ENABLING
PERSISTENT AND SUSTAINABLE
DIGITAL CULTURAL HERITAGE
IN EUROPE

EUROPEAN ACTIONS FOR SUSTAINABILITY AND PRESERVATION

The "Firenze agenda" working group
on long-term digital memory preservation

1. THE NETHERLANDS QUESTIONNAIRE RESPONSES SUMMARY

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ABSTRACT

Attention to and coordination of digital memory preservation must be raised by the policy-makers at all levels, by administrative and national authorities, by the cultural institutions, by the research community. A precise list of priorities addressed to policy-makers is provided as conclusion of this paper.

The Netherlands Presidency has given a strong impulse to the development of a coordination framework introducing the vision of a 'European Continuum of Digital Heritage' that could be accessed any time from any place by all European citizens. In particular, the Netherlands Presidency is driving the National Representatives Group NRG towards definition of the successor of the Lund Action Plan, that will be more complete, built on past experience and results, including not only the digitisation issue but also the preservation or persistency of digital memory.

In the coordination framework, the Spanish Presidency started the initiative with the "Council Resolution on preserving tomorrow's memory - preserving digital content for future generations". Following Presidencies carried on, up to the Italian Presidency that organised an important meeting in October 2003. As a follow-up of that conference an expert workgroup was established and it approved the "Firenze agenda", a document with some preliminary actions that the workgroup set up as priorities for its activity. After one year, in a perfect 'rolling agenda approach', the Netherlands Presidency presents the progress of the activity. The "Firenze agenda" workgroup, mainly thanks to the continuum support offered by the Istituto Centrale per il Catalogo Unico - ICCU, has improved the community awareness, consensus and participation, some significant papers have been produced and are available on the web site of the group. Finally, through the endorsement by the NRG and the initiative of the Netherlands Presidency, an initial political visibility has been obtained.

A detailed position paper, by Hans Hofman on behalf of the Netherlands Presidency, draws the current scenario worldwide and future possible strategies through identification of priorities and recommendations at the European level.

The Netherlands questionnaire responses summary is a synthetic survey about the main initiatives on-going across Europe. It identifies issues to be tackled by Member States collaboratively, it reveals main needs and gaps in funding, organisational structures, responsibilities, legal issues, pointed out by the experts from a variety of Member States. Finally, a precise list of priorities that is summarising all the other points, represents an invitation of the expert workgroup addressed to the policy-makers at national and European level for some actions and responsibilities to be taken urgently.

INTRODUCTION

In accordance with the *e*Europe 2002 action plan, the EC and the Member States have started establishing some coordination mechanisms for digitisation policies and programmes across Europe on the field of cultural and scientific contents and applications. The initiative started in April 2001 in Lund, under the coordination of the EC, with the Lund Principles and Lund Action Plan for the implementation of these principles, which are focused on processes of digitisation and accessibility to the digital cultural and scientific content across Europe. (http://www.cordis.lu/ist/directorate_e/digicult/eeurope.htm)

The National Representatives Group – NRG is composed of representatives officially nominated by the Member States' authorities, and was set up during the Belgian Presidency in 2001 as 'guardians of the Lund Principles'. The NRG is an independent group established on a volunteer basis by Member State representatives. It is co-chaired by the EU Presidency in turn and the EC DG-INFSO. (http://www.minervaeurope.org/stuctures/nrg.htm) Moreover, the MINERVA network provides the practical coordination for the plenary NRG meetings every 6 months and the support for the expert workgroups. MINERVA (MInisterial NEtwoRk for Valorising Activities in digitisation) is a network mainly of Ministries of Culture in Europe, and its activity is focused on the areas and objectives described in the Lund Action Plan, and aims to create a European infrastructure to support 'digitisation of cultural and scientific contents'. As the efforts of NRG and the implementation of the Lund Principles & Action Plan depend mainly on the active role of the chair of the EU Presidency in turn, the new approach of the "rolling agenda", thanks to which Presidencies in turn work collaboratively, has been successfully adopted, implementing de facto a sort of 'hand-shake' between following Presidencies. This was due to the need to coordinate ambitious objectives which inevitably requires sustained efforts over a lengthy period of time. The NRG produces annually a report on progress of activity "Coordinating digitisation in Europe", describing the European framework and the national scenarios, the main initiatives and good practices. (The last issue from December 2004 is freely available on the MINERVA web site: http://www.minervaeurope.org/publications/globalreport/globalrep2003.htm)

The Lund Principles & Action Plan address the problems of digitisation and accessibility but not the problems of digital content preservation. As a result, new parallel actions were undertaken - also in frames of the "rolling agenda". The "Council Resolution on preserving tomorrow's memory - preserving digital content for future generations" (2002/C 162/02) was issued during the Spanish Presidency (June 2002).

