Italy

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Policy

Policy scenario for digitisation

The present document reflects only the first step of a wider research: up to now have only been considered the cultural activities carried out in the field of digitisation by the Italian Ministry for Cultural Heritage and Activities (henceforth MiBAC) and all the institutes depending on it, by the Regions and by some other public bodies.

At the moment, the survey has not considered the domain of universities and research that, nonetheless, represents a very important reference in terms of training activities, research and the creation and management of digital collections.

Terms of reference and National policy profile

The Lund Principles and the NRG Term of reference have been acknowledged and endorsed in Italy at the highest political level by the General Secretariat and the Cabinet of the Minister of MiBAC (`http://www.beniculturali.it`), and by all the operative institutions of the ministry itself, i.e. the eight General Directorates (Libraries and Cultural Institutes, Archaeology, Archives, Museums, Cinema, Performing Arts, Architectural and Landscape Treasures, Contemporary Architecture and Art) and the four Central Institutes (Restoration, Union Catalogue of the Italian Libraries, Cataloguing and Documentation, Book Pathology) that deal with different aspects of Italian cultural heritage. The same perspective is shared by the Co-ordination of the Regions, the territorial Italian districts which have under their responsibility the management of many cultural resources; it should be

stressed that, under Italian legislation, the Regions are entirely responsible for museums and libraries of local authorities, which represent the largest number of such institutions in the country. Accordingly, Regions have issued their own by-laws.

On the basis of these preambles, all these institutions agreed on the opportunity to implement the Lund Action Plan by organising international events concerning the digitisation of cultural heritage during the Italian presidency of EU in the second half of 2003. MiBAC, in order to implement the Lund Principles and Action Plan in Italy, along side the actions undertaken by Minerva, set up by official acts:

- a **National Commission,** chaired by the Italian Representative of the NRG, Rossella Caffo, for harmonising policies and programmes on digitisation, supporting and implementing all the NRG activities; the purpose of the Commission is to constantly update the National Policy Profile, studying the possibilities offered by the 6th Framework Programme for cultural heritage and organizing events during the Italian presidency of the EU. It is supported in its activities by the 6th Service Informatics and Statistics of MiBAC, directed by the Italian representative of the NRG;
- **three Italian working groups** on: *Web sites quality, Benchmarking and good practice, Metadata and inventories/accessibility*, working in close co-operation with the European workgroups within Minerva.

The national digitisation projects

The national policy concerning the digitisation of cultural heritage has been carried out by MiBAC for many years, again in co-operation with the Regions, in particular under the impulse of the librarian sector that

is traditionally at the forefront of digitisation and attention to user needs.

At the moment, there are six main national initiatives of digitisation representing many sectors: SBN, the Italian Digital Library, SIGEC, the Risk Map, SITIA and SITAP. All of them involve MiBAC in co-operation with Regions and Universities.

SBN (http://www.sbn.it) is the National Library Service (SBN), i.e. the Italian library network created by MiBAC with the close co-operation both scientific and financial of Regions and Universities. SBN involves 51 nodes distributed over the national territory and more than 1700 libraries (the National Central Libraries in Rome and Florence, as well as state, city, university and academic libraries and those belonging to public and private, cultural or research institutions operating in various sectors); the general index includes about 7 million records and 16 million locations. Some nodes are operated locally with the support of Regions and Universities. SBN is available on line with over 50 million bibliographical researches made per year and more than 130,000 daily contacts.

SBN on line is a service available to end-users: students, researchers and citizens in general. Users can consult the modern book, the older books and the music databases searching the OPAC SBN via Internet (http://sbnonline.sbn.it) or can consult the SBN databases via TN 3270.

OPAC (On line Public Access Catalogue - http://opac.sbn.it) SBN database is the union catalogue of the Italian libraries that have joined the National Library Service. OPAC provides access to bibliographic records and loan services.

