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Digitising
Content Together

Ministerial Network
for Valorising
Activities in Digitisation

summary

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Digitising
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Foreword

The European cultural patrimony is an immense resource that expresses a great wealth in the diversity and variety of its contents even though it shares common roots. The diffusion of culture constitutes an important instrument in favouring respect and mutual understanding. Today, thanks to new technologies we have the opportunity to make this patrimony available to an extremely vast public through the creation of portals for culture, which can valorise European cultural diversity in a framework of European integration. In this perspective the Minerva project, taking inspiration from the principles established at Lund, in collaboration with the National Representatives Group, has as its task the realisation of a common European platform of technological standards, recommendations and guidelines for digitisation with the goal of promoting communication and the exploitation of Europe's cultural and scientific patrimony through the Internet. The project was born in a framework of active collaboration between the European Commission and Member States for the creation of a network of European cultural ministries in Europe for the coordination of cultural heritage digitisation policies and programmes. The challenges to be faced are: the interoperability of diverse systems, multilingualism, the management of intellectual property rights and copyright, the conservation of digital resources, and the creation of new business models. Technological support will make possible a shared vision of European cultural and scientific heritage in a perspective of quality of content, and quality of access and exploitation tools. In effect, a guarantee of quality represents the central problem in the whole process, which goes from digitisation to the creation of sites and portals. The Italian Presidency of the European Union will, therefore, be strongly committed to sustaining this priority, and will initiate a common European reflection on both strategies and future actions to undertake, in agreement with the European Commission and Member States. Given the future enlargement of the Union with candidate countries soon to join, the strategies and actions to undertake go beyond the Lund Principles. In presenting the Minerva project I am pleased to thank the previous presidencies of the European Union which have followed one another from 2000 until now, as well as the Directorate general for the Information Society of the European Comission, and the Experts group of the 15 member States, which, with their important support for the project, have contributed to the creation of a "rolling agenda", a common programme with the objective of giving continuity to the actions undertaken in order to concentrate efforts on goals agreed on and shared by the member States. Italy, as project coordinator, has strongly supported this common work as is shown by its strong commitment to these themes and the affirmation of European added value. We hope that the Minerva network, created with the contribution of all the players, can become a stable and long- lasting reference point, with a view to both growth and continual updating.

Giuliano Urbani
Minister for Cultural Heritage and Activities

The European framework

Livre d'heures à l'usage de Luxembourg,
BnL, Ms 52, fol. 89, XVth century
© Bibliothèque national de Luxembourg

Digitisation of content

The cultural and scientific heritage of Europe
is a uniquely valuable intellectual asset, which
for centuries has been instrumental in the social
and economic development of our communities.
Digitisation is an essential first step
to generate digital content that will underpin
a fully digital Europe.
It is a vital activity in preserving Europe's
collective cultural heritage and diversity,
and providing improved access for the citizen
to that heritage. Europe's digitised cultural
content also contributes significantly to
education, enhancing both formal and lifelong
learning, and it supports tourism and contributes
to the development of eContent industries.
In the emerging knowledge society, there will be
an increasing demand for high quality, enriched
digital content as life-long learning is no longer
a buzz word and continuing education becomes
a reality. Cultural heritage institutions are
in a key position to deliver the kind of unique
learning resources that are needed at all
educational levels. At a general level, archives,
libraries and museums face similar challenges
as they try to take advantage of the enormous
potential the use of information
and communication technologies promises
for memory institutions. These challenges are
not only technical in nature, but affect also
cultural heritage institutions at their very core.
The evolution imposes to re-think basic
paradigms, concepts and the internal workflow
of memory institutions in order to adopt the right
technologies, exploit commercial opportunities,
ensure long-term sustainability and embed
the skills needed to manage the process.

European Commission

The critical role of the digitisation of cultural
and scientific content was recognised in the
eEurope 2002 Action Plan, endorsed by the EU
Member States at the Feira European Council
in June 2000. Amongst the objectives of the
Action Plan is that of stimulating European
content in global networks, objective 3(d),
in order fully to exploit the opportunities created
by the advent of digital technologies.
One specific action invited Member States
and the Commission to jointly "create a co-
ordination mechanism for digitisation policies
and programmes" across Member States.
The Commission convened a meeting in Lund,
in cooperation with the Swedish Presidency,
asking Member States to nominate
representatives and started collecting
information on existing experiences and
programmes in Europe, USA, Australia,
and Canada. The collected data has been
instrumental to two main tasks in preparing
the initiative: producing a questionnaire to ask
Member States about the current situation
and preparing a benchmarking model
to measure and improve national practices
on digitisation initiatives.
http://europa.eu.int/information
_society/eeurope/index_en.htm

Lund Meeting

Representatives and experts from the Member
States gathered in Lund on the 4th of April 2001,
organised by the European Commission and
hosted under the auspices of the Swedish
Presidency. The objective of the meeting
was to identify ways in which "a coordination
mechanism for digitisation programmes across
the Member States" could be put in place to
stimulate European content on global networks.
A framework to exchange of experience
and good practice was suggested by the experts
as a valuable first step.
The major outcome of this meeting was
the 'Lund Principles: Conclusions of Experts
Meeting'. The experts decided also to develop
from these principles the Lund Action Plan
as a practical list of objectives and tasks
for implementation.

