory institution to the PICO application profile.

¹ <http://purl.org/pico/picoap1.0.xml>

Aggregator-Memory Institution Legal Model

A framework licence is available; it is the basis for customised agreements which are signed with each memory institution. They define

- The scope of the agreement and the material to be shared
- The copyright on the material and the metadata
- The manner in which CulturaItalia can contribute memory institution content to third parties, with particular regard to Europeana
- The schedule for periodic re-harvesting of the memory institution data.

8.3.3 Memory institutions


CulturaItalia currently gathers content from over 20 memory institutions, ministries and local authorities apart, and is working with an additional 20. they are of every level –national, regional, local- and both public and private; in fact, some of the memory institutions are commercial organisations (e.g. the Alinari photo archive) while some are bodies within the ministries (e.g. ICCD).

8.3.4 Intellectual property

Items displayed in CulturaItalia are sometimes watermarked by right holders (the memory institutions). CulturaItalia applies the model that Europeana defines ‘clean hands’, which means that each content provider maintains its own rights on the digital objects and is responsible for their updating.

Bronze horse's head

Type: Still Image - Physical Object
Category: fotografie



Author: Tatge, George for Alinari
Description: Bronze horse's head, Greek, originally located at the Palazzo Medici-Riccardi, conserved at the Archeological Museum in Florence
Subject: Animals , Vertebrates , Mammals , Terrestrial , Horse | Object , Set
Material and technique: P Color Process - Film positive
Date of creation: 2000
Temporal coverage: Greek Art Greece Europe Ancient Civilization

Relation

References: Bronze horse's head, originally located at the Medici-Riccardi Palace now at the Archaeological Museum, Florence

Provider

Fratelli Alinari - fotografie
Identifier: CAL-F-008987-0000

Figure 10 - Example of item in CulturaItalia



Figure 11 – Watermarked image (ICCD AeroFototeca).

8.3.5 Sustainability

The NCF, and the CulturaItalia aggregator, is included in the scope of the national e-Gov 2012 plan, with a total financing of M€3.2. This funding will include also the realisation of a specific section devoted to the Italian museums (MuseiDItalia).

8.4 France

8.4.1 Ministries

The NCF is supported by the **Ministry** of Culture and Communications complementarily with the mass digitisation programmes of the major French institutions for the library and audiovisual heritage: la Bibliothèque National de France and the Institute pour l'Audiovisuel.

8.4.2 Aggregator

The French aggregator is Culture.fr/Collections. Culture.fr/Collections is part of the national cultural portal "Culture.fr". It acts as the French national aggregator for Europeana. It offers 3 million records, of which 2 million are linked directly to digital material.

Aggregator Technical Approach

Culture.fr/Collections uses a proprietary search technology ('Intuition' from Sinequa). Contribution to Europeana has involved 'manual ingestion', as no OAI PMH repository exists for the Culture.fr/Collections portal.

Aggregator Metadata

No standard metadata schema is used. The proprietary search engine carries out its own analysis and indexing.

8.4.3 Aggregator-Memory Institution Legal Model

Culture.fr/Collections is included in the scope of the national policy for the re-use of public content; the institutions depending on the Ministry are *de facto* providers of the aggregator. For 2010 a model licence will be established and signed by both parties; it will encompass metadata and digital content.

8.4.4 Memory institutions

The French NCF covers the content over 30 databases from cross-domain **memory institutions** across France. These include regional cultural portals, major initiatives of the National Library of France (BnF) and the National Audio-Visual Institute (INA), as well as national domain portals (e.g. design portal, cinema portal).

8.4.5 Intellectual property













The Culture.fr/Collections aggregates material primarily from memory institutions which are directly supported by the Ministry of Culture and Communications. As a result, there is no requirement for specific agreements within the NCF.

Items shown on Culture.fr/Collections are typically thumbnails; captions include the copyright information. To see the items, the user must click through to the memory institution.

Mosaïque

résultats: 25-36/477

Sélectionner tous les documents de la page | Ajouter la sélection à mon panier
Tout désélectionner | Envoyer la sélection par courriel

 <p>Avant toute utilisation, une autorisation doit ...</p> <p><input type="checkbox"/> Orfèvrerie mérovingienne, les oeuvres de saint Eloi et la verroterie cloisonnée Planche 7 : "Plat de ..."</p>	 <p>(C) RMN - Droits réservés</p> <p><input type="checkbox"/> Epée du chef vers 500 ap jc</p>	 <p>Avant toute utilisation, une autorisation doit ...</p> <p><input type="checkbox"/> Orfèvrerie mérovingienne, les oeuvres de saint Eloi et la verroterie cloisonnée Planche 6 : "Trésor ..."</p>	 <p>(C) RMN - Jean-Gilles Berizzi</p> <p><input checked="" type="checkbox"/> Ensemble mobilier de la tombe 307 500 525</p>
 <p>(C) RMN - Jean-Gilles Berizzi</p> <p><input type="checkbox"/> Pendant de cordelière 500 600</p>	 <p>(C) RMN - Jean-Gilles Berizzi</p> <p><input type="checkbox"/> Pendant de cordelière 500 600</p>	 <p>(C) RMN - Jean-Gilles Berizzi</p> <p><input type="checkbox"/> Fibule 4e siècle</p>	 <p>(C) RMN - Jean-Gilles Berizzi</p> <p><input type="checkbox"/> Bandage herniaire de la tombe 126 625 675</p>
 <p>(C) RMN - Jean-Gilles Berizzi</p> <p><input type="checkbox"/> Fils d'or 6e siècle</p>	 <p>(C) RMN - Jean-Gilles Berizzi</p> <p><input type="checkbox"/> Fibule 4e siècle</p>	 <p>(C) RMN - Jean-Gilles Berizzi</p> <p><input type="checkbox"/> Passoire 475 550</p>	 <p>(C) RMN - Jean-Gilles Berizzi</p> <p><input type="checkbox"/> Rouelle (tombe 30) 1ère moitié 6e siècle</p>

← 1 | 2 | 3 | 4 | 5 | 6 → fin

Figure 12 - Items shown in Culture.fr/Collections. Note the © even on the thumbnails

Rather than providing extensive metadata within the Culture.fr/Collections site, the user is forwarded immediately to the website of the memory institution.

