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IST-2001-37491

**European Network of Centres of Excellence for  
Research and Education in Digital Culture**

**Work Package 7**

**Periodic Progress Report #1**

Reporting Period: 01/07/2002 – 30/12/2002

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<i>Author(s)</i>	Kim H. Veltman, Alexander Bielowski, Hannie Spronck, Frédéric Andres, Gerhard Budin, Benedetto Benedetti, Arturo Colorado, Suzanne Keene, Manfred Thaller, Lily Diaz with input from all members.
<i>Abstract</i>	Reports on activities in months 1-6 of thematic network (July-December 2002).
<i>Keyword list</i>	

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## Summary : Overall Assessment of Main Milestones Achieved

E-Culture Net began officially as an one year thematic network on 1 July 2002 with 29 formal members with the purpose of evolving into an Network of Centres of Excellence for Research and Education in Digital Culture in FP6. This is proceeding very well.

The first six months have brought focus to our vision:

The vision is to make Europe's culture accessible to all citizens. This multi-lingual, multi-cultural resource will include local, regional and national culture to reflect Europe's unity of diversities.

There has been enormous interest in E-Culture Net with letters of intent from 65 institutions in Europe, plus interest to join from 55 in the Mediterranean, 34 in the NAS, 25 in Russia, as well as 1 in China: i.e. over 180 institutions in all. This is leading us to rethink our initial ideas of structure to include subnets for the Mediterranean, the NAS and internationally in addition to national networks for member-states and Russia.

Work on a research matrix has identified four clusters of topics, which could lead to two initial IPS. It has also identified a macro- and a micro-level matrix that would best be developed by organisations such as ERCIM with policy issues addressed by MINERVA.

The idea of a Distributed European Electronic Resource (DEER) has evolved to include four sections: research, (free) public, commercial and international. Some would like to link this with an European Mirrored Repository to answer needs of preservation in emergencies and disasters and with a European Centre for Documentation.

A preliminary search for existing and future content, which could be used for a prototype DEER has revealed unexpectedly rich materials including many broadband samples: over 30 in Spain and some 56 in Germany. An initial demonstrator will include about 1 million pages. This demonstrator which uses the concept of Digital Autonomus Cultural Objects (DACOs) offers a new method to retain the national, regional and local diversity in a unity of diversities (cf. Ruffolo) and thus offers a European answer to alternatives such as Dublin Core. The need to couple the E-Science Grid with an E-Culture grid is now clear. Interfaces will play a significant role.

First outlines of European Masters and Doctorates reveal how these existing resources could be incorporated into postgraduate research and thus contribute directly to both the European Research Area (ERA) and the vision of E-Europe. It is foreseen that these activities should be coupled with initiatives to create a new European University of Culture.

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### **Problems Encountered and Steps Taken**

There was a slight problem with timing. Initially the idea was to work 4 months on the first six deliverables, and have a conference in month 5. Since the EC delayed the announcement of FP6 till 10 December the conference was delayed until 11-14 December and the reports delayed accordingly. This slight shift in activities has not affected the quality or scope of the work.


The main problems have been through an *embarras de richesse* qua both potential members and contents. We have over 100 letters of intent and potentially at least another 100 institutions interested. We are working on simple goals to focus activities and the concept of national networks and subnets.

There was a misunderstanding that the heading Computers in the EC's categories could include programming. Initially we had foreseen a very simple web-site with a list of members, and essential documents. The richness of members and content has transformed this into something more elaborate for which no funding has been foreseen at this stage. Accordingly, some monies originally allotted to personnel and to additional experts are being used to develop the web-site.

On 12 November, 2002, Dean Paul Tummers and Professor Luc Soete decided the Maastricht McLuhan Institute will be closed due to lack of financial support. They have made assurances that this will not affect the contractual agreements for the thematic network in the period 1 July 2002 –30 June 2003. This decision means, however, that a new co-ordinator for the network must be found for FP6. The possibility that Vienna might become the co-ordinator in the next phase is being explored.

### **Correspondence Between Planned and Actual Accomplishments**

Deliverables 2-7 have proceeded very much as planned, except that the numbers of candidate members from the Mediterranean and NAS are much higher than expected. Preliminary work on Deliverable 11 points to a demo of about 1 million pages, considerably more dramatic than at first planned. Deliverable 1 has brought much progress with respect to vision and structure. One area where there has been less progress than hoped concerns the national networks. Initially we had hoped that representatives in the member states would quickly identify potential members for their national networks. Here there has been more diversity than foreseen. Spain has identified its network and even has a draft homepage for its national network. Austria is making its national E-Culture Network part of a national E-FIT vision that includes e-science, e-learning etc. Meanwhile some countries have yet to identify who the key members in their country might be. Even so there is general agreement that the principle of national networks is sound.

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On the whole it is fair to say that we have achieved more than planned. There are many more potential members and there is much more content already existing than foreseen.

## Work Progress Review

### Specific Objectives and Achievements

A primary objective is that E-Culture Net evolves from a one-year thematic network (01/07/2002-30/06/2003) into a Network of Centres of Excellence for Research and Education in Digital Culture in the 6<sup>th</sup> Framework Programme.

Our objectives in the first half year were: 1) to further define the vision and structure of the network; 2) to explore expansion to NAS; 3) to explore expansion to the Mediterranean and beyond; 4) to identify research topics re: method; 5) to explore requirements for a European Masters and 6) to identify broadband content pilots. These six objectives became the first six deliverables (figure 1) which were then discussed in our first conference for all members (deliverable 7). Specific achievements lie in producing 7 deliverables as planned.

1	<a href="#">Define Vision and Structure</a>	Month 5
2	<a href="#">Expansion to Newly Accessed States</a>	“ “ 5
3	<a href="#">Expansion to Mediterranean, Beyond</a>	“ “ 5
4	<a href="#">Research Topics re: Method</a>	“ “ 5
5	<a href="#">Requirements for European Masters</a>	“ “ 5
6	<a href="#">Identify Broadband Content Pilots</a>	“ “ 5
7	<a href="#">Conference 1</a>	“ “ 5
8	Research Topics re: Implications	“ “ 11
9	Topics for European Masters	“ “ 11
10	Define Content Pilots	“ “ 11
11	<a href="#">Foundation for Distributed European Electronic Resource (DEER)</a>	“ “ 11
12	Conference 2	“ “ 11

Figure 1. List of Deliverables for E-Culture Net.

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## Progress by Workpackage

### WP1: Deliverable 1: Define Vision and Structure

The primary objective is to refine the vision of the network and its structure. A further objective is to explore how these existing specialised networks (in addition to those which are already members) and emerging national networks can best be linked in a Network of Centres of Excellence.

#### Vision

We began with a premise that work on a research matrix could prepare the way for a Distributed European Electronic Resource (DEER), which could be used for European Masters and Doctorates. This has come into further focus:

The vision is to make Europe's culture accessible to all citizens. This multi-lingual, multi-cultural resource will include local, regional and national culture to reflect Europe's unity of diversities.

Specialized networks have made valuable contributions in this direction in isolated fields: e.g. policy (MINERVA), libraries (DELOS). E-Culture Net is unique for three reasons:

- 1) It integrates for the first time all the constituencies, namely cultural organisations, research institutions and industry.
- 2) Through the concept of Digital Autonomous Cultural Objects (Thaller) it offers new access to national, regional and local culture to reveal the full range of Europe's cultural diversity.
- 3) The model of national and sub-networks allows a small core group to work efficiently with many researchers needed for a critical mass that is representative of Europe's complex cultural traditions.

The main objective of **E-Culture Net** for the 6<sup>th</sup> Framework is to create a new permanent structure in Europe facing the international economy to focus on the cultural level of the European Community. People have to feel European by means of their common Culture. This requires building a prototype for a Distributed European Electronic Resource (DEER in the framework of IST (Information Society Technologies) identifying and giving access to our Cultural Heritage in the European Union (including European Policies and the e-Europe Action Plan).

To prepare for this the network will work with others to create a research matrix of the knowledge life cycle. This research matrix will provide a survey of requirements, technologies and solutions. This will lead to a Distributed European Electronic Resource (DEER) and be disseminated through European Masters, Doctorates and training.