In response to that resolution, the Italian Presidency organized a conference on "Future of digital memory" in October 2003, and an experts' workgroup was proposed to

check the state-of-art and to plan development as needed to implement the resolution principles. The workgroup has been led by the ERPANET http://www.erpanet.org/ and MINERVA http://www.minervaeurope.org projects, under the chair of the EC and the Istituto Centrale per il Catalogo Unico (ICCU) http://www.iccu.sbn.it/ on behalf of the Italian Presidency.

The workgroup set up 3 main goals:

- draw a state-of-art of on-going initiatives and exchange of good practice;
- draft a priorities' agenda as a starting point to produce an action plan accepted by Member States;
- define the basis for building a European network and developing national initiatives.

The first activity of the workgroup was the start-up of a cooperative process to define priorities and mechanisms to improve coordination and effectiveness of national and sectoral initiatives on digital preservation across Europe. This work was summarised in the "Firenze agenda" (http://www.erpanet.org/www/workgroup/main.htm) and successfully presented at the Conference in Florence in October 2003. The agenda identifies three main Action areas:

1- create awareness & cooperation mechanisms;

2- exchange good practice & develop a common point of view;

3- long-term policies and strategies.

At the same conference, two interesting studies were presented under the auspices of ICCU: one on emergencies for digital memory, and one on the current legal situation in this field across Europe. http://www.iccu.sbn.it/conserdigit.html

The "Firenze agenda" workgroup was also embraced by the national representatives of 27 countries (Member States, Newly Accession States, Russia, Israel) at the 5th NRG meeting in Parma November 2003. The NRG has endorsed this workgroup activity as complementary with the digitisation issue, promising support both in terms of experts' participation and as far as network infrastructure and progress promotion is concerned. (http://www.minervaeurope.org/structure/nrg/documents/parma031119.htm)

The "Firenze agenda" workgroup has continued the activity in order to foster cooperation at European level, to reinforce awareness and consensus on the initiative. The progress was made, under the chair of the Istituto Centrale per il Catalogo Unico on behalf of the Italian government, not only in terms of coordination of the experts workgroup up to the Netherlands Presidency as agreed in Firenze, but also in carrying on the two studies: the one on emergencies for digital memory with other significant cases, and the one on the current

legal situation in this field across Europe that sets up more in detail the situation in five EU countries. (http://www.iccu.sbn.it/conserdigit.html)

ACTIONS UNDER THE NETHERLANDS PRESIDENCY 2004

The Netherlands Presidency in cooperation with the EC and the NRG has proposed new actions and organisational strategies for digital cultural heritage in Europe (as a follow up for the Lund Action Plan at the end of 2005). The Netherlands have already presented a position paper during the Italian Presidency on the creation of a common Digital Area for European Cultural Heritage. Part of this vision is the subject of persistence: without assuring the life-span of cultural heritage resources, the continuity and robustness of our digital cultural memory will be at risk, and the reliability of digital knowledge infrastructures will be undermined.

Therefore, the Netherlands Presidency in close cooperation with the "Firenze agenda" workgroup worked on an overview of the most recent developments and EC-funded projects in relation to digital preservation, in order to identify their potential contribution to the vision and development of a Digital Area for European Cultural Heritage.

Focus points of this particular initiative are:
- maintenance and preservation of the digital collections
- persistence of access and services

Under the Netherlands Presidency the opportunities, issues, and potential impediments were analysed that may support or obstruct the development of the idea of the European Cultural Digital Area. The analysis will help as well in building the above mentioned actions and strategies on European level and to identify who should be responsible for what activities. The analysis outcomes will be used as input for preservation related issues in the new action plan for the coordination of digitisation in Europe. This action plan, with participation of all the Member States through the NRG, will be prepared by The Netherlands, Luxembourg and United Kingdom Presidencies and implemented by the end of 2005.

The actions undertaken under the Netherlands Presidency contain:

1) a qualitative analysis based on responses to a detailed questionnaire provided by the experts of the "Firenze agenda" workgroup from Austria, Finland, Germany, Italy, Poland, Portugal, Russia, Spain, Sweden, and The United Kingdom and comments from Belgium, Denmark, and The Netherlands;

2) a position paper based on desk research.

The qualitative analysis has investigated four main issues. Firstly it asks to describe the main on-going initiatives around Europe, both from the maintenance and preservation of the content point of view and from the persistence of access and services one. Then it moves to the issues that are to be tackled by Member States collaboratively. The experts were supposed to elaborate on funding, organisational structures, responsibilities division and legal issues that may be the challenges to be taken together by the Member States. What is more, the questionnaire includes the question on the priorities that should be addressed for these issues. The last part of questions was asked to gather the observations on the needs, gaps and lacking incentives on EU, national, governmental or sectoral level that would efficiently foster the creation and implementation of digital preservation policies.