Lund Principles

The Lund meeting agreed that digitisation
provides a key mechanism to exploit Europe's
unique heritage and to support cultural diversity,
education and the generation of content
industries. Although the Member States were
investing in enabling access to their cultural
heritage, there were still many obstacles
to the long term success of these initiatives.
The Lund Principles state that the Member States
could make progress on the eEurope
objective if they:

• established an ongoing forum for coordination
  of policies for digitisation;
• supported the developing of a European view
  on policies and programmes;
• exchanged and promoted good practice,
  guidelines and consistency of practice and
  skills development;
• worked in a collaborative manner to make
  visible and accessible the digitised cultural
  and scientific heritage of Europe.

The Commission could help achieve the eEurope
  objectives by:

• supporting coordination activities;
• enabling the creation of centres of competence;
• fostering the development of benchmarking
  tools for digitisation practices;
• encouraging a framework that would enable
  a shared vision of European content,
• and assisting Member States to improve access
  and awareness for citizens through enhancing
  the quality and usability of content and the
  development of models to enable eCulture
  enterprises.

The Lund Principles (*infra*, p. 20) are available
in all EU languages.
http://www.cordis.lu/ist/ka3/
digicult/lund_principles.htm

Lund Action Plan

The Lund Action Plan established a list of actions to be carried out by Member States, by the Commission, and by Member States and Commission jointly. The Action Plan describes a first set of actions to be launched, and assigns responsibilities for them to Member States or to the European Commission.
The results of the actions will be fed into an evolving plan for a sustainable set of activities in support of the digitisation framework across Europe. The Lund Action Plan takes as its reference the Lund Principles, identifying four main areas where specific actions are needed (for each action it defines objectives, the implementation approach and associated tasks, actors, and results expected).

Area 1 Improving policies and programmes through co-operation and benchmarking
Area 2 Discovery of digitised resources
Area 3 Promotion of good practice
Area 4 Content framework and quality of access points (Web sites and portals)

The progress and the set of actions are updated every year and revised every 6 months by the National Representatives Group. The latest version is the Lund Action Plan progress 2002 - planning 2003.
http://www.cordis.lu/ist/ka3/digicult/lund_ap_browse.htm

National Representatives Group

A National Representatives Group (NRG), made up of officially nominated experts from each Member State, was set up to coordinate digitisation policies and programmes and to facilitate the adoption and implementation of the Lund Action Plan. Its stated mission is to monitor progress regarding the objectives encapsulated in the Lund Principles. The NRG meets every six months, under the chair of each Presidency in turn and supported by EC, to share national experiences and create a common platform for cooperation and coordination of national activities across the European Union, as well as for their follow up at national level. It provides a stable, continuing focus for consensus building

between Member States, for promoting good practice, and for encouraging initiatives to support the visibility of quality cultural sites.
In line with the Lund Action Plan, the NRG has launched experts workgroups on strategic issues with the support of the Minerva project.
http://www.cordis.lu/ist/ka3/digicult/nrg.htm

National policy profiles

National policy profiles have been created to exchange information and good practice on digitisation policies and practices. The basic idea is not to duplicate information already available on digitisation but to give a survey on the current situation, to offer some contact points and to make an entry-point to resources on other Web sites.
A network of national profiles is expected to be completed in early 2003: most Member States have already made exemplars available via the EC Web pages.
http://www.minervaeurope.org/structure/NRG/npp.htm

Within this European framework, Minerva project has the tasks to carry on the coordination started by the European Commission in collaboration with Member States, to support the activity of the National Representative Group, and to achieve the objectives of the Lund Action Plan.
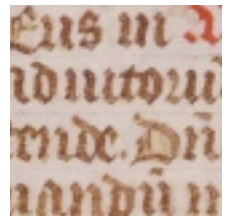
Minerva Project

Petäjavesi Old Church, Petäjavesi, Finland
Detail
Photo: National Board of Antiquities

Minerva is a project financed by the European Commission in the ambit of the IST programme (Technologies for the Information Society) and the Fifth Framework Programme and was created through close collaboration between the Commission and Member States with the goal of facilitating the creation of a common European vision in the definition of actions and programmes in the domain of accessibility and exploitation of cultural heritage on the Web. It has given life to a network of European Ministries for culture, coordinated by the Italian Ministry, to coordinate and harmonise the digitisation of scientific and cultural heritage. The project started in March 2002 and will endin January 2005.
The impulse for the project was given by the Italian General Directorate for Libraries and Cultural Institutes, on the strength of a long activity undertaken in the 1990s that saw the library sector involved in the participation in numerous projects financed by the European Commission in the ambit of various community initiatives.
Thanks to the high level of involvement of national governments, Minerva also intends to coordinate corresponding national programmes, as well as to establish contacts with other European countries, international organisations, associations, networks and projects involved in the digitisation sector, favouring the convergence among archives, libraries, museums, archaeological sites in a perspective of integration of services among the various memory institutions.
The general framework in which the network's activity inscribes itself is constituted by the eEurope Action Plan, the general objectives of which have been received in the cultural heritage domain through the principles established in Lund. The basic principle affirms that "European cultural and scientific knowledge form an exclusive patrimony of public value that reflects the collective memory in perennial evolution of the diverse societies that characterise Europe, providing at the same time a solid starting platform for the development of the European digital contents industry in a society of knowledge of sustainable dimensions".