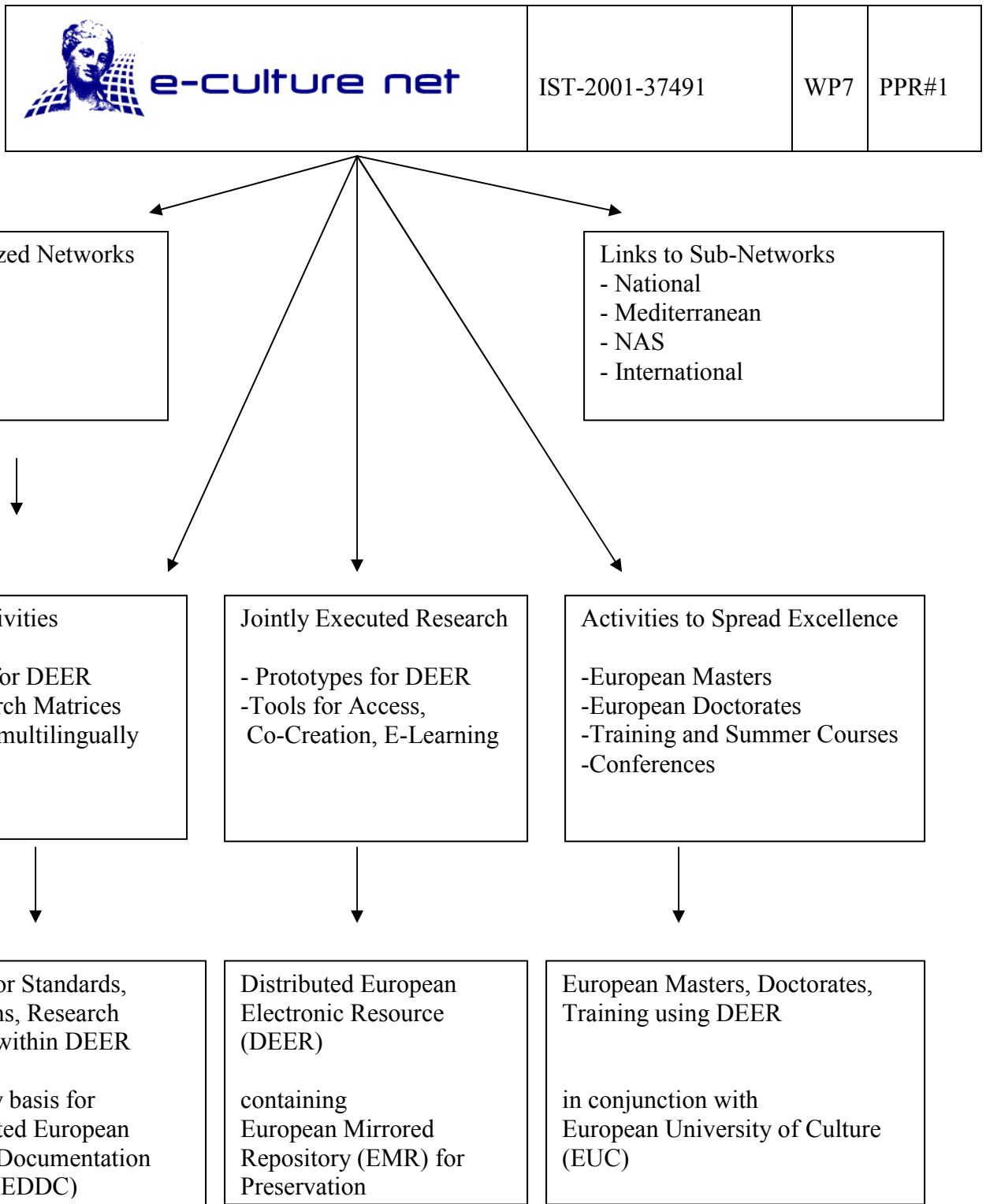


Figure 1. Basic vision of E-Culture Net leading to DEER (with EMR), EU Masters and Doctorates with links to EUC and possibly a distributed EDDC.

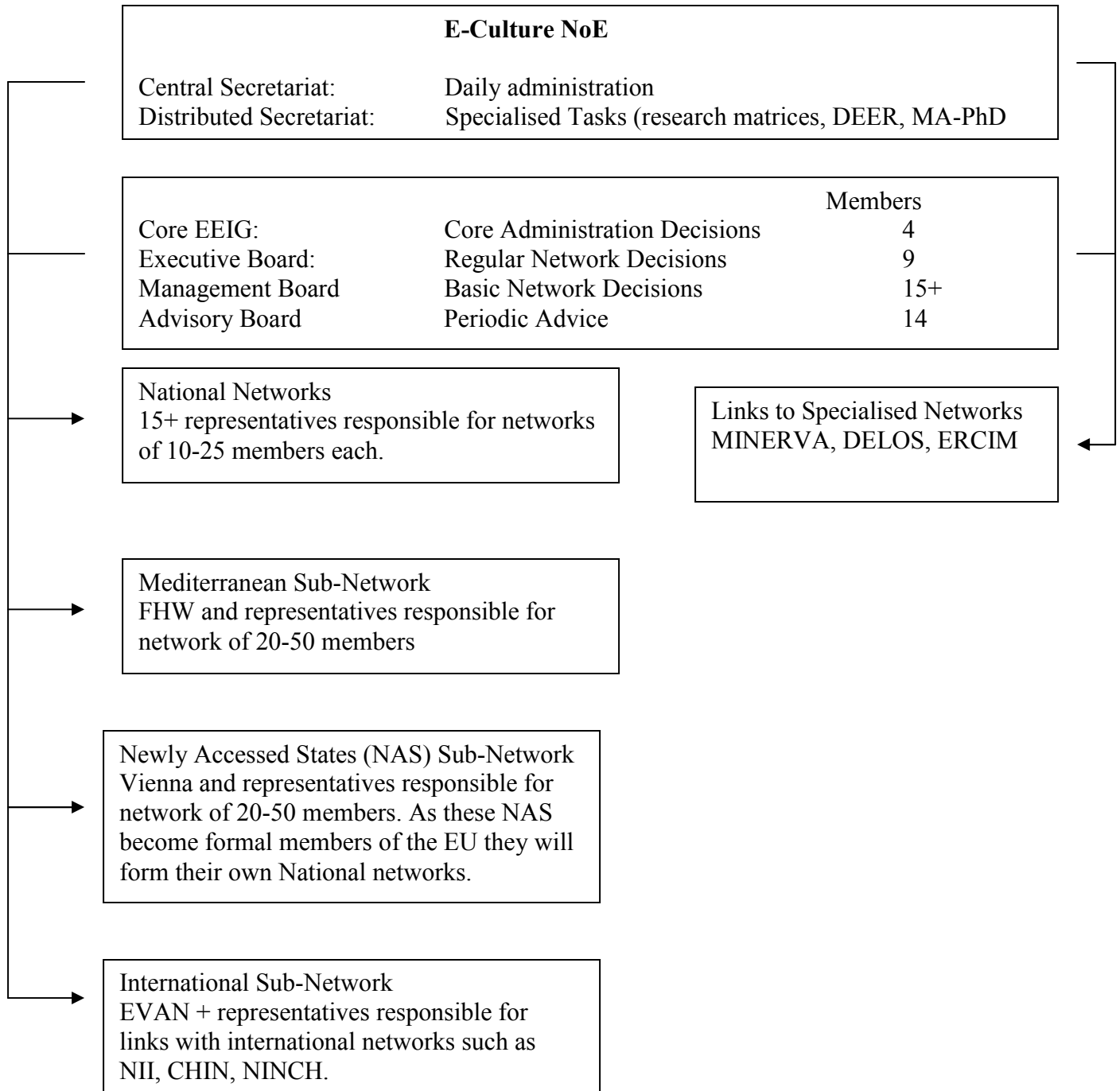


Figure 2. Basic structure of E-Culture NoE and its connections with national networks, sub-networks and specialised networks.

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The DEER should proceed on two parallel lines:

- 1) via a bottom-up, inductive approach, making available on-line a series of resources with a coherent set of interfaces
- 2) via a more deductive approach by means of specific integrating projects which will provide a framework and platforms for future progress.

The DEER also called will have four main sections: 1) research; 2) public; 3) commercial and 4) international. In the long-term, the research section could be financed by ministries of education or their equivalents from member states. The public and international sections should be shared by ministries of culture and external affairs or their equivalents. The commercial section will have a self-sustaining and a for profit section (figure 1).

Institutions wishing to join the E-Culture NoE will identify specific researchers who will contribute in one of three ways:

- 1) Research matrix: ongoing lists of standards, solutions and research trends.
- 2) Sharing research results and making these available via multilingual keywords.
- 3) Using prototypes of the DEER to develop courses for European Masters and Doctorates.