The position paper, prepared by Hans Hofman on behalf of the Netherlands Presidency, is based on desk research and the qualitative analysis and presents an overview of the developments so far, the current situation and some recommendations with respect to digital preservation or persistence of digital information resources. During the last decade, many initiatives and projects in this field have been carried out and are still being conducted at the moment, funded at national and European level. The results are mostly reports or guidelines, sometimes tools or prototypes. These projects were and are based upon action lines defined by the EC with the goal to stimulate thought and to promote experiences with permanent access to digital information, application of new technologies etc. A certain level of maturity has already been reached. The report rethinks the objectives and offers an idea of the future.

The full report of the survey will be presented during the European conference "Towards a continuum of digital heritage - Strategies for a European area of digital cultural resources" in The Hague on 15 - 16 September 2004. (http://eu2004.digitaliseringerfgoed.nl/)

THE NETHERLANDS QUESTIONNAIRE RESPONSES SUMMARY

1. *Main initiatives on-going*

The current scenario in Europe does not abound in initiatives in the field of digital memory preservation, but the most worrying aspect is the lack of attention paid to this issue by the policy-makers and by the responsible national and sectoral bodies. Only the United Kingdom has set up a national structure, the DPC, specifically devoted to the problem of digital memory preservation. Most of the Member States have just started thinking about that issue and defining some responsibilities. The New Member States of the Union are often at the initial stage of the digitisation process, even if they start understanding the importance of making the right choices from the beginning of the activity both for digitised and born-digital objects. However, it is quite common in other countries that the same national bodies or institutions take care of all the aspects of the digital world, like digitisation, metadata, users' accessibility, copyright protection, digital content preservation. The digitisation issue is of course much more mature than the digital preservation one in all countries.

The EC-funded projects in some ways related to this issue like ERPANET, DigiCULT, PRESTO, ECHO, MINERVA, the eContent reUSE and the FP6 PRESTOSPACE, DELOS, play a key role and constitute the main opportunity both for technology development and for sharing expertise among Member States. In most of the countries the additional funding coming from the EC is the only way to establish a framework for a pan-European cooperation, in particular in the field of cultural heritage.

The International Internet Preservation Consortium – IIPC (http://netpreserve.org) is a good practice example, where some national libraries with common objectives and work plan on web archiving and long-term accessibility of trusted digital archives join investments and optimise efforts.

The UNESCO Charter on the Preservation of the Digital Heritage (http://unesdoc.unesco.org/images/0013/001311/131178e.pdf) is an important document that sets out some international principles and objectives adoptable by responsible authorities worldwide. UNESCO representative has joined from the very beginning the "Firenze agenda" initiative in order to establish a fruitful cooperation for maximisation of the impact and consensus building within the international community. The Russian Committee of the UNESCO Programme "Information for All" has been very active in supporting and promoting discussion about the Charter within national institutions and professional communities (www.ifap.ru). As a consequence, an Interdepartmental Council of experts for preservation of the digital heritage was established.

In the United Kingdom the Digital Preservation Coalition - DPC (http://www.dpconline.org) is a coalition of mainly British organisations which recognise the need to wok jointly and to share information and experience in order to solve the problems posed by digital preservation. The DPC works to promote and encourage recognition of the importance of information lifecycle management for those who develop and store digital material. It is mainly concerned with maintenance and preservation of born–digital content but its members from both public and commercial sector are engaged also in digitisation and accessibility projects. The DPC (with strong participation of British Library, other national libraries, national archives, BBC, universities) has undertaken many projects both with national and international partners, for example on hybrid archives, selective web archiving, e-prints and in general on systems and processes of effective preservation. An initial three year project to develop a national Digital Curation Centre (DCC) was also undertaken as a key aim of the JISC *Continuing Access and Digital Preservation Strategy 2002-05*. The DCC will focus on research in data curation, file format information, tools, test beds and certification and advisory services.

Another cross-sectoral organisation - WG EUBAM (www.eubam.de) - works across the federal states in Germany for the institutionalisation of coordination of national efforts regarding a wide spectrum of activities like digitisation of content, metadata, copyright, preservation of and access to digital cultural heritage. A development of this kind is the 3-year project NESTOR (www.langzeitarchivierung.de) funded by the German Federal Ministry of Education and Research to build a network of expertise in long-term preservation of digital data through enforcing communication and collaboration and to enhance awareness among institutions, policy makers and individuals. Other valuable initiatives were undertaken by Archives School of Marburg, German Federal Archives, German National Library, Bavarian State Library and Max-Planck Institute that lead EC-funded project ECHO.

