

 The logo for e-culture net features a stylized profile of a classical figure's head on the left, with a grid pattern extending from it. To the right of the image, the text "e-culture net" is written in a blue, lowercase, sans-serif font.	IST-2001-37491	WP4	D9 Masters
---	----------------	-----	---------------

IST-2001-37491

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

Work Package 4 – Deliverable 9

European Masters in Digital Culture

Contact:

Kim H. Veltman

Maastricht McLuhan Institute

Universiteit Maastricht

Grote Gracht 82

6211 SZ Maastricht

The Netherlands

Phone: +31 43 3882699

Fax: +31 43 3252930

Mail to: k.veltman@mml.unimaas.nl

	IST-2001-37491	WP4	D9 Masters
---	----------------	-----	---------------

<i>Project Number</i>	IST-2001-37491
<i>Project Title</i>	European Network of Centres of Excellence for Research and Education in Digital Culture (E-Culture Net)
<i>Document Type</i>	PU – Public usage of the result
<i>Document Number</i>	D9
<i>Contractual date of delivery</i>	01-06-2003
<i>Actual date of delivery</i>	16-06-2003
<i>Title of Document</i>	European Masters in Digital Culture
<i>Contributing work package</i>	WP4
<i>Nature of Document</i>	Report
<i>Author(s)</i>	Benedetto Benedetti
<i>Abstract</i>	Deliverable

	IST-2001-37491	WP4	D9 Masters
---	----------------	-----	---------------

Contents:

GENERAL GUIDELINES.....	4
Cooperation in E-CultureNet towards an European program of Master course	4
Epistemic Effects of Web Technologies and Media Mixes	4
Functional Integration in eLearning System Architectures.....	5
Architecture	5
Outlook (cross-cultural eLearning)	6
The Education and Training Platform.....	6
Competences	6
Qualifications	6
Knowledge.....	6
Organizational forms and processes.....	7
Real cross-disciplinarity	7
Curriculum Design – Specialization vs. Generic Approach.....	7
Organizational challenges	7
Professional Profiles?	8
Training Needs for Librarians in Digital Libraries	8
Cross-disciplinary competence mix needed for new professional profiles.....	8
New Policies for Digital Culture.....	8
Scientific and Cultural Digital Heritage.....	9
Cultural technologies.....	9
Research and Training: The Theoretical Base	10
A. A Long Term Programme of the SNS to be integrated by the Programme of the other Partners .	12
I. Thematic Cycle of Courses on Textual and Visual Databases	13
II. Thematic Cycle of Courses on Database Processing for Conservation Intervention on Monumental Complexes.....	14
III. Thematic Cycle of Courses on Projecting of Museum Communication.....	15
B. A Short-term “Minimal” Proposal.....	16

	IST-2001-37491	WP4	D9 Masters
---	----------------	-----	---------------

GENERAL GUIDELINES

- Common practice in some disciplines
- Ministries of education encourage universities to enter joint degree programs and supra-national initiatives
- Currently a work package in **E-CultureNet** to design a European Master and a European PhD program in Digital Culture (covering specializations such as museum management, archival management, digital library management, preservation of cultural objects, etc.): Benedetto Benedetti at Scuola Normale Superiore in Pisa (building upon their international courses in Cortona), Francesca Bocchi in Bologna, Manfred Thaller in Cologne, Gerhard Budin in Vienna, ICIMSS, Free University Amsterdam, many “memory institutions” and companies are actively involved, and additional partners are to be considered as new operative partners.
- Still many legal, administrative, and logistical problems have to be tackled