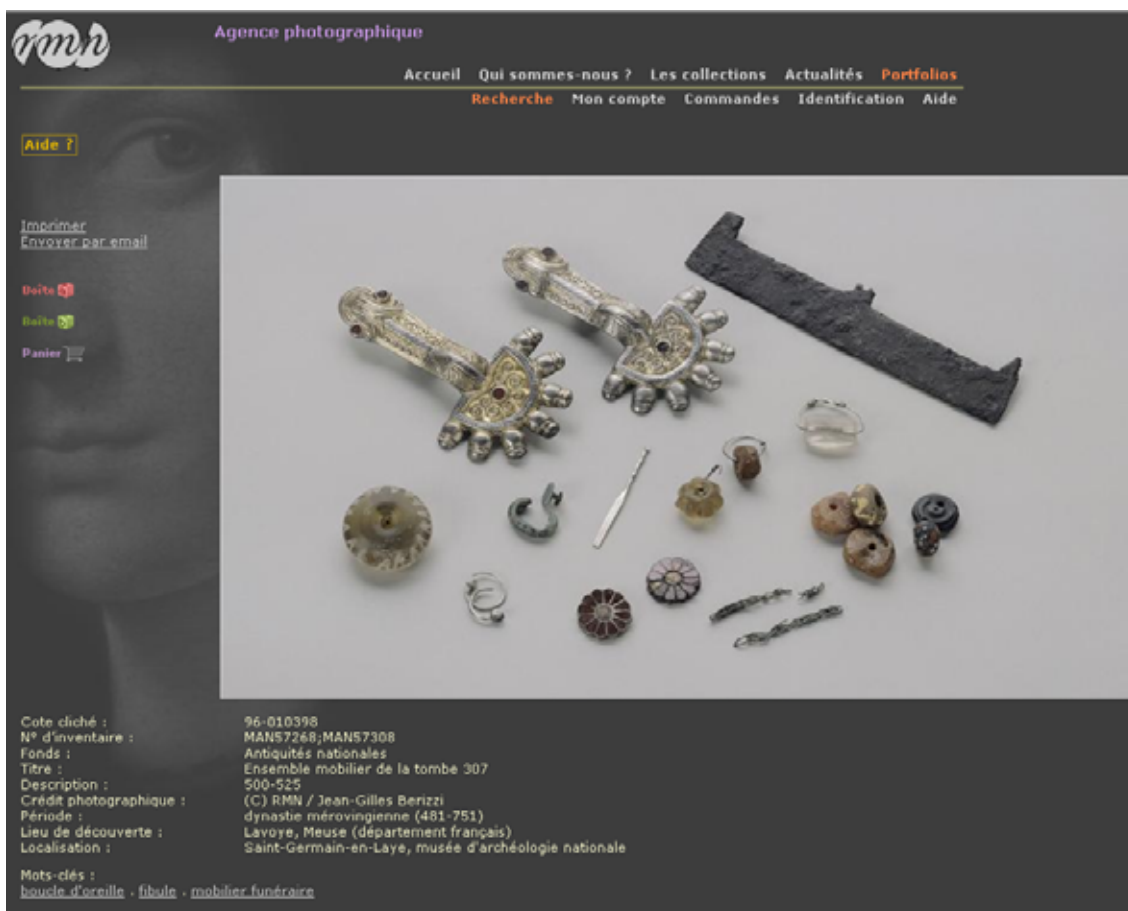


Figure 13 - Item description, on the website of the memory institution

8.4.6 Sustainability

The NCF and its aggregator lie within the scope of the French national strategy on digitisation – the responsibility of the Ministry includes the digitisation and online publication of cultural institutions in France. This is a good example of an NCF which does not rely on project (short-term) funding, but has instead achieved ‘mainstream’ or strategic support.

8.5 Finland

8.5.1 Ministries

The Finnish NCF is supported by the Ministry of Education, which is responsible for culture in Finland.

8.5.2 Aggregator

The National Digital Library project of Finland (Kansallinen digitaalinen kirjasto) is the Finnish national aggregator for Europeana¹. The National Digital Library is still under development and expects to enter a pilot phase in Q2, 2010 and completed in 2011. No information on **metadata**, **legal models** or **IPR** is available yet. Some of the displayed materials are free for all users in the public interface (public domain). Some of the materials are in various limited either by their use or availability: licensed materials (e.g. e-magazines), archive materials with restricted display and use or other copyrighted materials (e.g. photographs). Each organisation is responsible for complying with the copyright legislation with regard to their materials presented to the public interface.

Aggregator Technical Approach

The National Digital Library makes a national metadata index available to the end user. The digital items themselves are retained at the memory institutions and are accessed through the National Digital Library interface.

The National Digital Library of Finland set among its main goals the support to the long term preservation of the digital objects hosted and shown.