Seven levels of integration have been identified such that the degree of online access can be measurable to an extent (Appendix 1. cf. Deliverable 1 for details).

## Structure

To be efficient the core network must be small. To be representative in an expanding Europe E-Culture net needs to be large. Hence, there will be a small secretariat for everyday management. There will be an European Economic Interest Group (EEIG) of 4 for administrative purposes. There will be a core group of 8 partners who will also be the executive, which will deal with everyday decisions. For more wide ranging decisions there will be a management group consisting of the executive plus 1 representative from each member state, who is also the head of their national network. An advisory board with members from other networks such as ERCIM and DELOS will advise E-Culture Net (figure 2).

## National Networks

National networks, with close links to the policy strands of national governments (e.g. via MINERVA) will address the challenges of subsidiarity and assure that local, regional and national interests become more visible and are fostered through a European E-Culture

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Net. The national networks can raise awareness of Europe's remarkable unity of diversities as emphasised by Giorgio Ruffolo (European Parliament) and thereby make a fundamental contribution to a new, emerging consciousness of what it means to be a European.

Given the enormous interest in the Mediterranean, NAS, and elsewhere (cf. below) sub-nets will be established.

## **WP2: Newly Accessed States (NAS, Mediterranean and beyond)**

The objective is to explore how the emerging European network can expand to include the Newly Accessed States (NAS) and link with other networks around the world.

### **NAS**

Gerhard Budin (Vienna) has appointed a regional co-ordinator, Maria Sliwinska (Torun) and has identified 19 institutions who are prepared to become candidate members from the following ten countries: Albania, Belarus, Czech Republic, Estonia, Latvia, Poland, Romania, Slovakia, Bulgaria, and Croatia. Initial contacts have been established with a further 14 institutions in the Czech Republic, Hungary, Romania, Latvia, Lithuania, and Poland.

### **Russia**

Nadia Brakker (Centre PIC, Ministry of Culture, Moscow) has produced an extensive report concerning Russia. From an initial list of over 40 institutions, which expressed interest, 25 major institutions have formally submitted letters of intent to join E-Culture Net.

A detailed report by Nadia Brakker is included as Appendix 6.

### **Mediterranean**

Giorgos Giannoulis (FHW) has identified 11 candidate members for a Greek National Network and 55 candidates for a Mediterranean Network. He has also reported on network developments in the United States such as NINCH and Amico. A progress report by FHW is included as appendix 7.

Russia alone has identified more than 250 individuals in 25 important institutions who wish to join. Taken together this means that WP2 has identified at least 113 leading institutions that wish to become members of E-Culture Net. This adds new weight to Suzanne Keene's concerns about the dangers of success.

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James Hemsley made another important point. The NAS, Russia (and the Mediterranean) have many cultural expressions, which relate to Europe. Making these accessible would help Europeans to define themselves in a richer way while at the same time acknowledging the contributions of those who have thus far often been perceived as marginal.

Benedetto Benedetti (SNS) has broached the possibility that at least some of these candidates might also profit from training courses, which inform them of the latest technological standards and solutions. This idea is consonant with developments within UNESCO's World Heritage initiatives to produce such courses at a global level. Four members (Bologna, Maastricht, Madrid and Pisa) and a candidate member (Brandenburg Technical University) represented E-Culture Net at UNESCO's recent conference on this subject in Feltre (November 11-12, 2002).

There is an EU fund of 600 million Euros to deal with international relations. Such funds might serve to create special networks for NAS, Russia, and Mediterranean and have links to other international networks such as those already established with Japan (NII's Japanese Network of Excellent in Digital Silk Roads), China (Tsinghua University) and Canada (CHIN). Frederic Andres drew attention to Laval's links with the East West Economic Network (EWEN) and suggested that this might serve to provide further technology transfer between Western and Eastern members of E-Culture Net via EWEN SMEs.

### **WP 3: Research Topics**

The objective is to identify/define research topics in different stages of the knowledge life cycle in order to generate new interdisciplinary topics for research.

#### Access (and Preservation) to Existing Cultural Knowledge

- 1) semantic access and knowledge organisation
- 2) spatio-temporal access with historical-cultural dimensions

#### Production and Preservation of New Cultural Knowledge

- 3) collaborative creation with multi-modal interfaces
- 4) personal and collaborative e-learning.

Figure 2. Four initial research topics

An initial study has brought four clusters of research topics that can generate a general matrix for research (Appendices 1-2). Unlike others who also study these topics, E-Culture Net is concerned with linking them as a means of integrating content, context and communication in new ways. These clusters of topics can foster integrating activities, and joint research at a number of levels, namely as:

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- |  |            |
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| 1) initial demonstrators using existing content                  | 5,000 €    |
| 2) broadband pilots from individual researchers and institutions | 20,000 €   |
| 3) small research projects                                       | <500,000 € |
| 4) targeted strategic research projects.                         | >500,000 € |

These efforts, linked by multilingual keywords, names and places, can serve as bottom up test cases for a prototype version of the DEER. In parallel with this, IPS can provide top down standards, frameworks and platforms, which further integrate these smaller initiatives. Four possible IPS connected with these topics were identified: DILIGEANT, ACE, CO-CREATE and PACE.


A provisional database has been developed for both a macro- and micro-level research matrix. For the detailed research matrix 110 categories have been identified as well as by specialised networks and related organisations. An initial plan was to conscript members of E-Culture Net, who are also members of specialised networks to develop this list and keep it up to date. Increasingly there is a feeling that these matrices might be led by technological networks such as ERCIM with input from E-Culture Net members. The research matrices will help to guide a technological infrastructure for the DEER and will also lead to a portal within the DEER to address cultural standards, solutions and research trends.

#### **WP4: European Masters/ Doctorates**

The objective is to relate topics of research more closely to post-graduate teaching (first at the Masters and later at the doctoral level) and use this to focus research questions and thus to help generate new research projects and programmes.

Benedetto Benedetti has identified a number of criteria and focus points for emerging European Masters degrees. He has developed an Italian FORMA consortium which has the following fields of interest:

- 1) Art
- 2) Archaeology
- 3) Museology
- 4) Libraries
- 5) Collections
- 6) Photographic Archives
- 7) Historical Archives
- 8) Web Language
- 9) E-Learning as a laboratory for research on web learning and training methodologies.

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An initial draft for course work foresees:

- |                                      |           |
|--------------------------------------|-----------|
| a) Introductory modules + laboratory | 220 Hours |
| b) Specialised modules laboratory    | 220 “ “   |
| c) Projects and “stages”             | 160 “ “   |

Thus far three thematic cycles of courses have been identified:

- 1) Textual and Visual Databases
- 2) Databases Processing for Conservation Intervention on Monumental Complexes
- 3) Projecting (Planning) of Museum Communication.

Meanwhile, preliminary work by Arturo Colorado y Castellary has identified two European Masters’ courses that are being developed in Valencia and Segovia. Francesca Bocchi has outlined initial thoughts on how Masters and Doctoral Programmes might emerge in light of the Bologna Convention.

### **WP 5: Broadband Pilots**


The objective is to identify and define broadband pilots using digital content from a) memory institutions and b) virtual/augmented reality (e.g. research results from IST, FET), which can be used for teaching and inspire new research .

Arturo Colorado y Castellary (Madrid, Segovia) and his colleague Isidro Moreño (Madrid) has been exploring pilots, which can serve as near term inputs for prototypes for the DEER. He has identified Required Characteristics of Projects and a form for a Standard Model for the Evaluation of Projects. This form could a) be further developed to give some indication of the financial scope of the project as outlined above and b) readily be adapted to survey existing broadband content.

Colorado’s study has resulted in 27 Spanish proposals plus 5 from CINECA in Italy. In addition he has identified 22 transverse projects, namely:

Hypermedia Online	2
Intelligent multidimensional environments	8
Hypermedia E-Learning	4
New forms of Diffusion...and Cultural Tourism	8

Meanwhile, Manfred Thaller (Cologne) has identified over 40 existing databases linked with the German National Research Foundation (DFG), which could be made available via multilingual interfaces. These surveys confirm the richness of new expressions which

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could be made available online once the requisite infrastructure exists to permit the European Research Area to evolve.

## **WP 6: Distributed European Electronic Resource (DEER)**

To lay the foundation for a new Distributed European Electronic Resource (DEER) for research and Higher Education), examining problems of general framework, technology and interfaces.

Initial work on the DEER is proceeding on three lines: framework, technology and interfaces.