Cooperation in E-CultureNet towards an European program of Master course

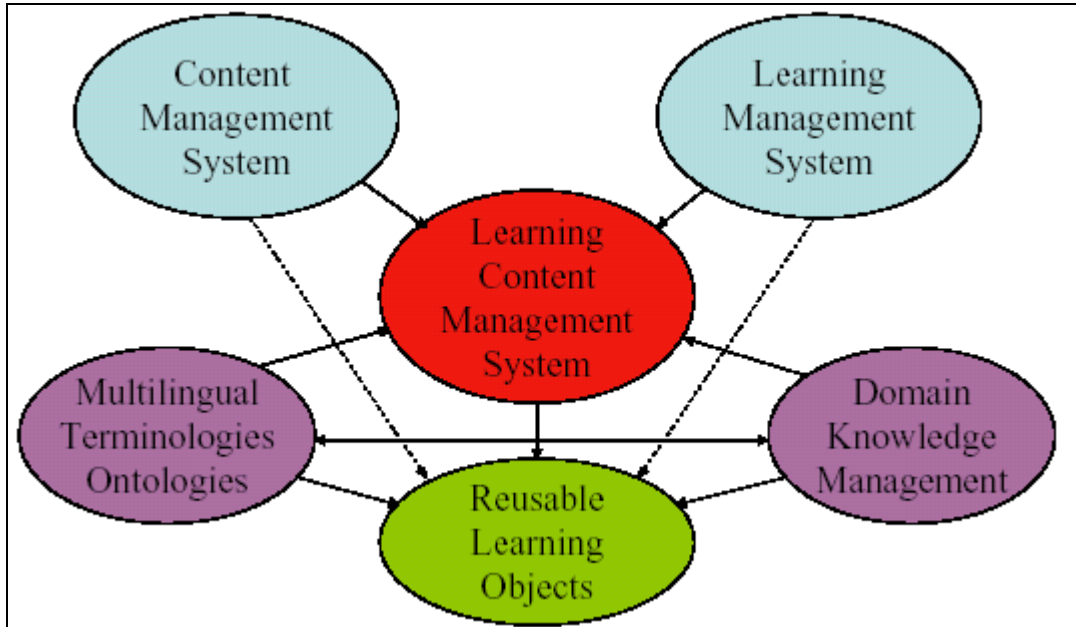
- Focus: education and research in digital culture
- At present a thematic network project in the digicult area
 - Research matrix
 - NAS and beyond
 - DEER (distributed Europ. electronic resource)
- European Masters (and Doctorates)

Epistemic Effects of Web Technologies and Media Mixes

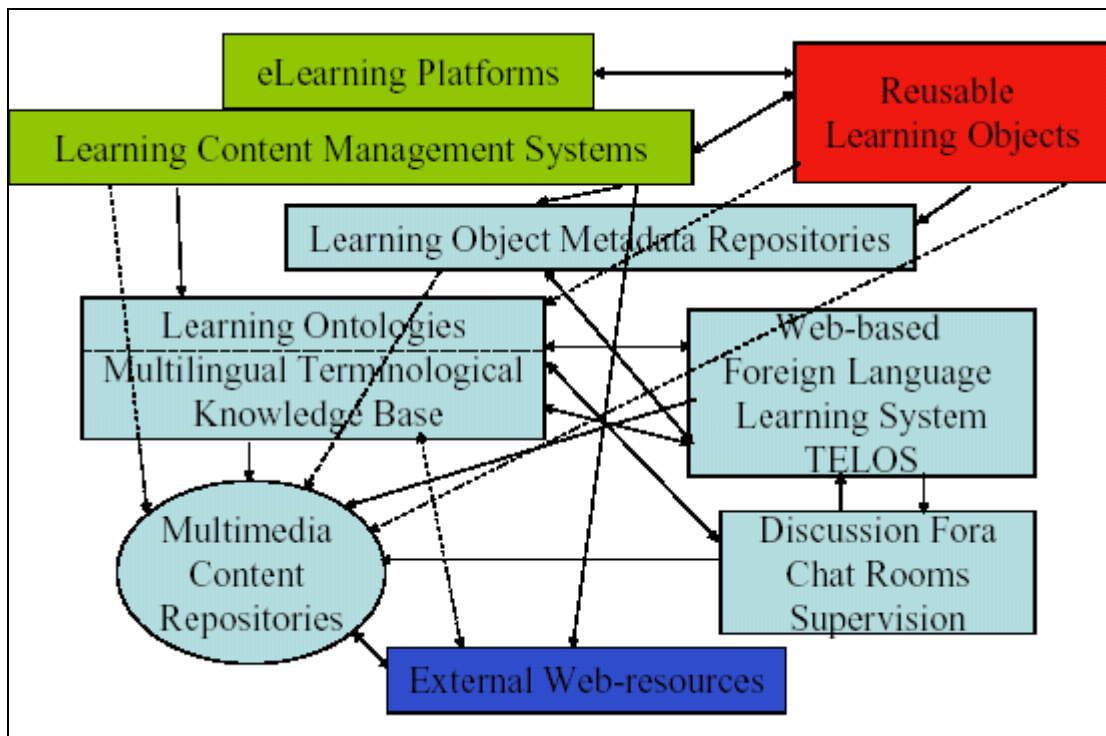
- Assistance in associative linking and thinking, knowledge organization
- Online Visualization
- Chats, MUD, etc. – new discourse models
- New knowledge models in tele-identities
- Semantic Web Technologies help organize personal knowledge
- Neo-Encyclopedism
- Cognitive effects of Online Learning