8.5.3 Memory Institutions

The Finnish NCF includes the following memory institutions

- Public and academic libraries
- National Library of Finland
- Finnish National Museum
- Specialised National Museums e.g. Finnish Museum of Photography
- Finnish National Gallery
- Regional Museums and Art Museums
- National and Provincial Archives
- National Audio-visual Archive

¹ <http://www.kdk2011.fi/>

8.6 Belgium (Provinces of Limburg & Vlaams-Brabant & City of Leuven)

The NCF in Belgium currently covers two provinces – Limburg and Vlaams-Brabant, plus the City of Leuven.

8.6.1 Ministries

The NCF is supported by the provincial governments of Limburg and Vlaams-Brabant and by the City of Leuven.

The complexity of the two-community structure of much of Belgian state government makes working at a regional level simpler for many projects. All Erfgoedplus.be information is available in Flemish only.

8.6.2 Aggregator

Erfgoedplus is the regional cultural cross-domain portal which covers the two provinces of Limburg and Vlaams-Brabant, plus the City of Leuven. It is the first Belgian aggregator to contribute to Europeana.

Aggregator Technical Approach

Erfgoedplus has its own technology, developed by PCCE¹ Limburg since 2005. It collects data from the memory institutions, normalises the data structure and semantics and includes it in an ontology. Based on this, it offers a range of different navigation options.

Aggregator Metadata

The Erfgoedplus ‘Spil’ data model is based on the Spectrum model². Erfgoedplus also relates digital resources to one another using an ontology based on the CIDOC CRM, leading to an enriched ‘semantic’ metadata expressed in RDF. It also applies a thesaurus based on the AAT-Ned³ thesaurus.

Legal Model

No specific legal model is used. Agreements are made on ad-hoc basis according to the type of collection.

8.6.3 Memory Institutions

The NCF currently includes

- Eight museums
- Church collections from approximately fifty towns
- Fourteen local collections

1 PCCE: Provinciaal centrum voor cultureel erfgoed

2 Spectrum is the UK Museum Documentation Standard. See <http://www.collectionstrust.org.uk/specfaq>

3 Art and Architecture Thesaurus, Netherlands. See <http://www.aat-ned.nl/index.html>

8.6.4 Intellectual property

The implementation of intellectual property varies from item to item. In many cases, the item caption shows the copyright information. In others, however, no copyright information is shown.



Figure 14 - Two Erfgoedplus.be items

A full set of metadata is shown in the Erfgoedplus environment; this may be supplemented by additional information on the site of the memory institution, where this is shown.

8.7 Germany

8.7.1 Ministries & Agencies

As federal republic, Germany has a very articulated management of everything concerns the management, preservation and exploitation of cultural heritage since these activities are carried out by the 16 Länder. The German NCF is an initiative of the Deutsche Forschungsgemeinschaft, the German national Research Foundation. It is supported by the Bibliotheks-Service-Centrum Baden Wuerttemberg (the Baden Wuerttemberg Library Service Centre), the Landesarchiv Baden Wuerttemberg (the regional archives) and Stiftung Preussischer Kulturbesitz, (Prussian Cultural Heritage Foundation). Other major stakeholders are the Bundesarchiv (German National Archives) and the Landesmuseum fur Technik und Arbeit (Regional Museum of Technology and Work) in Mannheim

8.7.2 Aggregator

The BAM Portal¹ is the regional cross-domain cultural portal for the Baden-Wuerttemberg region of Germany. BAM provides access to over 41 million items, of which 37 million are library records, approximately 3 million are archive material and almost 300,000 are from museums. The Kalliope² portal contributes over 800,000 items.

Aggregator Technical Approach

BAM uses open-source (Lucene) search technologies for the core portal functions. Content aggregation uses a range of technologies, including HTTP, FTP and OAI PMH.

BAM maintains a centralised metadata resource; all digital content remains at the source memory institutions.

Aggregator Metadata

BAM supports three main metadata schemata – ISAD3, museum.dat4 and MARC215, for each of the three main domains which contribute to it. These are translated to its internal data format, DLmeta6, which is a subset of Dublin Core, and stored within its Lucene-based data warehouse.

Legal Model

Aggregation and the use of content within the BAM portal are negotiated on a case-by-case basis. When any content is to be re-used (e.g. contributed to Europeana), BAM must renegotiate the individual agreement with each memory institution.

8.7.3 Memory institutions

Over 100 memory institutions, including museums, archives and libraries, contribute their content to BAM.

1 <http://www.bam-portal.de/>

2 See www.kalliope-portal.de

3 International Standard Archival Description http://www.ica.org/sites/default/files/isad_g_2e.pdf

4 museumdat is a harvesting format optimised for museums. See www.museumdat.org

5 MARC21 is a Format for Bibliographic Data. Various MARC dialects are widely used in libraries worldwide. See <http://www.loc.gov/marc/>

6 www.dlmeta.de

8.7.4 Intellectual Property

Few images are stored on the BAM portal itself – even thumbnails are held by the memory institutions. Memory institutions may or may not use watermarking on their images – this choice varies from one memory institution to another.



Figure 15 - Watermarked image and non-watermarked image – both accessed via BAM
The source of holdings is always shown in the BAM search results.