This patrimony must be made available to the public, and therefore digitisation programmes in a dynamic of sustainability are to be supported and encouraged.
The digitisation of cultural contents is essential to sustain and promote cultural diversity without counting the positive impact that such an operation can have on education, tourism, and the media industry.
There are, however, significant difficulties that risk limiting the possibilities of valorising the potential contained within these resources on a cultural, social, and economic level.
The resolution of those difficulties, analysed in the Lund Principles, requires a common effort from the European Commission and Member States.
Digitisation is an expensive and technically complex enterprise in the long term and this should not be underestimated. Moreover it requires noteworthy investments and a strong commitment on the part of the individual organisations that are depositories of historical "memory", such as archives, libraries and museums that must be disposed to make.
A further commitment is required to reduce digitisation costs of the collections and to develop new business models.
Among the principle challenges posed by digitisation is the conservation of digital resources in the long term.
To be able to use the technologies and instruments necessary for digitisation the personnel of these institutions must acquire skills and specific knowledge.
Moreover, the quality of contents, access and exploitation modalities must be guaranteed.
The quality guarantee represents the central problem of the whole procedure and concerns directly the public institutions that are owners of and responsible for contents.
Actions on both a political and technical level are necessary in order to deal with these problems.
It is of strategic importance to recognise that cultural institutions need both technical and organisational guidelines, and practical recommendations when they find themselves dealing with large-scale digitisation projects.
The challenge now lies in creating a comprehensive and interoperable technical

structure on a European level that guarantees quality of access and the realization of new services for citizens. Even if much work has already been carried out on the subjects of metadata and standards, the main challenges in the technical field in the near future will be interoperability and multilingualism.

Minerva, therefore, operates on two levels: one political and the other technical.
The political level consists in guaranteeing close collaboration among Member States through high-level institutions such as Ministries that have responsibility for cultural heritage, and between these and the European Commission.
Moreover, in this perspective Minerva intends to give visibility to national initiatives, to promote the exchange of good practices, and to ensure the diffusion and awareness of community policies and programmes at both national and local levels.
The technical level concerns the creation of a common European platform built from a series of recommendations and guidelines, metadata, standards related to digitisation, to the long-term conservation and accessibility of contents, in the framework of quality guarantees.

The operational structure and coordination mechanisms

Much importance has been given to the organisational structure in order to enable the concrete realisation of the actions provided for in the project work plan and to create coordination mechanisms, essential for the success of the project.
This foresees a Steering Committee, made up of a representative for each partner and chaired by the project coordinator, and a series of workgroups made up by experts nominated by the partners.
In each partner country there is a national structure, which works in close contact with the European structure, and corresponds to the general structure.
The national structure, set up in all partner countries, foresees:

• a *national commission*, representative of all the sectors involved (archives, libraries, museums, archaeological sites, monuments, cinema, shows);
• *national workgroups* for each line of activity, which work in close contact with the other national groups through the European group.
• a *group of users*.
The national commission has as its duty to collect and give visibility to national initiatives through the writing of a National policy profile or other reports, favour awareness and the exchange of experiences, individuate and start up coordination mechanisms.
The workgroups carry out their activities in constant contact with their European colleagues.
The main function of the project coordinator is to guarantee that all activities are carried out in the perspective of European integration, to favour the participation of all partner countries, to ensure common effort, so that each result obtained, each product created takes on a real European dimension, built through the consensus of all.
The added value of the project lies in the fact that it has initiated a real and effective collaboration, at both national and European levels, among all heritage sectors, outlining a framework of convergence among all memory institutions with the objective of achieving, thanks to technology, integrated access services to cultural resources.

Minerva activities

Eglise, voûte de la nef, septième travée,
registre supérieur nord: l'arche de Noé
sur les eaux du déluge
Phototype Inventaire Général –
Photo: A. Maulny 1994
© A.D.A.G.P.

The working groups described in the structure of the project follow the objectives of the Lund Action Plan. The activities carried out are listed below.

● Benchmarking

In line with the eEurope approach, Member States representatives have recognised the value of benchmarking as a tool for exchanging experience and learning from good practice.
A model for benchmarking of policies and programmes is being defined, according to national requirements, in a number of Member States. In some cases, it is being used directly to develop funding criteria.
The first data collection is producing some concrete indications and trends on current practices for digitisation policies/projects (mainly qualitative-scored indicators) and on the digital collections available (mainly quantitative indicators). The analysis of the collected data by the Member States experts is the basis for the production of recommendations on how to improve national practices, learning from the good practice model. The initial outcomes are promising, and are justifying the work of the experts' workgroup and suggest it is worth forging ahead in this direction.
The next step will extend the focus of the exercise from the policy-makers and programme sponsors to the cultural institutions themselves.
http://www.minervaeurope.org/structure/workinggroups/benchmarking.htm

▲ Inventories and digital resource discovery, interoperability and multilingualism

The perspective of a common European platform stimulates the conceiving of multiple integrated services, directed towards both the general public as well as a specific public for professional use. However, in order to plan integrated access via Web to digital resources, it is necessary to solve the problem of interoperability, with regard to both technology and content.