Functional Integration in eLearning System Architectures



Architecture



	IST-2001-37491	WP4	D9 Masters
---	----------------	-----	---------------

Outlook (Cross-cultural eLearning)

- Terminological Knowledge Organisation for eLearning in general and for improving and extending learning content management systems
- Towards an empirical-based Cross-cultural Curriculum Design for Multilingual Domain-specific eLearning
- Pedagogical aspects of distributed multimedia-multimodal eLearning across cultural communities
- Community-of-Practice approach

The Education and Training Platform

Technical issues and workflow issues in embedding the system in heterogeneous eLearning systems -> standards, interoperability of learning objects, etc.

Competences

- A competence is a demonstrated individual capacity to use know-how, skills, qualifications or knowledge in order to meet occupational challenges and requirements
- Types of competences: social, communicative, management, subject knowledge/technical/operational, vertical vs. horizontal competences

Qualifications

- A qualification is an official record of achievement or the requirements for an individual to enter an occupation

Knowledge

- Types and forms of knowledge (explicit, implicit, procedural, declarative, etc.)
- Knowledge acquisition, Knowledge organization, knowledge management

 e-culture net	IST-2001-37491	WP4	D9 Masters
--	----------------	-----	---------------

Organizational forms and processes

- Formal vs. informal learning processes
- Seminars, workshops
- Courses
- Harmonization of formal academic curricula in Europe: three-tier system (B.A./M.A./PhD – 3/2/3 years)
- Accreditation
- Evaluation, Quality Management
- Different degrees and forms of eLearning support

Real cross-disciplinarity

- Cross-disciplinary aspect: oriented towards problems and issues rather than disciplinary borders between cultural studies, philologies/linguistics/ literary studies/ translation studies/semiotics, etc., epistemology, archaeology, history, sociology, art theory/art history, artistic methods/processes, philosophy, sociology, neuroscience/psychology, cognitive science, ICT -> cultural informatics, ethnology/social anthropology, museum studies, library studies, archival studies, etc., and many combinations among them
- Pluralism of theories and methods, multitude of views and perspectives

Curriculum Design – Specialization vs. Generic Approach

- Many different projects, networks, and courses on the European/international levels and on national levels
- Different steps: comparison of curricula, making them compatible (e.g. ECTS), complementary modules
- Specialization AND generic/comparative/integrative overviews, modular approach, using local strengths
- Possibility of a generic European M.A. in digital culture with multiple specializations
- Overcoming language barriers and lack of resources
- Mobility of students and teachers

Organizational challenges

- Harmonisation, mutual recognition of curricula, qualifications, a gradual process
- Many examples of European Masters and Doctorates in different disciplines
- Bilateral cooperation, joint study degrees
- Joint supervision of M.A. and doctoral theses, joint summer academies (as regular modules)
- Mobility of students and teachers
- Accreditation, Evaluation

	IST-2001-37491	WP4	D9 Masters
---	----------------	-----	---------------

Professional Profiles?

- Increasing fluctuation and speed of change in professional profiles
- Recombination of existing ones, emergence of new profiles
- Competence bundles, Personalized approach in competence management (passport, portfolio models)
- Example: librarians, archivists:

Training Needs for Librarians in Digital Libraries

- ‘Traditional’ communities of librarians, archivists, documentalists, museum curators, etc.
- Computer scientists who developed an interest in digital libraries (see for instance the ECDL community in recent years)
- > ‘cross-fertilization’ has started, and it is gaining momentum
- > toward a ‘new species’ of truly digital librarians, cybrarians, digital archivists, virtual museum specialists, etc.
- > division of labor and cooperative work, workflows

Cross-disciplinary competence mix needed for new professional profiles

- ICT, metadata architectures, data modelling, dbm, web engineering, new media management, data warehouses and repositories, W3C/ISO standards and technologies, interoperability/access protocols, mining, filtering, HLT, ...
- Digitization techniques, intellectual property mgmt.
- Storage, archiving, preserving methods and strategies
- Information design, web design, usability engineering, user studies, web services, content management, communication strategies
- Digital library management, collection management, collaborative/federated approaches, content management, project management, cross-cultural and multilingual issues
- Knowledge organization, ontologies, advanced indexing and retrieval methods, visualization...