### **Framework**

On 16 July 2002 Suzanne Keene produced a first DEER discussion paper which articulated the long term view of what the DEER might ultimately become. It set out the principles and major elements of the DEER, taken from initial vision papers and from the UK's DNER. While the DEER will obviously have requirements that go beyond the DNER, it is an enormous asset to have this working example of an amazing and comprehensive scholarly resource to use in building the DEER. Much of the DNER is in fact freely available. It could be argued that without the DNER, the DEER would hardly be a credible proposal. One has only to look at the policy and guidelines papers on the JISC website to understand the complexity of what is needed in practice to establish such a system.

The Discussion paper was discussed at the first Project Meeting. The discussion paper, together with comments from that meeting, were the basis for the DEER Scoping Report by Suzanne Keene and Alice Grant. This began to identify the issues that have to be solved in creating a DEER. The DEER overview was revisited quite extensively in the December conference. Immediately following the conference a one page Feedback paper was sent out, which was very precisely worded to accommodate both the long term vision of cultural material for all and also the working research platform, both clearly identified by those at the conference as very important (Appendix 9). A Roadmap for the final report is now online for comment. Among the reactions was Christian Lahanier (C2RMF) who linked DEER with the need for an European Mirrored Repository to answer challenges of digital preservation. This demonstrated real engagement with the proposal and evidence of need for DEER.

From these valuable contributions it has become clear that the DEER will have a number of different phases, functions and components (figure 3) including:

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- 1) a prototype used on an Intranet among a clearly identified research community. This research branch will continue to expand and its costs should in future be shared by national research councils or their equivalents in the member states so that there is no cost to individual European researchers.
- 2) a public version which provides free access to some of these materials to the public at large. This version should in future be paid by ministries of culture of respective states as it represents access to national, regional and local cultural traditions.
- 3) educational and e-learning services most of which will in future be paid by ministries of education because they relate directly to the future education of European citizens.
- 4) additional services on a non-profit basis such that they can be self- sustaining.
- 5) services and products building on the traditions of publishing and broadcasting which use these resources to create for profit items such as films, games, and new interactive experiences.

There are interesting differences between the United Kingdom which tends to assume a self-sustaining model based on payment by subscription, and France/Germany, which assume that publicly funded research must be made available with no direct cost to individuals. There will be various approaches to funding in different European countries, and the DEER sustainability model will allow for these. We are confident that the DEER will prove to be so valuable that countries will wish to continue it as a permanent institution. The full report will address such management and operative arrangements.

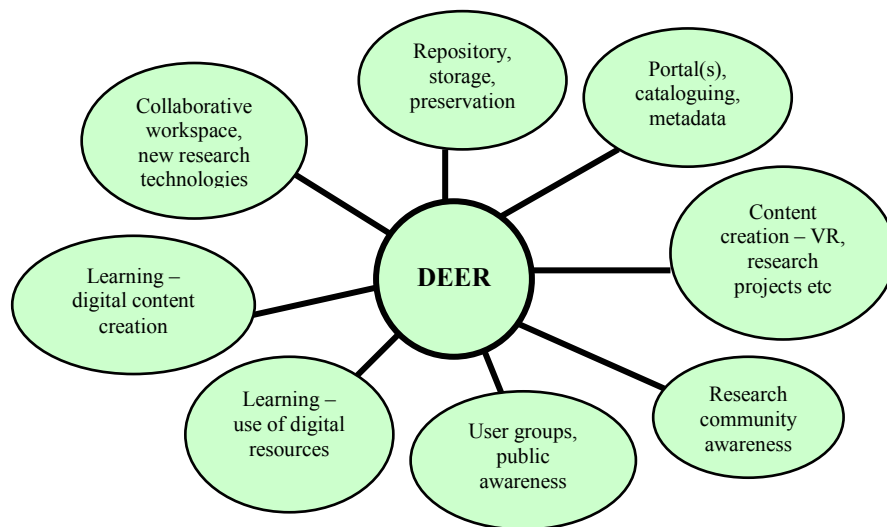



Figure 3. Basic Components of the DEER

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## Technology

Manfred Thaller (Cologne) is working on preliminary technology for a proto-type DEER which he envisages in terms of Distributed Autonomous Cultural Objects (DACOS). The prototype demonstration will entail about 1 million pages from a minimum of four distributed resources. His work has also drawn attention to at least 50 major resources from the German Research Council which could be integrated within the DEER.

Methodologically this work is of the greatest significance because it offers a conscious alternative to many fashionable solutions of the moment such as the Dublin Core, and the Open Archive Initiative. Unlike these American solutions, which require one to adjust one's legacy metadata, Thaller's method assumes that local, regional and national variants can remain intact in a distributed system. It thus offers a first step towards a technological solution for the political challenges that Ruffolo and others have identified: the need to create a unity of diversities by including the local, regional and national on their own terms in an expanding European context.

## Interfaces

A third dimension of the DEER entails interfaces led by Lily Diaz (Helsinki). She has developed our logo and made a first draft for the web design. Her initial paper explores the complexities of digital surrogates using the example of a map. Her colleagues Andrew Morrison (Oslo) and Kim Halskov (Aarhus) brought to light a series of interface questions with respect to performance media and immersive environments with virtual, mixed and augmented reality components. The combined effect of the framework, technology and interface work has been to bring us much closer to a realistic prototype for the DEER.

## WP 7: Project Management


To manage the project and create a secretariat for the Network

### Contractual Issues

From the outset Hannie Spronck has proved an excellent administrative assistant in dealing with the considerable paperwork entailed in EU projects. Alexander Bielowski has focussed on contact with members re: specific deliverables. He has co-ordinated the growing number of candidate members and has worked with two student assistants, Ben xx and Rembrandt xx in developing a provisional website. Kim Veltman has focussed on working with colleagues in developing content with respect to vision and structure.

At the request of project officer, management report #1 covering the first three months (July-September 2002) was produced in October. At the end of November the project

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officer indicated that a management report #2 covering the last two months (October-November 2002) was required in addition to this 6 month report (July-December 2002). Rather than simply create two nearly identical documents we have chosen to provide the details of activities in the tri- or bi- monthly reports and have used the 6 month report to focus on the bigger picture.

Although such a six month report is usually submitted within 2 months of the period covered the project officer requested on 12 xx December that this report, complete with cost statements should be made available by 13 January. The administrative assistant noted that this was highly problematic with respect to cost statements at the time of the Christmas break since these need to be sent by members to contractors and then to the co-ordinator. On 21 December the co-ordinator wrote a further note to the project officer outlining these problems who, we learned was away from xx December to 6 January 2003. Faced with a choice of producing inaccurate documents and serious records, we have chosen the latter and will submit the cost as foreseen by the EC's official requirements within 2 months of the period covered by the report, namely, by the end of February 2003.

### **Co-operation within the Consortium**

On the whole there has been excellent co-operation within the consortium. Predictably, those with large duties have been much more active than those with minimal duties. In at least three cases there has been spontaneous co-operation which was not planned initially:

- 1) Professor Thaller (Cologne), who is also one of the individuals leading the German Digital Libraries initiative, visited Professor David Wallace (Loughborough) to discuss linking his German initiative with the English E-Science Grid which will also have a digital libraries component. This could possibly lead to an IP called Digital Libraries in a GEANT Framework (DILIGEANT).
- 2) C2RMF was so impressed with the work of Cologne that they are proposing to develop a pilot project together, which could prove to be the first project for E-Culture Net as an NoE.
- 3) FHW through its arnouveau connection (cf. below concertation) has developed new connections with CINECA and CNR-ITABC.

In isolated cases some of these institutions with a minimal role, have become overwhelmed by other duties. It is fair to say that almost everyone has made some contribution. The Pompidou Centre has, for instance, increased our links with the Bibliothèque Nationale, which is active in preservation of new media. ENCORE has increased our links to the International Network of Conservators on Contemporary Art

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(INCCA). Oporto has been delayed but is working on candidates for a Portuguese network.

### **Contribution to Clustering, Concertation**

At the suggestion of the EC (Eric Badiqué) the new thematic network for new media, artnouveau was encouraged to work with E-Culture Net via Giorgios Giannoulis (Foundation of the Hellenic World). Over the past months there has been discussion that E-Culture Net will focus on E-Content while artnouveau will focus on E-Creativity. On this second day of the conference, Michael Schnaider (Zentrum für Graphische Datenverarbeitung (ZGDV, Fraunhofer), who leads the artnouveau network spoke with several members of E-Culture Net, notably Antonella Guidazzoli (CINECA) and Maurizio Forte (CNR-ITABC). It was agreed that members in the two networks will work together in bringing further definition to the ideas around CO-CREATE. Michael Schnaider also agreed that artnouveau and Fraunhofer will write formal letters of intent re: E-Culture Net.