In Italy digitisation policies are mostly oriented to the preservation of traditional cultural objects employing virtual access. The digital preservation issue and policy makers' awareness about it, are absolutely not mature (expect for the ICCU pioneer initiative), even if the Italian government has just started seriously paying attention to the problem. In the national context some initiatives are visible like the Servizio Bibliotecario Nazionale SBN (www.sbn.it) together with the Biblioteca Digitale Italiana BDI (http://www.iccu.sbn.it/bdi.html), as well as with the National Archive System, especially for the maintenance and preservation of the content. In terms of access and services, the SBN catalogue has recently started a section about digital content. It is also worth to mention the MAG Committee (http://www.icccu.sbn.it/Eschemag.it) that is working on Digital Objects Management Metadata. The MINERVA project, even if it is focused on digitisation, has offered its network

and infrastructure to collect data and to involve experts nominated by the NRG. Moreover a special section about the "Firenze agenda" has been included in the 2nd NRG progress report publication (http://www.minervaeurope.org/publications/globalreport/globalrep2003.htm). A specific agreement has been established with the University of Urbino, as an ERPANET partner, and the ICCU, to investigate further the digital preservation issues and to create qualified content both for the Italian institutions and for ERPANET users and environment. Reports on national policies (Italian, French, German and UK) have been prepared (and will be early published on ICCU and on ERPANET website), while the publication of the Florence conference printings will be ready in October.

Portugal National Library (www.bn.pt) is committed with its initiative for the National Digital Library (http://bnd.bn.pt) both for digitisation and preservation of resources. It intends to promote and to disseminate the results of its actions as examples of good practice for other organisations in the country. Moreover it plans to propose its future storage service as a national deposit for all kind of digital content, offering also a persistent identification service. In order to improve the accessibility, PORBASE - the national union for bibliographic database - was created to offer mainly the service for resource discovery for digital resources (up to now only for digitised ones but the service for born-digital is under analysis).

Also National Library of Spain is in charge of digitisation to safeguard the original content both paper and audio-visual one. A systematic and extensive microfilming programme has been developed in order to preserve contents in long term. Microfilm physical support has been chosen due to the risk of obsolescence and fragility of digital information. What is interesting, priorities and selection criteria for digitisation are based on users' demand to avoid the material use of original works. For born-digital material, like e-publishing a new approach is under study, although a national program has not been launched yet. (www.red.es)

In Sweden the National Archives recently started a project on long-term preservation (LDB project). The scope of the project is not only to understand how to automatically transfer information from a governmental agencies to the National Archives (maintaining the same accessibility conditions), but also to further establish a centre of competence in this field.

Poland, however still on the stage of initial digitisation, searches already to elaborate the problems of maintenance and preservation of digital content. The institutions that should be mentioned are mainly the libraries: Polish Internet Library (www.pbi.edu.pl) – funded by the state funds, National Library – digitising own resources, regional digital libraries plus the archives (State Archives), concentrating on publishing the selected content, cooperating with

the NASK (National Academic Internet Provider) in order to make their digitised resources available to the public.

A recent Finnish activity is so-called SHAKE project, which focuses on the long-term preservation of material produced by records management systems. Another national initiative is the Finnish Archival Database – VAKKA (www.narc.fi/atengl.html). The chosen data module for the archive is based on a Finnish adaptation of international archival description and inventory standards ISAA (G) and ISAAR (CPF).

The National Library of the Netherlands (the Koninklijke Biliotheek - KB) for over 10 years has been successfully developing policy and practice for digital preservation, involving the IT sector in research and development. Main achievements are: a substantial contribution to the content of the international archiving standard OAIS and promoting its use, the endorsement of the NEDLIB approach and results by CENL (Conference of European National Librarians) and CDNL (Conference of Directors of National Libraries), the first successful application in practice of the OAIS standard and the NEDLIB approach and the creation of worldwide the first operational electronic depository. The unique achievements are widely acknowledged by international scientific publishers, several of them who have signed archiving agreements with the national library of the Netherlands to archive their e-publications and guarantee permanent availability. In November, the KB is organising the EU Presidency conference on digital preservation of the 'records of science'.

At the moment there is no national structure, nor a national policy in Russia that would take a responsibility for the preservation of the digital cultural and scientific heritage, thought the problem has been widely discussed inside the professional communities. There are some effective institutional activities but the level of coordination and administration of the efforts (including recommendations, guidelines, standards, etc.) is not sufficient. In the field of the registration and inventory of the information resources should be mentioned the Technical Centre "Informregistr" (under the Ministry of Information Technologies and Communications - www.inforeg.ru) and the Federal Repository for Russian electronic publications. The institutions preserving cultural and scientific heritage in Russia are mainly concerned with off-line resources, also because Russia is a country with low Internet penetration (no more then 10%) and for that reason the off-line resources are more important and will be important also in the future. The two National libraries (the Russian State Library, Moscow and the Russian National Library, Saint-Petersburg - http://www.rsl.ru) understand their mission, are active in collection and preservation of digital heritage and design regulations but no state body (neither a library nor a museum) but only some business and public institutions collect and preserve media art.