New Policies for Digital Culture

- Discuss broad concepts of culture
- Strengthening the cooperation among heterogeneous entities and networks
- Interlink local and global responsibilities
- Assessing the impacts of digitisation
- Toward user orientation, targeting, focusing
- Enabling, empowering, emancipating
- Best practices, standards, for both, low end and high end technologies
- Economic models, sustainability

deliverable9masters.doc	report	01 August 2003	8 / 8
-------------------------	--------	----------------	-------

 e-culture net	IST-2001-37491	WP4	D9 Masters
--	----------------	-----	---------------

- Intellectual property right management
- Information ecologies, epistemologies

Scientific and Cultural Digital Heritage

to cover all aspects of culture

- Science as culture
- Popular culture
- A coherent content management approach needed, beyond preservation and digitization
- Beyond mere access toward re-use, re-integration, re-interpretation of historical information
- Think of the history and heritage of tomorrow (today's culture is the heritage of tomorrow)
- We need many more digital cultural heritage specialists

Cultural technologies

- Preservation, storage, archiving
- Digitization
- Visualization
- Digital libraries, digital archives, virtual museums
- Access methods, information filtering
- Virtual reality
- Copyright management
- New cultures: online cultures, net art, telepresence, virtual communities, etc.
- Ordering, linking, structuring
- Interpreting, analyzing
- Geo-referencing
- Filtering, mining, retrieving, searching
- Modelling

	IST-2001-37491	WP4	D9 Masters
---	----------------	-----	---------------

Research and Training: The Theoretical Base

In the theoretical basis of the Master we are proposing in E-Culture-Net we aim at focusing our research on the methodologies and the evolution of the concepts of perception and representation in art and scientific treatises. We aim to develop a theoretical base on which to integrate the different topics to make as the main guidelines inside of the different modules by which the platform of methodologies and applications will be composed.

In this perspective we consider both a basic methodological approach and a characterising element to plan and develop a program of applied research integrated in the training modules as a necessary methodological premise. This premise that will be common to all of the modules which will compose the different and specialised sections of the Master program we want to develop and perform concerns a research approach to Perception and Representation between art and science. This basic approach will be performed through the participation to the courses of scholars and specialists pertaining to scientific sectors very different and distant. A program of workshops where to realize the meeting and the debates between different methodologies, approaches and “schools” will constitute a characterising basic structure of the education program of the Masters.

The research applied to Perception and Presentation between Art and Science aims to offer a meeting place for scholars from a variety of different disciplines. This also grows out of experiences which have been conducted for some time at the SNS in the context of the use of Information and Communication Technologies for Cultural Heritage (CRIBECU) and particularly with respect to the work these past years at the Centre for the Informatic Elaboration of Text and Image in the Literature Tradition which has the task of constructing specific databases, reflecting either problems of perception of representation of texts and images.

This platform of different approaches will pursue the experiences in training and education performed by the Scuola Normale of Pisa since 1996 in the field of ICT applied to Cultural heritage and will offer a direct and interactive comparison scholars already cooperating in this project as mathematicians and computer engineers (Sanjoy Mitter, MIT, Boston, Charles Rockland, Univ. of Iowa) neurobiologists as , Lamberto Maffei, SNS of Pisa) and philosophers as (Claude Imbert, Ecole Normale of Paris) together with contemporary artists as Paolo Rosa (Studio Azzurro, Milan) and Bill Viola , concerned with new patterns of ICT services to be implemented in their creative laboratories.

ICT Laboratories of Scuola Normale of Pisa which operate in the Master program:

- CRIBECU Centro di ricerche Informatiche per i Beni Culturali
- CTL-Centro per l'Elaborazione Informatica di Parole e Immagini nella Tradizione Letteraria (Centre for digitisation of texts and images of the literary tradition)
- **Consorzio FORMA , with its seat inside of the SNS of Pisa and having as members:**

Running Collaborations :

- Prof. Sanjoy Mitter, MIT Boston-Control Systems, pattern recognition, analysis of vision and perception
- Prof. Manfred Thaller, Universität Köln-Text-retrieval indexing of texts and manuscripts, virtual libraries
- Prof. Gerhard Budin, Universität Wien, Dipartimento di Scienze del Linguaggio

deliverable9masters.doc	report	01 August 2003	10 / 10
-------------------------	--------	----------------	---------