### **Participation in Workshops/and or Conferences**

There have been a series of internal meetings usually at the national level. See: <http://www.mmi.unimaas.nl/eculturenet/Meetings.htm>.

Even before E-Culture Net began officially there were a number of lectures including Falun and Beijing (April 2002). The first formal presentation of E-Culture occurred at a keynote and round table during Culturtec 2002 (Madrid, 23 -25 May 2002). In the past six months there have been lectures at summer schools in Maastricht and Aranguez, and conferences in Paris, Barcelona, Catania, the Hague, Mont Tremblant, Feltre, Innsbruck, Moscow and Berlin. There have been four articles in conference proceedings (cf. appendix 5).

### **Effort Breakdown**

**XX**

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## Deviations if Any and Corrective Action

There was a slight problem with timing. Initially the idea was to work 4 months on the first six deliverables, and have a conference in month 5 to assess progress and make plans for the FP6 bid. Three factors delayed this plan:

- 1) The EC announced that the FP6 call might be on 10 December. It was therefore decided to hold the conference on 11-14 December (i.e.. month 6).
- 2) The starting date originally planned for 1 June was delayed by the EC to 1 July. This meant that a number of university administrations were already closed for the summer.
- 3) The project officer was absent the first 26 days of the project due to marriage. This slight shift in activities has not affected the quality or scope of the work.

The main problems have been through an *embarras de richesse* qua both potential members and contents. If everyone becomes regular members the network will be so large that it is unmanageable. To answer this challenge we are defining three simple goals to focus activities: research matrices, DEER and European Masters and Doctorates. Individual researchers will commit to one goal only. There will be national networks and subnets to deal with the great numbers and to avoid also potential problems of subsidiarity.

There was a misunderstanding that the heading Computers in the EC's categories could include programming. Initially we had foreseen a very simple web-site with a list of members, and essential documents. The richness of members and content has transformed this into something more elaborate for which no funding has been foreseen at this stage. Accordingly, some monies originally allotted to personnel and to additional experts are being used to develop the web-site.

On 12 November, 2002, Dean Paul Tummers and Professor Luc Soete decided the Maastricht McLuhan Institute will be closed due to lack of financial support. They have made assurances that this will not affect the contractual agreements for the thematic network in the period 1 July 2002 –30 June 2003. This decision means, however, that a new co-ordinator for the network must be found for FP6. The possibility that Vienna might become the co-ordinator in the next phase is being explored.

## Work Planned for the Next Reporting Period

During the next reporting period efforts will focus on deliverables 8-10 and continuing work on deliverable 11. Deliverable 8 will explore research topics re: implications. Deliverable 9 will develop the work from Deliverable 5 re European Masters. Deliverable 10 will develop the work from deliverable 6 on content pilots.

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**Work package completion table:**

<i>Work package</i>	<i>% complete current period</i>	<i>% complete previous period</i>
1	100	20
2	95	20
3	95	05
4	100	10
5	95	05
6	50	10
7	100	10

<i>Work package</i>	<i>% complete current period</i>	<i>% complete previous period</i>
8	05	0
9	05	0
10	05	0
11	50	10
12	05	00

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*Appendix 1. Global view of levels of integration in access to cultural heritage.*

Level

1	Secure Access to Existing Examples				
2	Secure Multilingual Access to Existing Examples				
3	Secure Multilingual Access to Existing Examples	+ Semantic Access			
4	Secure Multilingual Access to Existing Examples	+ Semantic Access	+ Spatio-Temporal Access		
5	Secure Multilingual Access to Existing Examples	+ Semantic Access	+ Spatio-Temporal Access	+ Multimodal Access	
6	Secure Multilingual Access to Existing Examples	+ Semantic Access	+ Spatio-Temporal Access	+ Multimodal Access	+ E-Learning
7	Secure Multilingual Access to Existing Examples	+ Semantic Access	+ Spatio-Temporal Access	+ Multimodal Access	+ E-Learning E-Tourism, E-Entertainment

*Appendix 2: General Research Matrix for key challenges in digital culture.*

<p>Semantic Access to Documented Media in Memory Institutions</p> <p>Full Contents</p> <p>Manuscripts</p> <p>Archives</p> <p>Documents</p> <p>Letters</p> <p>Protocols</p> <p>Books</p> <p>Drawings</p> <p>Paintings</p> <p>Maps</p> <p>Cultural Objects</p> <p>Scientific Objects</p> <p>Radio</p> <p>Film</p> <p>Television</p> <p>Music</p> <p>Born Digital</p> <p>Art</p> <p>Internet Art</p> <p>Intangible</p> <p>Customs</p> <p>Dance</p> <p>Ceremony</p> <p>Ritual</p> <p>Performance</p>	<p>Spatio-Temporal Access to (Physical) Objects</p> <p>Object</p> <p>Room</p> <p>Building</p> <p>Site</p> <p>Archaeological</p> <p>City</p> <p>Landscape</p> <p>Route</p> <p>Changes</p> <p>Temporal</p> <p>Political</p> <p>Cultural</p>	<p>Multi-Modal Interfaces for Context, and Collaborative Creation</p> <p>Virtual Reference Rooms</p> <p>Classifications</p> <p>Dictionaries</p> <p>Encyclopaedias</p> <p>Authors, Titles</p> <p>Partial Contents</p> <p>Languages</p> <p>Transcriptions</p> <p>Translations</p> <p>Dialects</p> <p>Senses</p> <p>2D Vision</p> <p>3D Vision</p> <p>Autostereoscopy</p> <p>Stereoscopy</p> <p>3D Sound</p> <p>Haptic</p> <p>Smell</p> <p>Taste</p> <p>Displays</p> <p>Cellular Phone</p> <p>PDA</p> <p>Notebook</p> <p>Desktop</p> <p>Immersiondesk</p> <p>Wall Screen</p> <p>CAVE</p> <p>Blue Room</p> <p>IMAX</p> <p>IMAX 3D</p>	<p>Personal and Collaborative</p> <p>E-Learning</p> <p>E-Publishing</p> <p>E-Tourism</p> <p>E-Work</p> <p>Personal</p> <p>Authoring</p> <p>Collaborative</p> <p>Authoring</p> <p>Online</p> <p>Courses</p> <p>Online</p> <p>Resources</p>
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*Appendix 3: Macro Research Matrix. Bold characters indicate networks with which E-Culture Net has direct links. Those in large letters represent topics of focus. Those in small letters indicate areas and networks which should be related to E-Culture Net.*

<b>Portals</b>		<b>UNESCO Portal</b>
		European Portal
<b>Digitisation, Policy</b>		ESCHER (MINERVA)
<b>Research and Education</b>		<b>E-CULTURE NET</b>
<b>Infrastructure</b>	Software	OSDN
	Hardware	ERCIM
	Physical Networks	GEANT
<b>Content</b>	Memory Institutions	
	Libraries	DELOS
	Museums	NEMO
	Archives	EAN
	Broadcast Media	DHAN
	Unstable Media	<b>artnouveau</b>
	Music	MusicNetwork
	Built Environment	<b>CIHV</b>
	Conservation	<b>ENCORE</b>
	Preservation	<b>ERPANET</b>
<b>Context</b>	Catalogues, Inventories	<b>AMP, MINERVA Inventories</b>
	Meaning	<b>SEMKOS</b>
	Language	ELSNET
	Space (GIS,GPS)	EPISTAGE
	Knowledge	KDNet 2006

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	Discovery	
	Visualisation, Senses	CGVE
	Interfaces	CHARIS
<b>Communication</b>	Knowledge Management	CoCoDis-KM
<b>(Applications,Implications)</b>	Publication	EI-Pub
	E-Learning	European Schoolnet
	E-Work	cf.ITW
	Design	GeneDIP-Net
	Games	GAMERESEARCH-NET
	Entertainment	CROCE
	Tourism	TICKET
	Economics:	REDEEM:
	Societal Implications	EURO inc.

*Appendix 4. Micro-Level Research Matrix of Knowledge Life Cycle*

At the Micro level the Knowledge Life Cycle covers at least 110 activities. Networks, Organisations and Projects printed in **bold** are already members of E-Culture Net. E-Culture Net will provide new links between these areas and stimulate innovative interplay between Technologies and Infrastructure, Content Creators, Content Holders, Content Brokers, Context Creators. Content and Context Communication, Applications and Implications.