Currently, there are no nationally funded projects for digital preservation in Austria. Awareness of its importance still needs to be raised among governmental bodies' and the funding agencies' stakeholders. The Austrian National Library realises its responsibility for the long term preservation of digital content and aims to play a leading role in this field. The library set up a digital preservation department in 2004, which is responsible for installing a trusted digital repository, for coordinating the digital preservation issues of the library's departments and for cooperating with other institutions, also international ones. The Austrian National Library the German National Library (Die Deutsche Bibliothek), and the Swiss National Library set up a joint trilateral digital preservation working group (D-A-CH) to share effort, expertise and experience in digital preservation and to develop joint policies and standards. For the implementation of the Lund principles in Austria a new service of The Austrian Digital Heritage Initiative (www.digital-heritage.at/) has been launched in 2003, linked to the eFit Austria Programme (Federal Ministry for Education, Science and Culture) that acts as the national reference point on Austrian digitisation policies and initiatives.

In Flanders (Region and part of Belgium as a federal state: http://www.flanders.be) the Flemish Minister of Culture (http://www.wvc.vlaanderen.be/cultuurdigitaal) ordered a broad strategic research (about forty experts collaborate) on digital cultural heritage with the aim to define a long term global policy and strategic plan for digital heritage in Flanders in the context of e-culture, including the issue of digital preservation/sustainability. At the moment, several projects regarding digital cultural heritage are being conducted in Flanders, but there is at this date no main global national initiative on the level of the Flemish Community regarding digital preservation. One of the most prominent best practices was the DAVID project (http://www.antwerpen.be/david/website/eng/index2.htm) conducted by the City Archive of Antwerp with the support of the Flemish Government, and which has also an e-government component.

Since 2001, the Danish Minister of Culture has prepared a report (http://www.kum.dk/sw5937.asp) on the state of preservation of Danish Cultural Heritage, suggesting alternative strategies for preservation of both physical and digital cultural heritage. On the preservation of digital memory, the report recommends a centralised harvesting of Internet-based cultural heritage and points to the importance of registering the necessary metadata to enable searches in collected materials. A number of specific recommendations are given with respect to methodology, priorities, policy and delegation and guidelines for accessibility. Additionally, the Ministry of Culture has just initiated a process calling for IT sector strategies for its institutions. Working groups, headed by the ministry's Chief Executive Forum with participation from the Ministry agencies and educational institutions, will produce the actual strategies also for preservation.

2. Issues to be tackled by Member States collaboratively

Funding

The Member States have responsibility for supporting digital memory preservation through national initiatives and programmes, through pilot projects and demonstrators, through training programmes. The EC should fund European networks for cooperation and interlinking of the levels of national institutions. It is vital that the importance of digital preservation is fully understood on EC level and, as a consequence, important digital preservation projects are correctly supported. A funding programme for research and demonstration, with particular attention to the born-digital content, should be co-supported by the Member States and the EC in order to assure international cooperation across the Union.

Digitisation funding is normally not related to the yearly budget of cultural institutions, so digital archives, after being created, are under risk of being lost for the lack of maintenance or technology migration. Costs for digital preservation must absolutely be considered as "running costs" in the balance of the content-holders institutions. There is a need of long-term, sustainable and specific funding initiative that is hypothecated so that the digital preservation projects do not have to compete with the projects of other kinds. In particular, at national level, investments and efforts for digital cultural memory should be in strict relation and synergy with the e-government plan. Cultural institutions should cooperate through international consortia in order to optimize investments and reduce costs.

Organisational structures

Digital era imposes rethinking of the traditional approaches and structures. New challenges can be faced only by traditional institutions in cooperation with some new national organisations/institutions specialised in digital sector.

Coordination is the first urgency at all the levels. A national coordinating and administrative body is absolutely needed for an action involving all the cultural actors, the governmental authorities, the communication agencies and the IT industry. They can be built on the example of British DPC that brings together several sectors like cultural heritage, education, science and research, commercial actors -publishers, computer or software industries or taking from the German experience of EUBAM or from the DLM initiative. These national bodies (or coalitions) and the competence centres can be linked with the same bodies in other countries in an Europe-wide network in order to share experience, to get a

clear overview of what is on-going and to raise the profile of digital preservation as a political and commercial issue. The MINERVA network model can be considered as a good practice.