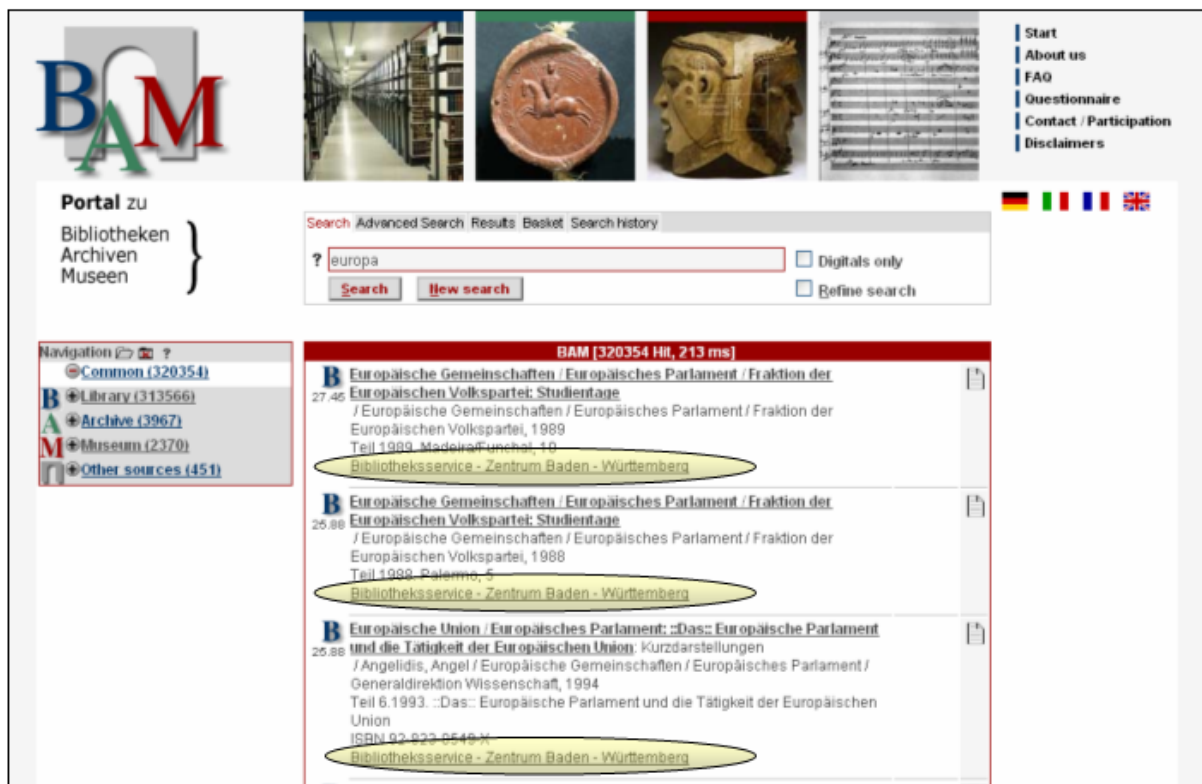


Figure 16 - BAM Search Results

Clicking on search results opens the item on its “home” memory institution website.

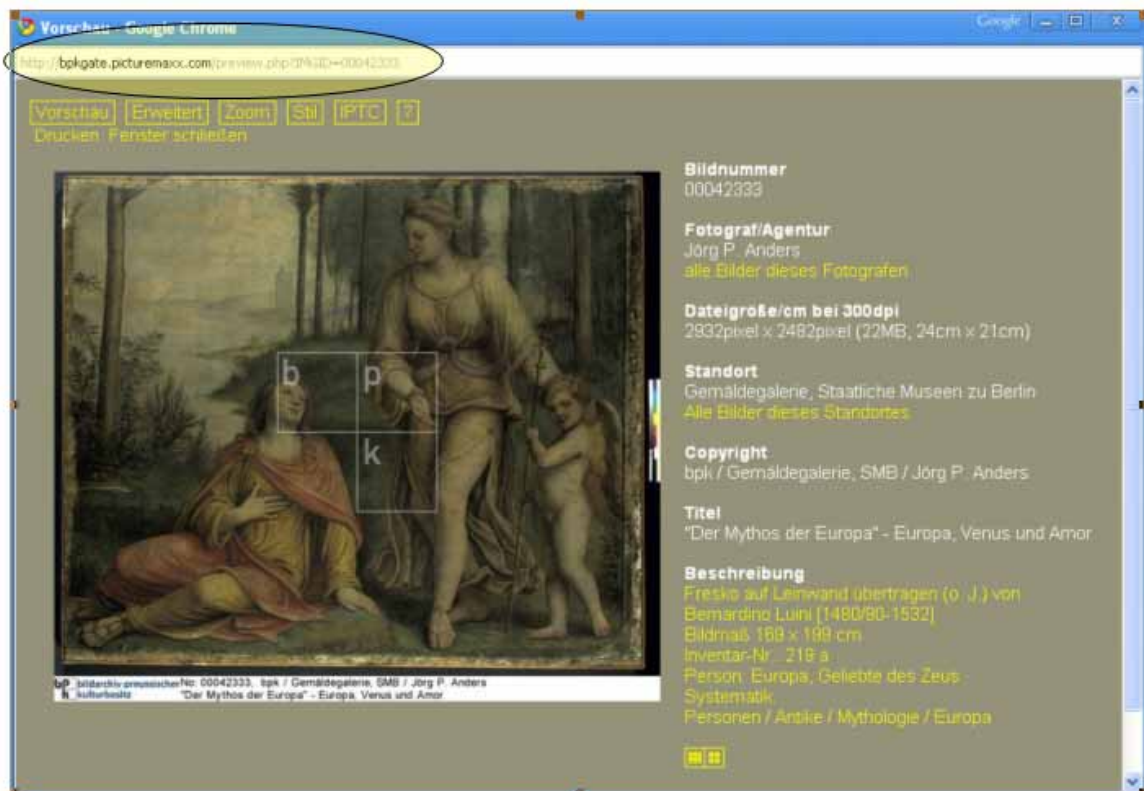


Figure 17 - Item in its 'home' website

8.7.5 Sustainability

The NCF has no funding at present. Early stages of the project were funded by the Deutsche Forschungsgemeinschaft. However, the related German Digital Library initiative has a budget of €2.6 million per annum.