These Links will help to create a Research Matrix to serve as basis for the Distributed Electronic Resource (DEER).

	<b>Network</b>	<b>Organisation, Project</b>
<b>Technologies and Infrastructure</b>		
1. Technology (Software Tools and Freeware)	OSDN	<b>WWW, CWI</b>
2. Hardware	ERCIM	
3. Physical Networks (Broadband Pipelines)	GEANT	
4. Distributed Computing Systems Architectures	CaberNet	
5. Language and Speech	ELSNET	
6. Spatial Information: GIS, GPS	EPISTAGE	<b>EUROGI, GALILEO, Web3D</b>
7. Information and Data on Open Media	IDOMENEUS	
8. Agent-Based Computing	AgentLink, Agent-Cities	
9. Model-Based and Qualitative Reasoning Systems	MONET	
10. Neural Networks	NEURONET	
11. Uncertainty Techniques in IT	ERUDIT	
12. Complex Systems	EXYSTENCE	
13. Statistics	<b>EUROSTAT, CESDA</b>	
14. Quantification	QUANTUM	
15. Assess, Benchmark (QOS)	EFQM-EQFM	<b>MINERVA Benchmarking, ISO</b>



16. Law	IDG	
17. Economics (cf. 42-44, 105)	ENTER	
18. Ethics	EEN	
19. Policy	ESCHER (MINERVA)	
<b>Content Creation and Production</b>		
20. Work	Prodaec	AFTT
21. Requirements Engineering, FEDEP	RENOIR	
22. Design	UDN, GDN, o2	
23. Manufacture	GEN	
24. Produce	-----	
25. Create	-----	AMAS
<b>Content Holder, Protector, Supplier</b>		
26. Capture (Scan)	-----	<b>CRISATEL</b>
27. Store	-----	ISO SC11
28. Archive	-----	ICA ISAD(G),
29. Database (Distributed Heterogeneous)	-----	ISO SC 14 ISO/FDIS 12200, ISO/FDIS 12620 ISO/TR 12618
30. Compression	-----	MPEG 4 (7, 21)
31. Conserve, Preserve	<b>ENCORE, ERPANET</b>	ECPA, PRESTO
32. Access	<b>ERPANET</b>	ECPA, ARTISTE
33. Display, Interface		AVI, ACM SIGCHI
34. Restore	<b>ENCORE</b>	<b>C2RMF, ICR</b>
<b>Content Broker</b>		
35. Determine Veracity	-----	
36. Authenticate	-----	INDECS
37. Render Secure	-----	SETC, DOI, MOU E-Commerce




38. Copyright (Legal)	-----	WIPO ,INDECS
39. (IP) Rights Management	-----	INDECS
40. Encrypt	-----	EEC LAB DS, W3 Dsig
41. Licence	-----	CELIP
42. Transact (Financial)	-----	e-Gate
43. Administer	-----	EDIFACT
44. Exploit, Service Bureau	Regnet, OpenHeritage	
<b>Context Creator</b>		
45. Term	<b>Termnet</b>	<b>Infoterm</b> ISO TC37, SALT
46. Describe, Analyse	-----	ISO TC 46, ARTISTE
47. Class	-----	ISKO
48. Encode	-----	TEI, W3 XML
49. Index	-----	SoI, FAT
50. Create Ontology	Ontoweb, CHIOS	
51. Meta-Data (Disclose and Discover)	<b>SEMKOS</b>	UKOLN, W3 SW, DC, EMII-dcf
52. Reference	DELOS	DLF, IFLA, CIMI
53. Annotate	-----	Annotea, COLLATE
54. Search (Engines)	-----	FORTH
55. Concept Browse	-----	Interspace, Aquabrowser
56. Retrieve	-----	IRiX, ISO DFR
57. Data-mine, Knowledge Discover(y)	KDNet	
58. Knowledge Manage(ment)	CoCoDis-KM, VISION	
59. Filter	-----	ACM SIGIR
60. Analyse Scenes	SCHEMA	
61. Reconstruct (Virtual Heritage)	<b>CIHV</b> (VHN <b>IVHN</b> , HN, ORION)	
62. Augment (-ed Reality)	-----	Archeoguide
63. Transform, Morph	-----	



64. Translate	CHLT, CLEF	
65. Access Multilingually	AMP, ELSNET	ISO TC 37, G Group
66. Access Multiculturally	AMP	
67. Perceive	-----	AVI
68. Visualize (3-D Vision)	-----	AVI
69. Hear (3-D Sound)	-----	
70. Touch (Haptic)	-----	
71. Simulate		
72. Intelligent Objects	-----	
73. Intelligent Environments	-----	
74. Process Manage(ment), Workflow	WFMC	EPP (EEF) 3ITS
<b>Communication</b>		
75. Broadcast (cf. 85)	DHAN	
76. Narrowcast	-----	Ipv6
77. Mobile	Mobile VCE	
78. Disseminate (Conferences)	EVAN	
79. Disseminate (Publications)	CULTIVATE, DICE	
80. Teach (cf. 93)	E-Schoolnet, ELEN	
81. Forecast	-----	IPTS Seville
<b>Applications</b>		
82. Libraries	DELOS, PULMAN	IFLA, GABRIEL, CENL, CERL
83. Museums	EUROMUSE, SCRAN, C2RMF	ICOM
84. Archives	DLM Forum	ICA
85. Broadcast Media (Television Film) (cf.75)		CCAAA, ICOM- AVICOM , EBITU, MCAIIASA, AFCI, ASIFA,
86. New Media (Digital Photography)	artnouveau	
87. Unstable Media (Internet Art)	artnouveau (I-CAST, IKT)	INCCA , COVA



88. Performance Media	artnouveau (I-CAST)	AFAA
89. Tangible Heritage		<b>UNESCO</b>
90. Intangible Heritage	-----	<b>UNESCO</b>
91. Built Environment (Cities)	CIHV, ORION, VHN, IVHN,	ICOMOS, <b>NUME</b> , SANTI
92. Environment (Landscapes)	-----	Cultural Landscapes
93. Routes	-----	Hanseatic Routes, Silk Routes
94. Education (cf. 80)	European Schoolnet	
95. Tourism	FETISH' ETOUR' IFITT	ETA, TICKET
96. Entertainment	-----	IIC
97. Government	-----	GILS
98. Health, Medicine	-----	WHO, CEN TC 251
99. Industry	-----	MIRA
100. Military	-----	MIL-STD-1388
<b>Societal Implications</b>		
101. Philosophical	-----	
102. Epistemological	-----	
103. Knowledge Engineering	-----	
104. Historical	<b>NEHRN</b>	
105. Art Historical	-----	<b>Prometheus</b> , CHART
106. Art Theoretical	-----	
107. Sociological	-----	SOSIG, SCR
108. Anthropological	-----	
109. Political	-----	
110. Economical (cf. 17, 42-44)	-----	Eu. Historical Economics Society

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*Appendix 5. Dissemination activities:*

One important method of dissemination lies in the website:

<http://www.mmi.unimaas.nl/eculturenet/>.

Because E-Culture Net has been in a planning phase for the past years, publications and formal lectures on the idea go back at least one year. Those without a name are by the coordinator.

**Sections in Books**

COLORADO CASTELLARY, Arturo: "La Culture Digitale dans la Société de la Connaissance", *Culture Europe, Revue de presse internationale des professionnels de l'art et de la médiation culturelle*, N 37, Spécial "Patrimoine et Multimedia", octobre-novembre 2002, pp. 8-9.

COLORADO CASTELLARY, Arturo: "Empleo y patrimonio cultural, promoción económica y nuevas tecnologías en la sociedad de la información y del conocimiento," *Revista de Museología*, N 23, Madrid, diciembre de 2002, pp. 107-109.

MORENO, Isidro, "Musas y nuevas tecnologías." *El relato hipermedia*, Barcelona, Paidós, 2002, 240 págs (Muses and new Technologies. *The Hypermedia Story*, Barcelona, Paidós, 2002, 240 pages, [www.paidos.com](http://www.paidos.com) <<http://www.paidos.com>> )

GIANNOULIS G. & SISERIS A. "Digital documentation of cultural heritage". *Proceedings of the Hermes and Medressa Conference: Multimedia for Cultural Heritage*. Amman, Jordan.


"E-Culture Net: European Network of Centres of Excellence for Research and Education in Digital Culture. First steps towards a vision," *EVA Moscow*, /Moscow: Centre PIC of the Ministry of Culture, Russia, 2002, pp. 24-28.