The first need to address is that of the realisation and visibility of digital resource inventories: indeed they represent the premise for the realisation of portals for culture, which will give access to the digital resources of cultural or scientific interest available in Europe.

Knowledge of the repertories and resources available, or about to be made available is, moreover, a necessary condition for the development of interoperability platforms. The matter is rather complex, an unequivocal solution is unimaginable, but different solutions for specific ambits are being elaborated. Some emerging technologies and metadata standards such as the *Open Archives Initiative* and *Collection Level Description* are paving the route, together with some de-facto standards, towards cross-searching and cross-indexing services.

The correct management of IPR and multilingualism is a further obstacle to accessibility to and the exploitation of resources on the Internet

In Greece, Great Britain and Italy subgroups for the analysis of problems connected to data protection and intellectual property rights with regard to accessibility of cultural heritage via the Web have been set up. They have as their objective the drawing up of a draft of recommendations on accessibility and rights and data protection. The recommendations will align at a minimum common European level, and will submit for validation the solutions and standards already elaborated by both national institutions and by recently or nearly finished European projects. They will deal with problems in an

integrated way, articulated over three areas: archives, libraries, and museums. They will also set the interoperability of data banks as their main goal.

Among the specific activities being carried out is a collection of European, American, and Canadian legislation regarding property rights, copyright, and data protection.

The strategic challenge is the definition of a sustainable technical infrastructure for the discovery and coordinated accessibility in Europe of digital cultural and scientific content, and includes maintaining the tools created, overcoming the fragmentation, developing coordination with other activities, and building up services for distributed access and data delivery.

http://minervaeurope.org/structure/
workinggroups/inventor.htm
http://minervaeurope.org/structure/
workinggroups/servprov.htm

◪ Good practice and competence centres

Digitisation expertise and skills are widely available across Europe: these assets and results should be made more visible and promoted in a systematic way. A key issue is the failure to provide feedback on the experiences and expertises developed within projects. Member States promote, in some cases, guidelines (both technical and organisational) and some pilot projects are used to produce specific recommendations.

Selection of "good practices" can be very complex and difficult, and most of the Member States do not have an agreed set of criteria, so benchmarking is a tool that can be used. As a starting point, Member States, through their National Representatives, have started analysing first examples of "good practice": the exercise produced a Best Practice Handbook, including recommendations and guidelines suitable for different environments/contexts, which extract only the 'best features' from good practice examples.

The collection of existing guidelines on digitisation in Europe and in the most significant extra-European counties is underway in order to carry out a comparative analysis and elaborate a European guidelines proposal. The identification of specialised centres needs to be undertaken both at a national level and in cooperation across Europe: the current trend is more to recommend "advisory centres" than nominate official "competence centres". Training initiatives specifically on ICT for culture heritage institutions to improve awareness and skills of personnel are ongoing, but they should be greatly increased and should involve more systematically the university and the research communities.

The compilation of a "who's who" of digitisation is underway. It will contain information about people and institutions and will be produced on CD-ROM during 2003.

http://www.minervaeurope.org/
structure/workinggroups/goodpract.htm

◤ Added value and the European reference framework

The intrinsic added value in a European cultural reference framework is not yet completely clear, but two themes are now evident: the quality of cultural Web sites and the conservation of digital memory.

The *Brussels's Quality Framework*, a document produced during the Belgian Presidency in the second half of 2001, initiated this line of activity, proposing some criteria for the quality and accessibility of cultural Web sites, and thus focalising on the present relevance and centrality of the theme, which opens the way to accessibility for all in the future information society and tries to create trust for the user of cultural patrimony on Internet. Among the other initiatives, the World Wide Web Accessibility Initiative has produced reference guidelines regarding the accessibility of Web contents for users with specific needs. There is a general consensus on the guidelines, even if they are yet to be put into practice concretely; the European Commission supports them through the objectives included in the *e*Europe work programme and with a specific communication activity.

The workgroup, starting from the abovementioned preceding initiatives, is currently writing the *Handbook for quality in public cultural Web applications*, which proposes both quality criteria as well as a method of analysis and validation to measure the quality of a public cultural Web application. It is an instrument of great usefulness for achieving a

common European platform that promotes the exploitation of cultural and scientific patrimony through Internet.

The manual acknowledges the regulations in the matter of accessibility to public administration contents, developed in the eEurope 2002 Action Plan (cf. *eEurope 2002: accessibilità e contenuto dei siti Internet delle amministrazioni pubbliche* (COM (2201) 529 – C5- 0074/2002-2002/2032(COS)).

The group will submit the manual for approval during the Minerva European Conference "Quality in cultural Web sites" which will take place in Parma during the Italian presidency semester (20-21 November 2003).

Long term sustainability

Preservation for future generations of digitised and of "born-digital" contents is receiving special attention by players at all levels. Digital preservation and sustainability concerns not only preservation of digital objects from a technical viewpoint, but also management, selection criteria, workflow, political framework and business models. Specific political initiatives and research programmes are needed.