8.8 MICHAEL

The MICHAEL service¹ is a very peculiar example of Cooperative Framework because it combines the NCFs of the countries that are member of the consortium into a European cooperative framework. MICHAEL capitalises the efforts carried out by many Member States in terms of digitisation and online accessibility of digital cultural content.

8.8.1 Ministries

The consortium of the MICHAEL and MICHAELplus eTen funded projects was coordinated by the Italian Ministry for Cultural Heritage and Activities and included ministries and leading memory institutions from Bulgaria, Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Malta, Israel, Italy, Latvia, the Netherlands, Poland, Slovakia, Spain, Sweden and the United Kingdom, as well as technology partners.

8.8.2 Aggregator

The MICHAEL service gives access to the digital collections of the countries of the network. In fact, the MICHAEL database is built on national inventories of digital collections that are stored in national databases.

Each national inventory includes descriptions of digital collections created by museums, libraries and archives and their accesses (websites, CD-ROMS, DVD and other products and services). The MICHAEL descriptions are written especially for the service by people working in, or on behalf of, the cultural institutions themselves.

The cultural institutions themselves are described and a digital record corresponds to each one of them, in order to network cultural bodies.

Details are harvested directly from the national inventories to become part of the MICHAEL database for the European service; in this way, users can browse all the MICHAEL content in 16 different languages.

The MICHAEL descriptions are based on the MICHAEL data model, which derives from work by the MINERVA project on inventories of the European digital cultural heritage and is closely related to RSLP collection description schema and to work by the Dublin Core Metadata Initiative on collection description.

8.8.3 Aggregator Technical Approach

The major goal of the MICHAEL project was to build a multilingual inventory of the cultural heritage in Europe. To achieve this data will be gathered from regional and national inventories using a standard software platform and a shared data model.

The MICHAEL software platform consists of two modules that work together to provide data management and publishing services.

¹ <http://www.michael-culture.org/en/home>. The MICHAEL and MICHAELplus projects run from 2004 to 2008. The MICHAEL service is still online and updated.

- A **production module** allows users to create, modify, import and manage records that describe aspects of the digital cultural heritage. All of these functions are available using a standard Web browser. Data is stored using a powerful and flexible XML database, which is based on the MICHAEL data model.
- A publication module provides an intuitive interface to enable end-users to search for digital cultural heritage with their Web browser. This module uses a powerful XML search and display engine, which can be customized to allow institutions or countries to adapt the interface to meet their particular needs.

The two MICHAEL modules act as data repositories that are compliant with the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH) making metadata available in both standard Dublin Core and MICHAEL format.

The MICHAEL platform is being distributed as open source software, and is built on top of other well-known open source components. Technology tool are freely available for developers at the URL <http://www.michael-culture.org/en/about/tools>.

8.8.4 How MICHAEL interacts with NCF: Italy.

In Italy the MICHAEL project started the first systematic census of on- and off-line, digital collections available to the public from cultural institutions of all sectors.

The census is coordinated by the Ministry which mobilized its own central and local institutions, the 20 Italian Regions and the 77 public and private universities (in partnership with the Conference of the Rectors of Italian Universities).

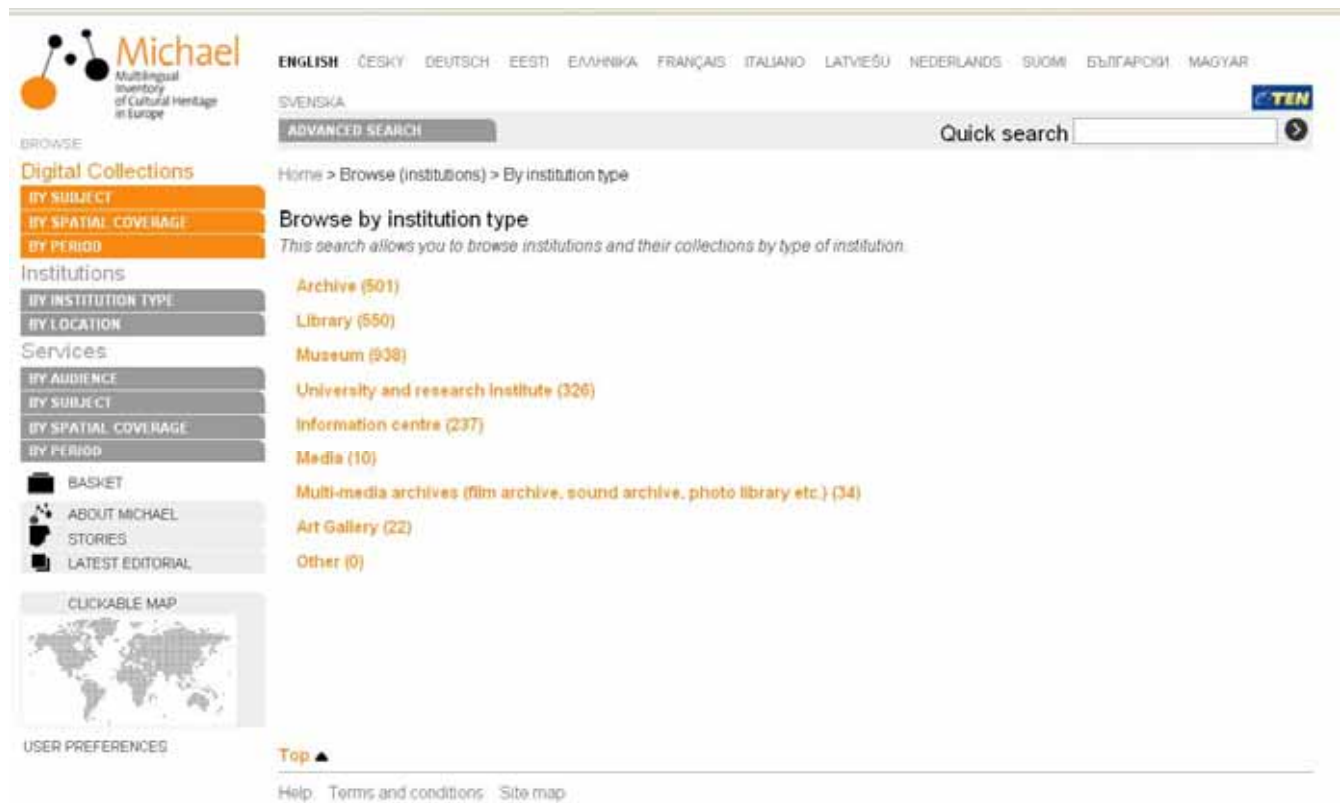
Coverage of the entire national territory was guaranteed by the involvement of large and small institutions from all cultural heritage sectors (archives, libraries, museums, catalogues and preservation offices). Cultural organisations have been actively registering their digital collections with MICHAEL. Census activity has gone particularly well since the launches of <http://www.michael-italia.it> and the MICHAEL European Service which increased national and international visibility for the Italian cultural institutions.