	IST-2001-37491	WP4	D9 Masters
---	----------------	-----	---------------

- Ricerche sul *semantic WEB*, interoperability, multilingual WEB communication
- Prof. Marco Gaiani, Politecnico of Milan, 3D modelling, virtual reconstruction, data bases of images
- Grafica digitale, ricostruzioni 3D, banche dati di complessi monumentali.
- Prof. Paolo Paolini, Politecnico of Milan and University of Lugano –CH (modelling of WEB site, interoperable platforms)
- Modellazione e progettazione di siti web, progettazione di piattaforme interoperabili fra istituti centrali e enti locali periferici.
- Prof. Kim Veltman, Mc Luhan Institute (Interoperability, High Definition for Cultural Heritage, innnovation assessment)
- Prof. Beniamino Di Martino, University Federico II of Neaples . (Compiler Techniques for High Performance Computing, Parallel Computing and Architectures, Automated Program Analysis and Transformation, Pattern Recognition, Image Analysis).

Future cooperations are foreseen with :

- Istituto Centrale del Restauro, Rome
- Neue Sammlung, Munich (Contemporary Design)
- Victoria and Albert, London
- Louvre, Paris (sector : education and communication)
- Soprintendenza di Pompei, Pompei
- Galleria degli Uffizi, Florence

 e-culture net	IST-2001-37491	WP4	D9 Masters
--	----------------	-----	---------------

A. A Long Term Programme of the SNS to be integrated by the Programme of the other Partners

The master to be realized inside of the ECN group can be developed along the lines of the successful experience of the Cortona masters of the SNS and increasing the international cooperation as a wider platform of approaches and methodologies.

The programme has been constituted as one offering three different professional segments of final competence, based on a common platform of introductory ICT methodologies on cultural heritage systems (analysis and data base processing of libraries, visual&textual archives, monumental complexes, web languages, innovative perception technologies, diffusion of critical knowledge as how to select personal tailored levels of training and information)

1. ICT methodologies for conservation
2. Database for digital libraries and virtual reconstructions
3. Cultural planning as managing and projecting museums and exhibitions

	IST-2001-37491	WP4	D9 Masters
---	----------------	-----	---------------

I. Thematic Cycle of Courses on Textual and Visual Databases

Planning and processing of data bases pertaining to digital treatment of texts and images. Virtual libraries are to be achieved operating on line and on CD/dvd supports.

Related EC projects : I-Mass, Meta-e (both running)

Content and themes:

a. Digitised Archives of texts and images (modified XML –TReSy) for a on line collection of marked and indexed Texts:

- Architectural Treatises (L.B.Alberti, Vitruvius)
- Art Treatises and texts(Vasari, L. da Vinci, Michelangelo)
- Specialised Lexica (Vocabolario della Crusca)
- Encyclopaedia
- “Historical” Translations

b. Specialised Libraries


BIVIO project (started 2001) Biblioteca Virtuale On Line of the Rinascimento
Data Base of texts and images related to the documentation and the Fortuna Visiva of the Renaissance (in co-operation with the Istituto Nazionale degli Studi sul Rinascimento , in convention with the Warburg Institute of London)

www.bivionline.it

c. Project on Leonardo da Vinci manuscripts (in cooperation agreement with Museo Leonardo da Vinci, Vinci) (starting)

Partners, beside the lead, Museo of Vinci:

- Gerhard Budin –Univ. Wien
- Manfred Thaller, Univ. Koeln
- Kim Veltman as the scientific consultant on Leonardo da Vinci’s works

	IST-2001-37491	WP4	D9 Masters
---	----------------	-----	---------------

II. Thematic Cycle of Courses on Database Processing for Conservation Intervention on Monumental Complexes

Analysis of visual and historical–technical data, processing of the data to be organised inside of an information system to build up a virtual–historical reconstruction of a monumental (archaeological, architectural, artistic, and textual-visual data base).

Pilot Projects on Monumental complexes:

Methodology reconstruction and information processing of data bases and GIS platforms supporting mapped and georeferenced visual and textual documentation

- Assisi (XIX and XX state of the frescoes of Giotto) with Istituto Centrale del Restauro (running since 2001)
- Pompei project with the Pompei Directorate (Soprintendenza)
 - a) visual reconstruction of the Pompei state in XIX century
 - b) GIS supported data base of the historical documentation of the excavation campaigns and of the conservation intervention (starting)
- Leaning Tower Project of conservation, supported and financed by the International Safeguard Committee. The project has been now developed to the whole of the historic reconstruction of the Piazza dei Miracoli (to be finished at the end of this year).
- Reconstruction of the XVII Century Rome through the texts of Bellori (finished)
- Palazzo Pitti of Florence, as the seat of the Medici family: reconstruction of the development of the different inner arrangements and furnishings through inventories and historical archives.