The Council of the Union has produced a resolution on preservation of digital memory, and its follow-up will involve Member States and the Commission jointly.

http://www.minervaeurope.org/
structure/workinggroups/userneeds.htm

Strategic impact, enlargement of the network, dissemination

Francesco Mazzola called Il Parmigianino
Apollo or David (detail)
Parma, Galleria Nazionale
© Soprintendenza al Patrimonio storico artistico
e demoantropologicodi Parma e Piacenza

Strategic impact and enlargement

The strategy of Minerva is to become a pole of attraction and integration for different players that operate in the domain of digitisation of cultural heritage. Indeed, Minerva is an open network and its strength lies in its ability to reach the widest public possible.

The enlargement of the network is considered from diverse viewpoints.

A first objective, almost completely reached a little more than a year after the beginning of the project, is the enlargement of the network until the inclusion of all 15 EU countries. Presently only Luxembourg is missing.

A second strategic goal is the inclusion of those countries that will soon be EU members and those that have, in any case, formalised their collaboration in the network. On this subject very positive contacts have already been initiated with: Poland, Hungary, Czech Republic, Estonia, Malta, Slovenia, Russia, Israel.

Moreover, Minerva intends to enlarge the network in order to stabilise collaborative relationships and become a stable reference point also towards a series of other players that move in the cultural heritage field. Among these particular attention is given to universities and institutes owners of programmes and research activities in the field of technologies applied to cultural heritage, to local entities and local public institutions, to companies of the sector, to professional associations, and other projects co-financed by the European Commission or national resources, that form part of the field of interest.

The instruments made available to formalise the diverse types of adhesion are:

• the *Membership agreement* to define contractually the participation of ministries in the network
http://www.minervaeurope.org/enlargement/membershipagr.doc

• the *Co-operation agreement*, a more agile instrument, to formalise the participation of institutions and organisations interested in the Minerva user group.
http://www.minervaeurope.org/enlargement/coopagr.doc

The user group meets once a year in the ambit of dissemination activities organised by Minerva. It presents and discusses examples of good practice with regard to projects underway or already finished, and exchanges views on the results of Minerva.

Dissemination

The dissemination activity is mostly based on the participation of Minerva representatives to major international events and/or on the direct organization of MInerva workshops and Conferences.

Every six month an official meeting of the National Representatives Group takes place, in cooperation with the current European Presidency.

Minerva is also participating in events organised by other European projects, up to now DELOS, EMII-DCF, PULMAN.

Training

A programme of training courses that uses *open distance learning* methodologies has been set up to diffuse the results of the project and therefore elaborate instruments to enlarge the number of beneficiaries and to reach the institutions of the various countries. The programme was employed in synergy with other projects in the same field, such as ABSIDE, for example, financed in the framework of the community initiative EQUAL, which, under the impulse of the Italian Ministry, is setting up a network of learning points within public libraries directed to citizens to provide distance learning training courses that have new technologies applied to cultural heritage as their main theme.

The training plan is articulated on four lines:

• digitisation process, and management of digital resources;
• legal aspects (IPR/copyright and data protection);
• quality: criteria for design and development of cultural Web sites;
• management of digital collections, projects and services.

Web site:
www.minervaeurope.org
One of the main instruments of Minerva Project is the Web Site.
Its goals are:
in the short term:
– to promote the Lund Principles as well as the activities and the results of the project
– to promote the project's partners
– to be a "gate" to other linked initiatives

in the long term:
– to become the European portal on cultural digitisation, concerning in particular Web quality, guidelines on digitisation, metadata, long-term preservation, accessibility, by means of a multilinguistic database.

This site has been projected according to standards HTML4, trying to guarantee the accessibility to information for all people. The pages conforms to W3C's *Web Content Accessibility Guidelines 1.0*, reaching at least level "A".

Publications

Minerva publishes handbooks and guidelines on digitisation, edited by its working groups, and an annual progress report of the NRG on coordination mechanisms for digitisation policies.

Minerva editorial products are published in English. National versions will be managed autonomously by each country, on the basis of their respective interests.

The books published by Minerva are distributed during the events where Minerva is represented, through the users group and through the partners, through theirs officials channels.

The booklets are generally published on paper and the contents made available on the Web.
http://www.minervaeurope.org/publications.htm

Already published
Progress report of the National Representatives Group: coordination mechanisms for digitisation policies and programmes 2002.
European Commission: The Information Society Directorate-General, 2003. 243 p. ISBN 92-894-4863-6

To be published
Best practise handbook (first draft July 2003)
Handbook for quality in public cultural Web applications (November 2003)
IPR Guidelines (2004)
2nd Progress report of the National Representatives Group: coordination mechanisms for digitisation policies and programmes 2003 (2004)