A Network of Excellence (NoE) in the FP6 sounds good for implementing a Digital Area for European Culture Heritage, in particular to coordinate research, to disseminate results, to train staff. For basic research, experiments and test beds the mechanism should have the form of Integrated Projects and for developing specific tools and innovative applications the form of focused STREPs.

Cultural institutions should cooperate through international-consortia in order to set up common digital assets like services and infrastructures (European common catalogue service for libraries). The national competence centres should work together possibly co-supported by all Member States in an European network with a common agenda, experts mobility and recommendations production, that is absolutely in line with the ERA (European Research Area) vision within the FP6.

Responsibilities

No division of responsibility is foreseen. Preservation of collective memory is a collective responsibility of our society, nobody should be excluded. It is vital to share responsibilities among several components of each country: governmental authorities, cultural institutions, research departments, competence centres, communication agencies, commercial and technological sector. However the strong leading role of traditional cultural institutions should be maintained. It is Member States responsibility to create new entities as a result of the new ways of cooperation at national and European level. On the other hand, on national level the involvement of small local or regional bodies needs to be surveyed and guaranteed. Responsibilities might, though, be distinguished as functions, e.g. planning and coordination, research, dissemination, training, evaluation of impact. A national coordinating body might be responsible for policies orientation and selection of proposal for funding, for evaluation and monitoring, for training and dissemination of results. The national network should involve for example governmental and legal bodies, cultural actors, research centres, professional associations, e-government sector.

A European Agency, supported by the EC, for digital preservation might be useful to coordinate national efforts and to create a network of national institutions and international bodies involved. EU should be still responsible for funding the important projects and for general coordination and cooperation. The EC should fund a network of national competence centres.

<u>Legal issues</u>

The main legal sectors that require improvement and adaptation to the digital context but in line with traditional laws are:

- Legal deposit,
- Archival and records management / e-government legislation,
- Copyright and rights management,
- Trusted digital depositories,
- Privacy and transparency of archives,
- Freedom of information.

The issue of copyright definition and protection for multimedia objects on Internet might be a problem. First of all, from a technology point of view, the stakeholders must be convinced of security and rights protection availability for the content published on Internet. On the other hand a too restrictive copyright legislation might be an obstacle for the accessibility of cultural content, so the right balance between the rights protection and freedom of information access must be obtained.

Besides those common problems there is a diversity of issues that change from country to country. New Member States like Poland struggle with fragmentation of legislation and legal issues among Ministries. In Sweden the legal tradition obliges the information delivered to the National Archives to be accessed and presented in the same way as how it was at the governmental agency, which might be very complex for digital content. Obviously every Member State should create its own legal context, accordingly to its particular situation and characteristic of its legal tradition but also taking in consideration the European context. In this specific sector the effort to create a common knowledge on the legislation state-of-art at European and at national level could have a positive impact for further developments.

However, it seems necessary that the EC produces a Directive to identify the basic requirements for the digital preservation at least for the main products of the public administration (as done for the electronic signature) and related guidelines.

3. *Needs and gaps*

There is a visible need of new funding mechanism – preferably through strong funding support provided by both EC and Member States, for research and demonstrative projects in the field of digital preservation. The current funding model does not suit an approach to create new stable European institutions on digital memory preservation. The funding for enduring digital memory, especially on the part of the Member States, cannot have the form of singular sums for single projects, but must be treated as a fix issue of work agenda and so, as a running cost, guaranteeing this way a sustainability for digital preservation in long term. When it comes to EC funding, it also needs to be sustainable and hypothecated so that the digital preservation projects do not have to compete with no-preservation projects. Additionally, NAS countries may need also the structural funds to help the transition from analogue resources into digital era.

We can also observe a vital necessity of coordination and improved communication and dissemination of the results. National institutions should exchange experience and develop research programmes in cooperation with other countries to avoid duplication of investments. This kind of European Digital Cultural Area can be created if the national institutions are involved in a new European structure, preferably a new network of excellence funded by EC and coordinated by a special European Agency or Committee for digital preservation. A new structure or network can be based on the national agencies for digital preservation or on the national consortia like DPC, this way joining the members from different sectors. That would be especially welcomed if it promoted (through the agency as an intergovernmental body) the lacking stronger links and cooperation between commercial sector and research departments, or professional associations like IFLA, ICA, EBLIDA. National consortia or agencies, coordinated thanks to the network of excellence and European Agency, can act as national cross-sectoral and multi-level focal/contact points collecting and distributing results and best practice, interlinking sectors, gaining overview on general tendencies and problems (providing also this way a feedback for institutions and the network at European level). This system of national agencies interconnected through a network of excellence (European gateways) should also recommend guidelines to the national governments, encourage them to produce an inventory of the running projects, to hold seminars and training events, as there is a crucial necessity to promote the dissemination of results and technical guidelines and standards for digital preservation. That can be done in cooperation with other collaborative networks like NRG, which can also exchange information on on-going activities and appropriately channel them.