<http://www.mmi.unimaas.nl/eculturenet/publicPDF/EVAMoscow2002.pdf>

"European Networks of Excellence and Japanese/UNESCO Silk Roads," *Tokyo Symposium for Digital Silk Roads, UNESCO, National Institute of Informatics, National Center of Sciences, Tokyo, 11-13 December, 2001*, Tokyo: National Institute for Informatics, 2002. pp. 135-145.

"Challenges of Virtual and Digital Culture," *Congreso Internacional Culturtec 2002, III European Conference: Employment and Cultural Heritage, Economic Development and New Technologies in the Information and Knowledge Society*, Madrid: Universidad Complutense de Madrid, 2002, pp. 1-10 (in press).

"European Networks of Excellence and Global Digital Culture," *EVA-Beijing*, Beijing, April 2002 (in press).

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## Lectures

Moscow, “E-Culture Net: European Network of Centres of Excellence for Research and Education in Digital Culture. First steps towards a vision,” *EVA Moscow*, Tretyokov Museum, 2 December 2002.

Innsbruck, “Keynote: Standardization, Localization and New Potentials for Education,” *Conference: Pedagogical Models: Creativity and Standarization - a contradiction?*, 30 November 2002. Plus seminar in developments on: “E-culture and e-learning.”

Feltre, “E-Culture, European Masters and European Doctorates in E-Culture,” UNESCO meeting, 12 November 2002.

Mont Tremblant City, “Closing Keynote: Les défis et les exigences de la culture pour les nouvelles technologies: Réflexions sur la cyberculture,” *ASTED 2002*, 9 Nov. 2002.

The Hague, “Envisioning our Digital Future,” *School for Scanning (SfS)* organized by NEDCC, Koninklijke Bibliotheek, 16 October 2002.

Catania, “Lo stato della arte e l'evoluzione delle tecnologie multimediali per la comunicazione del patrimonio culturale,” *Master (Recupero e valorizzazione dei BBCC) della Scuola Superiore di Catania*, 23 September, 2002.

Barcelona, “Keynote: Cross Cultural Problems of Europe in a Global Context,” European Association of Directory and Database Publishers (*EADP*), Rey Juan Carlos Hotel, 19 September, 2002.

Aranguez, “Los Retos del Arte Digital,” *Experimentaciones y Emergencias en las Artes Visuales, su Producción y Distribución* (*Experimentations and Emerging Visual Arts, its production and distribution*), Casa del Gobernador, 1 August 2002.

Maastricht, “Keynote: Virtual Museums: From Buildings to Environments,” *Amsterdam Maastricht Summer University*, Maastricht McLuhan Insitute, 11-14 July, 2002.

Paris, “Internet Domain Names and Classification Systems: Combining Past Experience with the Future,” The First Annual European Internet Domain Name Summit, Chambre de Commerce et d’Industrie de Paris, 2 rue de Viarmes, Paris 1er, 4 July 2002

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Madrid, "Opening Keynote: Challenges of Virtual and Digital Culture;" Chair: Round Table on Euro E-CultureNet, Culturtec 2002, 23-25 May 2002.

Beijing, "European Networks of Excellence and Global Digital Culture," EVA 2002 Beijing Electronic Imaging & the Visual Arts, 12-14 April, 2002.  
<http://www.eurochina2002.com/bandeau3.htm>

Falun, "Keynote: Frontiers in Digital Interpretation," and "Visions of Networked Culture," Digital Interpretation: To See the Unseen History, 7-9 April 2002.

Rotterdam, Chair: Tafelgesprekken: Ontsluiting, *Expert meeting copyright en digitale cultuur, V2*, Rotterdam, 13 March 2002. [www.virtueelplatform.nl](http://www.virtueelplatform.nl)

Luxembourg, "E-Content in the Next Five Years", European Commission, 31 January 2001.

Vienna, "Keynote: Augmented Digital Culture and ITS-Network of Centres of Excellence in Europe," *CultH-2 The Future of Digitized Cultural Heritage*, MuseumsQuartier Wien, Museum of Modern Art, Foundation Ludwig, 15 January 2002.

Tokyo, "European Networks of Excellence and Japanese Silk Roads," *Tokyo Symposium for Digital Silk Roads*, UNESCO, National Institute of Informatics, National Center of Sciences, Tokyo, 13 December, 2001. Variant given at the Hitachi Laboratory, Yokohama, 14 December 2001.

Brussels, "Die Möglichkeiten einer neuer Vernetzung der Kultur," *Jahrestagung ICOM-Deutschland 2001*, Koninklijke Armeemuseum, 8 December, 2001.

Vienna, "Keynote: Medien, Sprachen und Integration von Kommunikationsprozessen," *Vielsprachigkeit. Transnationalität, Kulturwissenschaften, Research Institute for Austrian and International Literature and Cultural Studies (INST)*, Vienna, 7 December 2001. <http://www.inst.at/termine/saverne.htm>

Moscow, "Cultural Networks: Europe and the World," *EVA Moscow 2001*, 3 December 2001.

Utrecht, "Dutch Networks of Excellence and The European Research Area," *OGC/OSL Symposium, The State of the Art. Geesteswetenschappen en ICT*, Utrecht, 9 November, 2001.

Copenhagen, "Workshop Speaker: Digital Communication of Cultural heritage and International Project Cooperation," Nordic Interactive Conference (NIC, 2001), Bella Conference Centre, 3 November 2001. See: <http://www.nordic-interactive.org/nic2001/>.

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Kathmandu, “Culture and the Future of the Internet,” Computer Association of Nepal, Russian Cultural Centre, 19 October 2001

Adelaide, “Art in the Age of Computers: How can Culture Survive Global Connectivity?” The Art Link Annual Public Lecture on Contemporary Art, Mercury Cinema, Adelaide, 7 October 2001.

Singapore, "Panel: Realising the Broadband Vision. Repositioning New Media and the Internet," *The 32<sup>nd</sup> Annual Conference of the International Institute of Communications: Governance and Cyberspace: The Substance after the Sizzle*, 1-4 October 2001.

Cortona, Seven Lectures, *Digital Systems for Publishing and Cultural Heritage Communications Course*, Cortona, 24-25 September 2001.

The Hague, "The Need for a Cultural Grid," *Eerste Nederlandse ICT-Kenniscongres*, 7 September 2001.

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*Appendix 6: Nadia Brakker*

## **Report on Workpackage number : 2 Expansion to NAS and Beyond**

### **Objectives**

The objective of WP2 is to explore how the emerging European network can expand to include the Newly Accessed States (NAS) and link with other networks around the world, to establish a roadmap for integrating research and teaching in digital culture in new members states (accession countries), in Eastern Europe in general, and in Asia in general.

### **Participants**

The University of Vienna, Austria

The Centre PIC, Russia

The Foundation of the Hellenic World, Greece

### **Documents submitted**

1. Report on NAS countries as a result of the University of Vienna, Austria survey
2. Report on Russia as a result of Centre PIC, Russia survey
3. Report on Mediterranean area prepared by the Foundation of the Hellenic World, Greece
4. Current Status in USA concerning cultural heritage as a result of the Foundation of the Hellenic World, Greece survey

### **Countries covered**

The survey covers 27 countries, namely:

1. Albania	8. Greece	15. Lebanon	22. Russia
2. Algeria	9. Egypt	16. Lithuania	23. Slovakia
3. Belarus	10. Estonia	17. Malta	24. Syria
4. Bulgaria	11. Hungary	18. Morocco	25. Tunisia
5. Croatia	12. Israel	19. Palestinian Authority	26. Turkey
6. Cyprus	13. Jordan	20. Poland	27. USA
7. Czech Republic	14. Latvia	21. Romania	

Detailed description of the digital culture situation and perspectives in Estonia, Czech Republic, Russia.

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A few collaborative efforts in the USA are presented, concerning digitisation and exchange of cultural heritage knowledge. The next generation Internet is examined as a promising answer for supporting applications based on cultural heritage content.

### *Institutions and networks analysed*

In each country the most valuable institutions in digital culture policy, research, content creation and promotion, education and training were contacted, namely:

- Ministries or other governmental organisations
- Universities
- Memory institutions: libraries, museums and archives
- Research and Technology Centres
- Non-commercial organizations and agencies for management, technologies, networking in culture and tourism
- Professional associations, unions, societies
- National and international e-culture networks and institutions with networking features
- National branches of UNESCO, IFLA, ICOM, ICOMOS

The digital culture activities of the selected institutions were analysed with respect to perspective participation in E-cultureNet related to the research matrix topics, DEER, European Masters and Doctorate programmes and Integrated Projects. Letters of Intent and activities descriptions of the interested institutions were gathered.