The policy scenario and the European integration

Caravaggio
Amor as winner
© Staattliche Museen zu Berlin

A key action, supported by the project, is to have created synergies and integrations between the policies of the European Commission or other trans-national organisations and those of Member States. At a little more than a year since its beginnings, Minerva has demonstrated concretely to have contributed to the creation of a broad consensus on the European framework derived from the e-Europe initiative, which gave birth to the Lund Principles, the Lund Action plan and the National Representatives Group. This consensus constitutes the basis for the definition, the validation, and the adoption of international standards and guidelines which, promoted by governments with the support of the European Commission, will be directed to many categories of beneficiaries: central and dislocated public administration departments, local entities, small and medium sized businesses, publishers, universities, research centres, cultural institutions, etc.
In many countries, under the aegis of Minerva and actions related to it, many new national programmes of digitisation of cultural heritage have been initiated. But, above all, Minerva has contributed to creating a process of institutional collaboration among the various presidencies of the European Union that, starting from the Swedish presidency (first semester 2001) has given birth to a "rolling agenda", a general programme defined with the consensus of all, with the objective of giving continuity to actions undertaken and making efforts converge on goals shared by Member States. Italy, as coordinator of the Minerva project, has strongly supported this common work, actively collaborating with the Belgian, Spanish, Danish presidencies, arriving at the definition of a shared programme with the Greek presidency concerning the events and work plan for 2003. The programme was presented in its general outline in Copenhagen (10 December 2002), during the meeting of the National Representatives Group organised by the Danish presidency.
The main stages of this common agenda in evolution can be synthesised as follows.

Since Lund, work has progressed through a series of meetings and workgroups, involving national experts from Member States. The expert working groups, focussing on national policy profiles, on sharing national inventories and on metadata, on benchmarking, and on quality in cultural Web sites, have carried on the activity under the supervision of the NRG.

At European level, strong support has been given to the initiative by the Presidencies in turn:

Cooperation among member States
At a European level, è great effort has been made by the current Presidency

France (July-December 2000)
The French Presidency was instrumental in identifying specific objectives, included in eEurope Action Plan, that aimed at making digitised resources more visible and commonly accessible.

Sweden (January-June 2001)
The main results of the Swedish Presidency were the Lund Principles & Action Plan. In Lund expert representatives from Member States agreed on basic issues and first steps towards a coordination framework based on the benchmarking model.

Belgium (July-December 2001)
The Resolutions on "Culture in the knowledge society" and on "The role of culture in the development of the European Union", adopted by the Culture Council under the Belgian Presidency, and the results of the informal Council held in Bruges on 4/5th December 2001 endorsed the importance of encouraging the visibility and diversity of the common European heritage, and of providing quality and equality of access for all citizens to this heritage through the use of new technologies.
Experts meetings, convened under the Presidency, resulted in the launch of a specific initiative: the "Brussels Quality Framework" on accessibility and quality of Web sites for cultural content.
On 11th December 2001, the National Representatives Group (NRG) was set up, establishing its mission in the Terms of Reference (ToR).

Spain (January-June 2002)
During the Spanish Presidency, a Council Resolution by the European Council on the preservation of the digital memory was adopted (2002/C 162/02). This recognised the importance of sustainable approaches to safeguarding both born-digital and digitised resources and the role of the memory institutions in this process.
The Presidency also hosted a workshop on "Digitisation good practises", organised in co-operation with Minerva, which provided an exchange of experience forum for 42 examples from different Member States.

Denmark (July-December 2002)
The NRG meeting, organised in co-operation with Minerva, under the Danish Presidency primarily focused on the National Reports, produced by each representative, as well as future strategies of the NRG to carry on the coordination efforts.
A workshop on "Preservation of the digital memory" was attended by a series of experts from both Member States and other countries.

Greece (January-June 2003)
The main objectives of the Greek presidency are to provide more visibility to the workgroups that deal with digitisation of cultural heritage, to promote, through targeted actions by single states, initiatives on a large enough scale to involve a greater number of entities operating in the sector, to develop, through special training courses, the competences needed to make digital technologies more easily exploitable.
In view of such objective, the results of the semester have been presented during the NRG meeting of 26 June 2003: draft of the manual on digitisation good practices, index of the guidelines for cultural Web sites, report on the closure of the first phase of benchmarking activities. The workshop "Digitisation of cultural content" has been organised in cooperation with Minerva, alongside the event (Corfu, 27-28 June 2003).

Italy (July-December 2003)
Considering the effort that Italy has made, through the Minerva project, in creating coordination mechanisms for cultural heritage digitisation policies and programmes, one of the objectives of the Italian presidency is that of enlarging and stabilising the network created by Minerva in support of the NRG.
A reflection will therefore be initiated on future objectives and strategies to delineate the post Lund scenario regarding contents, implementation policies, and the diffusion of a common platform, individuating mechanisms to render the network and its activities stable.
The central theme of the Italian presidency is the quality of content, of access services and the exploitation on the Internet, connected to the other strategic theme of the conservation of digital memory.
On the theme of quality the *Handbook for quality in public cultural Web applications* will be presented. The guidelines propose both quality criteria as well as a method of analysis and validation to measure the quality of a cultural Web application for the exploitation of cultural and scientific patrimony through Internet.
Moreover, an analysis of problems connected to data protection and intellectual property rights with regard to accessibility of cultural heritage via the Web has been initiated, with the objective of drawing up a document on accessibility, data protection and rights.