The project in Italy operates in close cooperation with another Italian NCF, the Italian culture portal Culturaitalia, and the respective databases are interoperable. As a result CulturaItalia is able to identify collection details through the MICHAEL catalogue and also potential sources for item-level data to be included in its searches.

8.8.5 Sustainability

The MICHAEL Culture Association is a not-for-profit organisation that was founded in July 2007 under Belgian law to assure the sustainability of the MICHAEL service.

In that perspective, the Association is also supporting activities aimed at improving the creation and updating of inventories of digital content at country level.



Michael
Multilingual Inventory of Cultural Heritage in Europe

ENGLISH · CĚSKY · DEUTSCH · ESTI · ΕΛΛΗΝΙΚΑ · FRANÇAIS · ITALIANO · LATVIEŠU · NEDERLANDS · SUOMI · БЪЛГАРСКИ · MAGYAR · SVENSKA

ADVANCED SEARCH

Quick search

BROWSE

Digital Collections

- BY SUBJECT
- BY SPATIAL COVERAGE
- BY PERIOD

Institutions

- BY INSTITUTION TYPE
- BY LOCATION

Services

- BY AUDIENCE
- BY SUBJECT
- BY SPATIAL COVERAGE
- BY PERIOD

BASKET

ABOUT MICHAEL

STORIES

LATEST EDITORIAL

CLICKABLE MAP

USER PREFERENCES

Home > Browse (institutions) > By institution type

Browse by institution type

This search allows you to browse institutions and their collections by type of institution.

- Archive (501)
- Library (550)
- Museum (938)
- University and research institute (326)
- Information centre (237)
- Media (10)
- Multi-media archives (film archive, sound archive, photo library etc.) (34)
- Art Gallery (22)
- Other (0)

Top ▲

Help · Terms and conditions · Site map

Figure 18 – a MICHAEL service's directory

9. Analysis of Existing NCFs

This section seeks to draw conclusions and learn lessons from the National Cooperative Frameworks and aggregators which are outlined in section 0 above. These conclusions may be applicable in the establishment of new NCFs, or in the evolution of existing NCFs, and, as well, can be considered by ATHENA as source of inspiration

9.1 Stakeholders

Every NCF is an initiative of one or more **Ministries**. This reflects the influence that ministries have at the national level, partly due to their control of state funding for memory institutions and the cultural sector. The conclusion that can be drawn here is that any national cooperative framework will be greatly facilitated if it has the backing of the relevant cultural ministry. The exception is where the aggregators and cooperative frameworks are regional in nature. In such a case, backing from regional agencies and government is important.

It may be noted that involvement in the larger European initiative (Europeana) can stimulate national cooperation – for example: Europeana is a factor in the cooperation of Baden Wuerttemberg with other local institutions, and in the collaboration of Vlaams-Brabant, Limburg and Leuven.

Aggregators are frequently provided by **existing national cultural portals**. These portals are a logical choice, because they have already addressed issues such as the harmonisation of technology, metadata and data representation. These issues are as important in the delivery of a national cultural gateway as they are in the creation of a European portal. In addition, the personnel and organisations involved in national portals will usually have the expertise and experience which is needed to deliver a Europeana aggregator.

It may be noted, however, that the **funding** for national cultural portals is frequently of short duration since they're not embedded into a national policy, and in some cases (e.g. Germany's BAM portal) is already exhausted. Thus the sustainability of the Europeana aggregator may be reliant on that of the national portals. On the other hand, involvement in a wider European initiative may provide national cultural portals with an opportunity to seek new funding from a variety of sources.

9.2 Aggregator Technical Approach

The technical approach taken by the NCFs, and particularly by the aggregators, **varies** from one NCF to another. This reflects the national/regional scope of the aggregators, which were primarily conceived as stand-alone ICT projects. In some cases (Italy, France, Austria) the core search technology is based on a commercial proprietary product. In others (e.g. Germany) there is an emphasis on the use of open-source technologies. Migration from proprietary to open-source approaches may also be a trend, as is occurring in Italy.

A conclusion that can be drawn here is that there are **open-source** products which can be deployed in the aggregator. Thus any decision to utilise commercial products must be clearly justified.