As a result the following institutions expressed their interest to E-CultureNet activities in Letters of Intent:

CEE countries: 20 (14 more are expected)


Russia: 25 with total number of about 300 researchers (4 more letters are expected)

Mediterranean region: 2 (4 more are expected)

For CEE, Russia and Mediterranean region the most valuable internet-resources as well as relevant conferences and events are listed.

For some countries (Czech Republic, Russia) government policies in digitisation and digital culture are explored; for Russia administrative and financial issues, technical and Internet situation, prospects for broadband and mobile Internet are analysed.

### *Conclusions*

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The level of cultural traditions in all fields as well as education and research in culture in general is very high. In the area of their digital presence, either in digitised form or originated as digital culture, varies from country to country, with some countries showing a very high level of expertise and investment in digital culture and education and research in particular (e.g. Estonia, Russia).

The diversity of traditions, together with the extreme diversity of standards of living and cultural traditions, the situation is quite fragmented. Many NAS countries have re-oriented their cultural policies towards Europe and have participated, through their ministries as well as through their universities, museums, libraries, etc. in EU co-operation projects. Russian cultural and research institutions have just started to be involved in EU projects.

Networking has been practised in various areas such as libraries and museums, both on national levels and on levels of CEE countries and European co-operation. Many CEE and Russian institutions have participated actively on the international level (IFLA, ICOM, UNESCO, etc.). Initiatives such as Culture Link and Cultivate are of particular importance for this survey and for the purposes of E-CultureNet as future co-operation partners.

The opportunities that are opened up for East-West integration in E-CultureNet are welcome and interest is very big in joining this network. The roadmap sketched provisionally by the co-ordinator of E-CultureNet is generally welcome and accepted.

In research and digitisation of cultural content, some countries show a dramatic lack of funding, while other countries show high standards of research in all areas of digital culture. In education, the situation is similar. Soros Foundation activities in CEE and Russia was significant and really stimulated and moved on digital culture activities but in future Soros influence and financial support will be considerably shortened.

NAS, Russia and Mediterranean countries developed an impressive volume of digital cultural heritage opened on the Internet mostly in national languages. It is needed to make it available for EU research and education through multilingual multicultural access.

Special attention should be paid on ethnography, cultural anthropology, folklore, intangible heritage studies in NAS and Russia as a base of further researches in these fields for development instruments for multilingual multicultural access to diversified digital cultural heritage.

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Semantic Web activities are of special importance. It is needed to include as many European languages as possible into existing and developing classification systems, automated dictionaries, thesauri etc.

In the coming years European Masters and Doctorates in digital culture will be readily accepted and welcome in NAS countries and Russia with their national academic courses and curricula re-oriented towards the Bologna Declaration with the three-tier system of BA/MA/PhD. Special training programmes (including distant learning courses) for CEE, Russia and Mediterranean digital culture specialists is needed to spread results of EU projects, to foster integration into EU digital culture activities with support of common standards and meta-data.

The accession of several countries to the EU in May 2004 will further intensify the active participation of the countries concerned in the 6th Framework Programme and other programmes where culture in general and digital culture in particular are included and where funding opportunities are found.

For area-wide participation in DEER major investments in technical infrastructures such as broadband backbones and distributed high speed networks and services are obviously necessary. Information literacy will be a major factor in education as a prerequisite for wide active participation in such networks in all institutions concerned. Best practices have been made public and known, but systematic knowledge transfer is still needed in order to build up networks of excellence around the existing competence centres that are clearly visible.

What is needed to be done in the nearest future:

- Further digitisation of the available cultural heritage content, preferably in a standardised way in order to facilitate exchange
- Development of user-oriented Applications based on this content (mostly with advanced technologies such as immersive virtual reality productions)
- Relative demonstrations to the public and to scientific community through exhibitions or conferences
- Visibility of existing digital cultural content in Europe and world wide through multilingual multicultural access
- Wider participation in EU digital culture activities
- Networks of excellence for cultural heritage within the FP6
- Training programmes (including distant learning courses) for CEE, Russia and Mediterranean digital culture specialists
- Stronger co-operation between the Ministries of Culture of the involved European countries

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- Establishment of connections with other countries, such as the USA, for knowledge transfer to NAS, Russia, Mediterranean countries
- Post-graduates and specialists exchange in the framework of European Masters and Doctorates Programmes.

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*Appendix 7. Progress Report from Foundation of the Hellenic World on a Greek network*

FHW aimed at creating two regional networks to be incorporated in the existing e-culture network, namely a Greek and a Mediterranean network. The FHW has examined the prospect of new members' accession from Greece and the Mediterranean region. It has explored the possibility of establishing links with:

- singular organizations in the Mediterranean area
- other networks

More specifically, FHW has contacted the most prestigious institutions in the region specializing in digital culture content creation and promotion. FHW's research focused on Greece, the Middle East and North Africa.

As far as the Greek network is concerned, FHW organised the local greek e-culturenet including 6 greek institutions (National and Technical University of Athens, FORTH, Dimokritos National Centre for Scientific Research, Institute of Language Processing, Informatics and Telematics Institute and University of the Aegean), that have already submitted letters of intend for their participation to E-culture net. FHW has contacted a number of prestigious institutions related to digital culture productions and is still expecting expressions of interest from the National Centre for Book, Academic Research ComputerTechnology Institute, Benaki Museum, Museum of the Cycladic Art and Department of Informatics of the University of Athens.

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*Appendix 8 European Masters and Doctorates*

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*Appendix 9. Suzanne Keene, THE DEER: The Distributed European Electronic Resource Including feedback from E-Culture Net conference 11-14 December 2002*

## **Purpose of the DEER**

The DEER will provide a means of ensuring that the products of cultural research, content, and application development are permanently available for the people of Europe. It will be a digital online resource for research and learning in European culture, using the technologies of e-science and distributed computing (grid computing). It will be a work platform for collaborative research, and an accessible repository for distributed digital materials.

## **DEER principles**

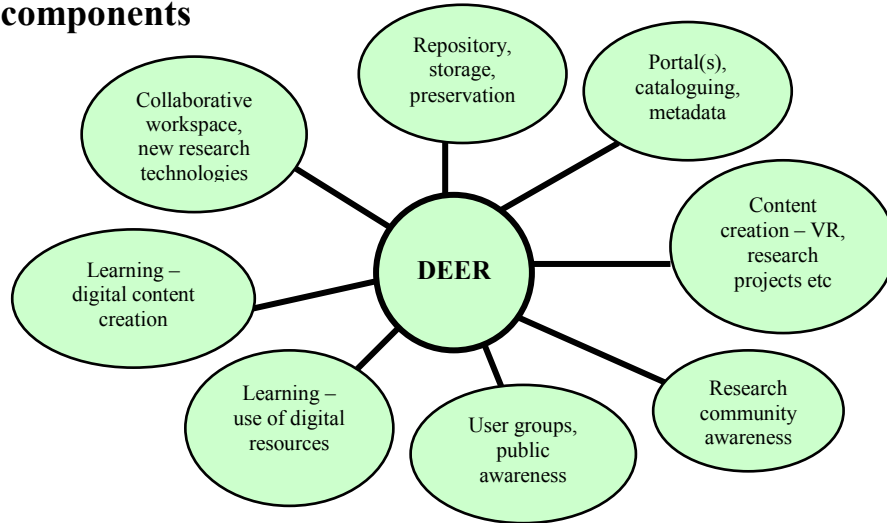
The DEER will be: overarching; visionary and forward looking; provide for the unity and diversity of European culture; a multilingual and multinational resource; permanent; provide for interoperability for distributed resources; bring users to the foreground; for communication, creativity and joint working; for education, learning and inspiration.

Who is the DEER for?

- The European research community
- A range of user communities:
  - Content creators
  - Content users and re-purposers
  - Learners, the public, those with special needs
  - Commercial exploiters



### DEER components



### DEER outcomes

The DEER will add value to the services already provided by national research content networks, by developing the technologies and tools for collaborative research and by making European digital cultural content more widely accessible. The products of research will become available for continuous learning and teaching and for commercial uses such as tourism, publishing, networked information for the public, and information for planning and development. As has already happened in some countries, the value of pooling digital resources and carrying out integrated research and development will ensure that it continues to be supported by national institutions.

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18 December 2002