Key steps 2001-2003

Francis Bacon
*Three studies for figures
at the base of a Crucifixion,* detail
circa 1944
© Tate, London 2003

January 2001
Questionnaire on policies and national/regional programmes on digitisation of cultural and scientific content

March 2001
"An open method of benchmarking digitisation policies: objectives, methodologies and indicators"

4 April 2001
Lund Principles and Action Plan

17 July 2001
Workshop on "Internet & culture", meeting of experts on European cultural heritage on the Internet

25 September 2001
Bruxelles, EC Communication on "Accessibility of public Web sites"
COM(2001) 529

10 December 2001
The working group on benchmarking agreed the proposed model and launched the first data collection

11 December 2001
Bruxelles, First meeting of the NRG, during the Belgian Presidency
Development of the *Brussels Quality Framework*, for the accessibility and quality of cultural Web sites

January 2002
Council Resolutions 2002/C C32/01 e C32/02 on "Culture in the knowledge society" and "Role of culture in the development of the European Union"

1 March 2002
The project of thematic network Minerva starts

16 May 2002
Alicante, Second meeting of the NRG, during the Spanish Presidency

17 May 2002
Alicante, Workshop on "Good practises on digitisation", organised by the Spanish Presidency and the Minerva Project

September 2002
Council Resolution 2002/C 162/02 on "Preservation of future memory - preservation of digital content for future generations"

17 October 2002
Rome, Workshop on "Quality of cultural Web sites", organised by Minerva Project

10 December 2002
Copenhagen, Third meeting of the NRG, during the Danish Presidency

11 December 2002
Copenhagen, Workshop on "Preservation of digital memory", organised by the Danish Presidency, in cooperation with Minerva Project

4 April 2003
Ferrara, Italy, seminar "Web for preservation, preservation for the Web", organised by "Kermes - La rivista del restauro", Nardini Editore in co-operation with the Italian Ministry for Cultural Heritage and Activities - Minerva Project WP5

26 June 2003
Corfù, Fourth meeting of the NRG, during the Greek Presidency

27-28 June 2003
Corfù, Workshop on "Digitization of cultural content", organised by the Greek Presidency, in cooperation with Minerva Project

16-17 October 2003
Florence, International Conference on "Long-term preservation of digital memories", organised under the auspices of the Italian Presidency, by the Italian Ministry for Cultural Heritage and Activities, Department of Libraries, in co-operation with Minerva Project and Erpanet Project

23-24 October 2003
Naples, Seminar "Systems of territorial information for preservation and management of cultural heritage", organised under the auspices of the Italian Presidency, by the Italian Ministry for Cultural Heritage and Activities, Department of Archaeology

29 October 2003
Rome, during Bibliocom 2003, meeting of Minerva user group and workshop "Digitisation: how to do in practise", organised by the Italian Ministry for Cultural Heritage and Activities and Minerva Project

19 November 2003
Parma, Fifth meeting of the NRG, during the Italian Presidency

20-21 November 2003
Parma, Minerva European Conference "Quality for cultural Web sites" organised under the auspices of the Italian Presidency, by the Italian Ministry for Cultural Heritage and Activities and Minerva Project
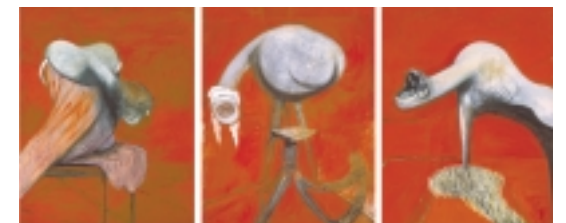
The Lund Priciples

Map of Ireland
Scale, Bernard, *An Hibernian Atlas*, 1776

The eEurope 2002 Action Plan was endorsed by EU Member States at the Feira European Council in June 2000. Objective 3(d) of the Action Plan is to stimulate European content in global networks in order fully to exploit the opportunities created by the advent of the digital technologies. Within that objective there is a specific action for Member States and the Commission jointly to: *create a co-ordination mechanism for digitisation programmes across Member States.*

On 4 April 2001, representatives and experts from Member States met at Lund in Sweden to discuss the issues involved and to make recommendations for actions that support co-ordination and add value to digitisation activities in ways that would be sustainable over time.

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 solid basis for the development of our digital content industries in a sustainable knowledge society.

The experts endorsed the findings of a preparatory meeting held in Luxembourg on 15/16 November 2000. They highlighted the value and importance of Europe's digitised cultural and scientific content which provides:

An accessible and sustainable heritage. Europe has unique and significant wealth in its cultural and scientific heritage. Digitisation of its resources is a vital activity for providing improved access for the citizen and for preserving Europe's collective cultural heritage (both past and future).

Support for cultural diversity, education and content industries. Digitised cultural assets are crucial in sustaining and promoting cultural diversity in a global environment. They are also a key resource for education and for the tourism and media industries.

Digitised resources of great variety and richness. Member States have invested significantly in programmes and projects for digitising cultural and scientific content. Such digitisation activities cover a diversity of domains and content types, such as museum artefacts, public records, archaeological sites, audio-visual archives, maps, historical documents and manuscripts.