It may be appropriate to **replicate the technical approach taken by some other member state** which already has a strong NCF in place. For example, many of the technologies used in Italy are freely available. This approach has the advantage that expertise and experience in the configuration and combination of these technologies for NCF purposes may be available.

A major objective of any NCF is to contribute material to **Europeana**. Thus any decision on technical approach may usefully be validated against the technologies and interoperability requirements of the Europeana system. In particular, the generation of OAI PMH-compatible metadata will be important.

Any technical approach should reflect the **cross-domain** nature of the NCF concept, and of Europeana. Thus the technology should not be solely for libraries, or museums, or archives. While ATHENA does focus on museums, it may be advisable to make any technology ‘open’ in terms of support for other domains.

9.3 Intellectual Property Model

There are **two main types** of asset to which intellectual property rights apply here – the digital cultural **content** and the **metadata** which describes the content.

The most common approach seen in the NCFs considered in this document is one where the **metadata** is freely shared between the memory institution and the aggregator/Europeana. The metadata is initially generated by the memory institution, and may pass through one or more translation processes before being used in a regional, national or European portal.

Typically, the metadata is attributed to the memory institution which generates it, and is displayed on the website of the portal.

The digital **content**, on the other hand, is held by the memory institution and is not copied or stored on the aggregator or elsewhere in the NCF. Instead, to access the content, the end user “clicks through” to the website of the memory institution itself. This frequently involves the use of a popup window. The memory institution may apply specific mechanisms (e.g. watermarks) to indicate and protect their intellectual property rights.

This model has the following characteristics

- The aggregator/national portal must periodically refresh the copy of the metadata which it receives from the memory institution. This may be achieved in an automated manner using an OAI PMH harvester (as is the case in Italy) or may involve manual uploads of metadata using some other technology such as FTP (e.g. some German memory institutions).
- Access to the digital content relies on the memory institution servers being available. From the perspective of the end user, it may be possible to view metadata and even thumbnails on the portal site, but be disappointed by the unavailability of the memory institution IT infrastructure.
- Memory institutions retain full control over their content and can edit or remove it at any time.
- Users remain conscious of the source of the digital content. While this has a negative impact on the “seamless” nature of the portal service, it adds value from a memory institution perspective, where institutional visibility is important.

While this is not the only possible intellectual property model, it is certainly the most common in the NCFs reviewed here.

9.4 Metadata

Metadata models vary significantly across the example NCFs discussed in this document. This reflects the nature of the national/regional portal, the domains to which the memory institutions belong, etc. However, in each case there is an internal metadata standard used within the national/regional portal (aggregator), and a process exists to map memory institution metadata to this internal standard.

A second mapping/translation step will be required, to contribute this internal metadata to the Europeana portal. The exception, of course, is the case where the internal metadata model is identical to that used in Europeana. Where a mapping is required, it is simplified if the internal (national/regional) metadata model is based on an international standard, for which software tools may be available.

ATHENA supports museum in such mapping action. The WP7 ‘Development of plug-ins to be integrated within the European Digital Library’ is working on a tool focused on supporting aggregation from arbitrary provider organisation schemes, adopting LIDO as the reference schema and, publishing aggregated content in the Europeana Semantic Elements schema.

The tool will aim at providing a user friendly ingestion environment that allows for the extraction and presentation of all relevant and statistical information concerning input metadata together with an intuitive mapping service that illustrates LIDO and provides all the functionality and documentation required for the providers to define their crosswalks.

The aim of this work is to produce a tool to be widely diffused in order to support not only the ATHENA partners but every European museum in converting data for Europeana.

The conclusions which can be drawn here are

- Where a national (or regional) metadata standard already exists to allow memory institutions to contribute to a national portal, it is probably simplest to retain this model, and to focus on the efficient translation of the national metadata model to the Europeana model¹
- Where no national (or regional) metadata model exists, there are benefits to using an international standard as the basis for the national model. A strong candidate is the Dublin Core metadata set, or an extension thereof.
- As with other aspects of the NCF, there may be benefit in replicating the work of another country, so that specific expertise and experience can be accessed and common approaches to issues and obstacles can deliver benefit.
- It should be possible to expose or share metadata in a format which can be harvested by OAI PMH technology. This is the chosen technology of the Europeana project. OAI PMH is already used in Italy and Germany. Where no OAI PMH repository is present, it may be worthwhile to establish one (simple OAI PMH software is linked from the [CulturaItalia website](http://www.culturaItalia.it)²).

¹ The Europeana metadata model is published at http://version1.europeana.eu/c/document_library/get_file?uuid=c56f82a4-8191-42fa-9379-4d5ff8c4ff75&groupId=10602

² Simple OAI PMH provider: www.physnet.uni-oldenburg.de/oai/. Support for CulturaItalia’s PICO metadata format is built into a customised version, at www.culturaItalia.it/pico/software/oaipmh2pico.zip

- It may be possible to use the metadata for more advanced discovery and retrieval services. Examples are the semantic search work done by Erfgoedplus in Belgium. However, this goes beyond the requirements of Europeana at this time, and may be considered non-essential.

9.5 Legal Model

Legal models vary across the examples discussed here. In some cases (e.g. France) the memory institutions are themselves under the control of the responsible ministry and/or a national law covers the use of material created using public funding. Thus there is no requirement for a specific legal agreement between memory institutions and aggregator. In other cases (e.g. Italy, Austria), a contractual document is signed by both parties, addressing both the use of memory institution content and its reuse in applications such as Europeana. In Germany, on the other hand, a specific legal agreement is drawn up with each memory institution and may require re-negotiation for re-use.