On the national level, Member States need to be encouraged to overcome the gap between the central government and regional competencies, as well as the use of the existing resources and institutions. It may be observed that, first of all, there are few stable national institutions and that they are not sufficiently engaging regional, local bodies in their policies and programmes. It is obvious that coordination in Europe demands firstly coordination in each single country through all levels but also across sectors. As already mentioned also private sector needs to be involved to provide practical support and long term sustainability of developments, e.g. "cultural tourism" may be an opportunity for the cultural heritage sector.

To fulfil above mentioned needs the digital preservation issue should become a central and permanent issue in the agendas of Member States and EC. The political and financial profile and priority of digital preservation must be raised. It must be ensured that all the responsible bodies fully understand the importance of that issue and that they emphasise the preservation and management of digital content and not solely its creation. Furthermore, digital preservation needs to change into practical profession from a research subject. More meetings like in Lund may be organised as well as informative seminars for Member States Ministries about digitisation and digital preservation. The EC support for the MINERVA network should continue. At the same time, as a natural consequence of the efforts done in the last three years, projects like ERPANET should be analysed and supported to ensure continuity in this sector.

From the international point of view, we may also observe that European cultural heritage sector has a very important role compared to USA one. In terms of digital preservation Europe, even if many National Archives have already good experience with born-digital content (for example the Nordic countries and The United Kingdom), most of them are only starting with digitised material, while NARA administration in USA has already much more experience with electronic records that in a large part represent born-digital and deep-web content. That is why policies for born-digital should be stimulated to fill this gap. Maybe it would be worth to look for an international exchange in this field, too.

There are also more specific, technical needs like training of the cultural heritage personnel, librarians, etc., models for costs of digital preservation, methods for preserving dynamic web, setting standards for technology migration, clearer distinction between publications and web sites, for automatic validation of information packages, automatic file format validation, automatic metadata extraction, automatic file format migration etc. There is a lack of experience in managing over timer critical masses of digital collections, in particular for the reason of costs and related policies.

4. Prierities for policy-makers

a) **Stakeholders' and policy makers' awareness and responsibilities.** The political and financial profile and the priority of digital preservation in the national and European agendas must be raised. It needs to become a permanent point of work plans at all levels. Basic responsibilities must be assigned clearly to national and sectoral bodies.

b) **From theory to practice.** There is a lack of practical results for implementing new e-services for the citizen. We must move away from theoretical research to practical solutions. The research activity should be further implemented.

c) **European coordination.** EC is asked to support a cooperation infrastructure among Member States, eventually with specific funding, in order to develop strategic alliances to avoid duplication of efforts, to share results and experience and knowledge, to promote standards and good practice. Three tools appear to be suitable for implementation of such coordination: a Directive with the basic requirements; an European Agency or Committee acting as a gateway across Europe; a Network of Excellence and the form of focused STREPs for developing specific tools and innovative applications.

d) **Funding research for digital preservation**. The current funding model does not suit the needs of integrating research and activities on digital memory preservation. EC and Member States should develop specific funding programmes for digital memory preservation excluding the competition with other projects from other fields.

e) **Running costs**. Preservation costs must be considered as a permanent "running cost" in the yearly balance of the cultural institutions. Research activities for definition of a sustainable economic model for digital libraries should be supported.

f) **National Agencies.** Member States should identify national institutions that coordinate digital memory management, for example by the production of organisational recommendations and technical guidelines. These national institutions must link, with a collective responsibility, different kinds of actors from cultural sector, from research centres, from professional associations, from industry, from e-government. Coordination in Europe demands first coordination in each single country.

g) **International Consortia.** National institutions and research centres should work collaboratively through inter-sectoral consortia, both national and international, for example like the IIPC, for costs reduction and joint investments.

h) **Commercial sector.** Consortia have to involve private and commercial sector in particular the ICT and electronic publishing industry, as well as the e-learning programmes.

i) **Training**. It is vital to invest in training of the cultural heritage personnel, in e learning both for users and professionals. The cooperation between the projects that are developing the technologies and e-learning programmes should be reinforced for faster and more effective knowledge transfer.

j) **Cooperation with e-government.** If governments do not understand the central importance of how to archive information produced in e-government solutions, most of this information will be lost in the future. (This point involves many issues of the funding-responsibility-legal parts of our survey).