However, there are a number of key problems which risk limiting realising the potential of these resources, whether culturally, socially or economically. The main barriers identified are:

Fragmentation of approach. Though widespread, the digitisation activities to date are highly fragmented, depending on the policy instruments and mechanisms in the different Member States. Moreover, the absence of a coherent European view of what cultural content has been digitised or of how this content is selected for digitisation results in the potential duplication of resources, effort and investment.

Obsolescence. Digitisation is a costly exercise requiring high investments usually from public funds. There are significant risks to these investments due to the adoption of inappropriate technologies and standards. This can result in creating resources which are quickly obsolete and unusable or which require the investment to be repeated within a short time frame.

Lack of simple, common forms of access for the citizen. Access by the citizen to the different resources, at national and at EU level, is compromised by the lack of common approaches and technical standards as well as by lack of support and systems for multilingual access.

Intellectual property rights (IPR). The various stakeholders in the digitised content (e.g. original owners, intermediaries, and end-users) have different legitimate interests. These needs must be recognised and balanced. Solutions for handling and managing rights need to be understood and applied by the cultural sector if the economic value of the content is to be realised in a sustainable way.

Lack of synergies between cultural and new technologies programmes. There is an increasing need for improved linkages between cultural and new technologies programmes at national and EU level in order to identify priorities and where there is European added value to be gained.

Institutional investment and commitment. Digitisation requires a commitment from individual organisations, frequently the memory organisations such as archives, libraries and museums, to long-term, expensive and technically demanding actions. The use of digitisation technologies and tools requires the adoption of new skills and practices by the cultural institutions.
In order to address these issues, it would be desirable if the Member States could commit themselves to:

• creating an ongoing forum for co-ordination, by establishing a co-ordinating group representative of each Member State. This group should develop frameworks to support ongoing discussions and exchanges, and establish procedures for reporting to the Member States, both at European level and at national level;
• supporting and developing a European view of policies and programmes by establishing Web sites with current, publicly accessible and easily understandable information on their policies and programmes in line with an agreed baseline common profile, to which a central site should link;
• promoting and supporting good practice and its harmonisation and optimisation within Member States and across the EU, by continuing work on a qualitative benchmarking framework aiming at its adoption and implementation through appropriate national co-ordinating bodies and networks, and by working through a nominated group of experts to develop quantitative approaches to benchmarking processes. This requires also identifying mechanisms for the definition and collection of core indicators, and specifically the relevant eEurope indicator, and for liaison with national standards/statistical bodies;

• accelerating take-up of good practice and of appropriate skills by disseminating across Europe examples of good practice, identified according to agreed features (typology). This should support issues such as consistency of practice and process, assets and rights management, and lead to new definitions of the skills required;
• making visible and accessible European cultural and scientific content by setting up national inventories (of projects, or of selected content). These inventories should be aligned with the European infrastructure for digitised content by complying with standards and technologies which support quality and usability of the content, unified access for citizens, affordability and openness of software tools, and long-term accessibility and availability.

For these initial actions to be realised as fast as possible and to ensure that the solutions adopted can lead towards sustainable organisational and technical infrastructures, the European Commission, in the context of its current IST activities and other ongoing programmes, should work with Member States to:

• support practical co-ordination activities, by creating a secretariat or facilitating agency to support the activities of the co-ordinating group. The secretariat should manage any ad hoc technical advisory groups which may be required;
• advance the dissemination of good practice by promoting *centres of competence* which can provide leadership and support for stakeholders on key issues and technologies. Whilst current domains include metadata, multilingual support, imaging technologies and digital preservation technologies, the establishment of competence centres must be open to emerging topics;
• foster the development of benchmarking for digitisation practices, by creating guidelines for data collection and by continuing development of qualitative and quantifiable indicators;

• optimise the value and develop shared visions of European content, by developing criteria and a framework for an EU collaboration plan for digital cultural and scientific content, together with an appropriate implementation means (Charter, MoU etc.). The plan should aim at establishing an eCulture infrastructure for access to digitised cultural and scientific heritage, through identifying added value conditions for European content (e.g. selection criteria) and establishing technical standards for conformance to interoperability requirements. This work should be carried out through the co-ordinating group and its secretariat;
• improve quality/usability of content, promote unified access for citizens and increase awareness of long-term preservation issues, through developing: agreements on interoperability standards; guidelines for digital preservation and content longevity; and coherent models and good practices for rights and asset management together with the development of associated eCulture business models.

In order for Member States to identify and implement strategies and agreements on content production, quality, discovery and use, a number of current and emerging technical issues need to be addressed through short and longer term RTD initiatives. The Commission should:

• advance the development of quantitative benchmarking, through background studies and ground clearing work on indicators and statistics;
• launch studies into digitisation in Europe and supporting technical and organisational infrastructures, and on promoting European cultural content, identity and diversity in support of accessibility to all citizens;
• support interoperability and the persistent discovery of resources, by launching work on metadata, registries and schemas;

• counter the risks of creating a 'digital dark ages', by developing advanced research agendas into: digital technologies and preservation of content; improved applications of advanced technologies for digitisation of cultural and scientific content (e.g. multi spectral imaging), adding value to the significance of the content over time. This work should be carried out in close collaboration with industry;
• investigate opportunities under the IST Programme for pilot projects reflecting the above research foci.