The conclusion that can be drawn here is that, where memory institutions are not under the control of the ministry (i.e. outside the French example), a legal framework agreement should be prepared which

- addresses the use of metadata and content in the national or regional aggregator/portal
- includes within its scope the re-use of data for Europeana and other applications
- ideally is similar across all memory institutions, so that adjustments to the model are facilitated.

In many cases, a contract or legal agreement will already exist between memory institutions and a national portal. In such cases, an annex to the contract may be appropriate, addressing the re-use of data in Europeana and other applications.

The licences that Europeana is preparing could also fit the purposes of single memory institutions.

9.6 Sustainability

The fact that national cultural portals have usually been implemented as **fixed-duration projects** means that their sustainability is threatened. This also applies to their role as aggregators for Europeana, and indeed for the Europeana project itself¹. Some portals (e.g. BAM in Germany) have no funding at this stage, having exhausted their initial support.

The conclusion to be drawn from this is the need for cultural portals to become established as *core activities and assets of the cultural heritage sector in their respective countries*. Cultural institutions such as museums and archives rely on ongoing government support, with occasional additional income from philanthropy, from the EU, and from the commercialisation of cultural holdings. Cultural portals must seek to gain similar acceptance as an integral part of the cultural heritage of the member states.

¹ Europeana's funding under the eContent+ programme ends in 2011.



At present, only few initiatives (for instance, CulturaItalia, Culture.fr) seem to be really embedded into a long-term institutional strategy (and, as a consequence, have a consistent economic support). An important role for the ministries involved in Europeana and in ATHENA is to secure similar support for their cultural portals and Europeana aggregators.

10. Conclusion

This document aims to inform and facilitate the establishment and improvement of national cooperative frameworks (NCFs). This is expected to improve the provision of content to Europeana. The nature of an NCF, the stakeholders therein, their roles and responsibilities are all explored. A number of different existing NCFs are surveyed, and some analysis is provided.

The key conclusions which can be drawn from this work are as follows:

- The development of a National Cooperation Framework is a valuable support to the digitisation of content and facilitates open access to such content.
- National ministerial backing is very important for the NCF. The fact that most memory institutions receive their funding from national/regional sources means that the influence of the ministry is very substantial. Without the backing of the ministry, “selling” the notion of the NCF, and indeed of Europeana, is made more difficult. Fortunately, the backing of the appropriate ministry (or ministries) is usually available.
- In the context of the Europeana project and the ATHENA project, if Europeana is to act as a portal for any significant proportion of the memory institutions in Europe, a layer of ‘aggregators’ is required to
 - liaise between Europeana and the individual memory institutions
 - ensure that appropriate Europeana technical standards are applied
 - clarify the intellectual property situation in the local country.
- A single aggregator per country seems to be sufficient, although there is no absolute requirement to limit the number of aggregators in any country. Certainly, an aggregator per domain (e.g. for museums, for historic sites, etc.) may also make sense. This is particularly true if national domain aggregators already exist.
- To date, most aggregators already act as national cultural portals. This means that, even outside the Europeana context, they already have links with memory institutions, apply technical standards and verify intellectual property. Thus, the existing national cultural portals are good candidates to act as aggregators.
- The choice of technology for the aggregator is not critical. In particular, if national aggregation (e.g. for a portal) already takes place, there is little case to be made for a change. At the same time, there is a key requirement that the aggregator generate data that can be consumed by Europeana (typically, this means in OAI PMH format). Thus it may be appropriate to add an OAI PMH ‘interface’ to an existing national portal. Where no national portal yet exists, the use of OAI PMH technologies should be considered from the outset – not just because of their use in Europeana, but also their wide use globally, the support and knowledge available, the open source technologies which can be acquired, etc.
- Any intellectual property model used in the NCF must both respect the ownership of the content (typically by the memory institution, of which the content is the key strategic

asset) and also the objectives of the NCF and of Europeana. A common model is one in which metadata is freely shared, and may be copied and held at the Europeana server, but where actual digital content is held only on the website of the memory institution. Several other options of course also exist.

- The legal model governing an NCF depends to a large degree on existing relationships between NCF stakeholders. There is no internationally-applicable legal model; instead, each NCF has its own. However, there are certain characteristics which may be noted:
 - it is simpler if a common legal model covers all the memory institutions in an NCF.
 - any legal model should cover both the use of content in national portals and also its re-use in international initiatives such as Europeana
 - the legal model should make clear the responsibilities both of the memory institution to the NCF, and also of the NCF to the memory institution.
- Sustainability is a critical issue for any NCF. National portals and other online culture initiatives are frequently funded on a 'project' basis. This means that their funding ends after a fixed period (typically two to five years), after which the initiative ceases to receive support. If the work of Europeana, the NCFs, cultural portals and cultural digitisation as a whole is not to be wasted to a large degree, ongoing funding for digitisation and online access to cultural heritage must be put in place. Just as museums, archives and libraries can rely on a certain level of state funding on an ongoing basis, their online activities must also benefit from a similar commitment.

Finally, this document makes clear that there are several ways to implement the National Cooperative Framework. **No single solution is perfect, nor mandatory, for all countries.** Typically, building on existing national portals is beneficial. However, it is also clear that there is benefit from studying, and learning from, existing NCFs.

Guidelines in short:

- establish aims clearly; link to national strategy as appropriate
- legal issues and IPR: take EU and global contexts into account
- stakeholder selection: value multi-disciplinary teams, experience, knowledge sharing.
- legal models: balance the interests of the NCF and the individual stakeholders
- Technology aspects: apply appropriate standards at stakeholder<->NCF and NCF<->Europeana
- education: target memory institutions, national and regional government & agencies

List of Annexes

Annex 1: Analysis of the Europeana and Athena Surbey for Aggregators