k) **Legal issues.** The Member States have to define suitable law/rules for copyright management of digital objects and for deposit and permanent access of net published documents. The EC should produce a Directive and related guidelines to identify the basic requirements for the digital preservation, at least for the main products of the public administration.

l) **Economic sustainability.** It is worth to take advantage of commercial opportunities offered by digital resources in order to create new jobs, to increase competitiveness of European industry, to provide financial and economical sustainability of digital content, especially in sectors of electronic publishing and cultural tourism.

m) **Technology observatories.** Independent expert centres that would monitor the technology evolution are needed, in order to signalise the risks of possible obsolescence and the needs for migration of the currently used technologies and standards.

n) **Protection of fragile objects**. Born-digital contents like web, multimedia, electronic records are seriously under risk because they depend totally on the technology evolution. We have already lost plenty of music, film and audio/video archives due to obsolescence of technology.

o) **Topics for research.** Technology research should further focus on methods for automatic archiving, indexing and management of high volumes of dynamic digital objects, on automation of preservation tasks for born-digital objects.

p) **Common terminology and definitions.** A serious work for the definition and adoption of a common base as terminologies, definitions, metadata sets, thesaurus, have to be done in order to prepare the ground for integrated and multilingual services for EU-citizen.

q) **Online registers.** Creation of on-line registers or indexes of projects or digital collections would be very useful for monitoring developments, sharing experience and planning investments. The establishment of a European or global registry for file formats and of software archive would be highly practical.

r) **Social benefits**. The digital resources need to be used to promote and reinforce the concept of EU-citizen, to safeguard the Europe cultural diversity, to improve accessibility of culture for all the citizens, especially those elderly and disabled.

ANNEX 1.

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The workgroup web site: http://www.erpanet.org/www/workgroup/main.htm

THE NETHERLANDS QUESTIONNAIRE

Questions to be answered by experts of the "Firenze agenda" workgroup (Version 22 March 2004)

The Netherlands EU-presidency in co-operation with the National Representatives Group for Lund is preparing new actions and organisational strategies for the digitisation of cultural heritage in Europe, as a follow up for the Lund Action Plan end 2005. Therefore, the Netherlands have already presented a position paper during the Italian Presidency on the creation of a common Digital Area for European Cultural Heritage. Part of this vision is the subject of persistence: without assuring the life-span of cultural heritage resources, the continuity and robustness of our digital cultural memory will be at risk, and the reliability of digital knowledge infrastructures will be undermined.

In co-operation with the Firenze Agenda working group, the Netherlands EU-presidency aims to create a better overview of the most recent developments and (EU) projects in order to identify their potential contribution to the vision and development of a Digital Area for European Cultural Heritage.

Focus points are:
- maintenance and preservation of the digital collections
- persistence of access and services

Based on the input of the Firenze Agenda working group we want to analyse the opportunities, issues, and potential impediments that may support or influence the development of the projected European Cultural Digital Area as well as that will help to build the above mentioned actions and strategies and to identify who should be responsible for what activities.

Therefore we would appreciate it if you could answer the following questions:

1)   What are the main developments (please distinguish between national projects and European funded projects in which you or other institutions in your country are involved) in your country for

- maintenance and preservation of the content:
- persistence of access and services

2) What issues do you think raise from these developments that should be tackled by member states (and/or institutions) collaboratively?

funding:
- What funding mechanisms should be in place (how and where) to support better co-ordination?

organisational structure(s):
- Could you elaborate on how current and future projects could and/or should support the transition to a co-ordinated effort;

- What possible structure(s) could be feasible? What role for instance do you see for networks of excellence as exist now?

responsibilities

- Could you elaborate on the division of responsibilities you think is necessary?

legal issues

- Could you identify the legal issues that may support or could obstruct coordinated efforts?

3) What are the priorities in addressing the above issues and why?

4) What needs or gaps do you observe in EU context (and the above mentioned vision of a European Digital Cultural Area) with respect to digital preservation in general or more precisely to the maintenance and preservation of the content and the persistence of access and services?

5) What incentives are needed to make this work? (Please, describe the roles, functions and responsibilities and prioritise accordingly)

- for national institutions

- for national governments / member states

- for intergovernmental bodies / structures

- for the European Commission

- else

6) What, in your opinion, needs to be done by the European Commission at the European level to encourage and support initiatives that will contribute to the development of the European Digital Cultural Area? Please elaborate.

With respect to

- co-ordination/ management

- funding

- support

Your responses will be analysed and consolidated into a report that will be presented at the EU-conference on digitisation of cultural heritage organised by the Netherlands EU-presidency on 15-16 September 2004.

See for draft agenda: http://www.EUpresidencyNL2004.digitaliseringerfgoed.nl .This site will also be used to present draft results of the above questions, for the workgroup to react on.