The index of the following items means to give a draft programme of applied researches already running in our ICT Center of the Scuola Normale that can be used as far as customised and properly tailored to the requirements of didactic and edutainment e-book materials to be addressed to schools, universities and tourism cultural products.

I. “Palaces”, castles and Architectural Complexes as Royal Residences:

- Palazzo Vecchio in Florence (*in the beginning phase*)
- The Quirinale in Rome (now the official residence of the President of Italian Republic)
- Fontainebleau in France
- Vienna, Schloss Schoenbrunn

II. Monumental complexes and archaeological sites

- Pompei archaeological site (*running*)
- Assisi, The Basilica with the cycle of frescoes of Giotto
- Pisa: the Piazza dei Miracoli with the Leaning Tower
- Piero della Francesca “La Flagellazione” : the geometrical analysis of the perspective of this famous painting. A prototype reconstruction for schools for didactical purposes.

	IST-2001-37491	WP4	D9 Masters
---	----------------	-----	---------------

III. Thematic Cycle of Courses on Projecting of Museum Communication

Related task: to constitute an international center to develop studies, projects, training programmes in the field of museology and museum communication.


Museum communication is to build up a new museum (involving exhibition structures) or to “re-style” or innovate an “old” one. Museum can be meant in broad sense involving: archaeological sites, palaces, castles, monumental complexes to restored and arranged for visitors.

The related methodologies for a best practice approach can involve:

- Analysis of the mission and the objective of the museum in coherence with its “objects” as concerning its cultural identity (and of its territory)
- Planning and designing a “revised” selection of the object in coherence with the revised mission and the objectives to be reached in terms of cultural and sustainable exploitation
- Defining and designing a systems of “services, devices and tools for communicating the content of the museum through a new exhibiting structure
- Cultural strategies of communication must be defined in terms of technical equipment for the exhibition and the related cultural services to be promoted
- Protocols of best practice for museum organisation and maintainance are to drawn up as a following of meetings, consulting exchanges and debates among the main partners in order to achieve a common base of intents with “customised or customisable” hand books or proposals to be submitted to others museum on request.
- Data bases of pilot cases can be arranged for consulting and access also in order to define a common platform of different approaches of intervention

Main Partners already Participant to this Sub-programme:

- The Fondazione Cini of Venice: will act both as an international seat for meetings, workshops and a sample of authoritative structure for museum, photographic archive, different kinds of collections (objects, dresses), exhibitions, libraries, specialised training courses.
- Victoria&Albert Museum, focusing the newly realised complete re-building and re-designing of the exhibition structure
- Louvre, Staatliche Museen zu Berlin,
- Palace of Schönbrunn, Vienna,
- Museum of Leonardo da Vinci, Vinci
- Pompeii archaeological site, museums of Rome
- Museum of Design in Munich (a huge structure very successfully inaugurated in 2002, integrating a wide range approach to contemporary design and exhibiting the evolution of industrial and technical “objects” and materials to match applied researches and artistic developments in most sectors of design)
- (contacted and in course of agreement : Philadelphia museum and Smithsonian museum of Washington)
- to be contacted : Thyssen Foundation

	IST-2001-37491	WP4	D9 Masters
---	----------------	-----	---------------

B. A Short-term “Minimal” Proposal

Financial support and provisional budgets for the courses

Actually SNS has been supported by the Provincia di Pisa, in the terms of an agreement , for the period 2003-2004, as a grant for a biannual education&training programme to be performed in the medieval centre of Volterra (Pisa):

- 300.000 € for a master course
- 60.000 € for a cycle of specialising courses, also in form of workshops, whose length and number is to be defined by the SNS.

The Master and the course to be supported and realised at Volterra could be organised as the first products of the ECN group and be focused on

Master:

Cultural planning of a territory with diffused cultural resources (integrating in a tailored profile for young graduated people

- Content and methodologies points 1-2-3 above , including GIS methodologies

Specialising course:

Projecting a new museum or redesigning an “old” one (point 3 above)

The modules, particularly those of the specialising part, should be constituted by thematic sub-modules of a week, that can be addressed also to professionals or “already on the job” young people as tailored short courses to update or improve their skill