In order to render OPAC SBN more widely accessible and to enable target searches, four versions of OPAC have been implemented with different access and usage characteristics: OPAC SBN on the WWW, OPAC SBN-Z, OPAC SBN OLUIT, OPAC SBN text based search. The future goal of SBN is to strengthen and improve the system, involving even more Regions, Provinces and Universities as well as private bodies (Finsiel s.p.a. and Akros s.r.l.) capable of providing the necessary technical support (http://www.iccu.sbn.it/evolind.htm). For the period 2001-2003 the financial resources available for the SBN project are more than 26 M€.

The **Italian Digital Library (BDI)** (http://www.bditaliana.it; an English summary of the feasibility study is available at the following URL http://bditaliana.it/config/ pdf/sommario_inglese.pdf) is a programme co-ordinated with SBN and articulated over 3 years and has provided by MiBAC with more than 5 M€ funding for the period 2001-2003; it aims to put on line the Italian libraries' heritage through digitisation activities. The project started on the basis of a feasibility study funded by MiBAC at the end of 1999 concerning digitisation initiatives at national and international level and is led by a Steering Committee; this commission has been able to involve several actors, such as Universities and Regions, and also to play the role of evaluator of the projects presented by state libraries, local libraries, cultural institutions and universities to be funded by MiBAC within the BDI project.

ICCU participates in the project with a double role: digitising its catalogues and monitoring the advancement of the BDI programme through a questionnaire available on its Web site http://www.iccu.sbn.it/bidigit.htm. At the moment BDI is made up of several projects (http://www.bditaliana.it/ modules.php?name=Sections&sop=viewarticle &artid=302) involving, among others, the National

Library of Turin, the Marciana Library of Venice, the Estense Library of Modena and the National Library of Rome. The ICPL participates in the Italian Digital Library Project with the digitisation of images and data on book conservation and with a working group named "Digitale e Conservazione" (DigiCon - Digital & Conservation) that carries out research on digital documents preservation. The research program of "DigiCon" deals with causes of chemical, physical and biological degradation of hardware and digital media, and defines good practices in digital media conservation in Italian Libraries. Besides the digitisation of periodicals and hand written catalogues, a project of digitisation of Venetian music (ADMV) is underway in co-operation with the National Sound Archive.

Taking advantage of the experience achieved with SBN (whose activities are based on co-operation and integration) the BDI project identifies exactly the tasks of the different institutions involved: the central administration supports promotion and co-ordination activities and provides the software for the database management and the implementation of the Web site for on line accessibility to the images, while the libraries that join the project choose and index the material to be digitised and provide suggestions for digitisation projects. The BDI portal has a strategic role within the homonymous project because it aims to provide constant on line information about the ongoing or achieved activities and to offer, through a permanent editorial team, also the international point of view from the archive, museum and library world.

S.I.T.A.P. (Sistema Informativo Territoriale Ambientale Paesaggistico (http://www.ambiente.beniculturali.it) is the main digitisation project of the DG for Architectural and

Landscape, a GIS finalized to the preservation of the Italian landscape.

It is based on the cartography produced by the Italian Geographical Military Institute (IGMI) in the scale 1:25.000 and gathers information concerning administrative data, hydrography, climatic zones, the bound heritage according the law, etc.

This system has been planned in order to allow on line consultation for both employees and end users.

SIGEC - Sistema Informativo GEnerale del Catalogo is the general informatics system of the catalogue, developed by ICCD (see competence centres). It gathers textual information and related documents (images, drawings, audiovisuals) concerning architectonical, archaeological, artistic, and demo-ethno-anthropological heritage. The project ensures the creation of an integrated system for the unitary management of functions and processes carried at the various levels of the MiBAC operative structures in charge of cataloguing (http://www.iccd.beniculturali.it/ progetti/index.html).

Among the benefits deriving from the project are:

- enhanced cataloguing speed with a gradual increase of information available on single Assets thanks to the introduction of minimal identifying data;
- the creation of a multimedia environment for cataloguing on the national territory capable of integrating controls on the basis of ICCD reference norms;
- the creation of software tools that are able to ensure the constant automatic alignment of data to the reference norms, to the benefit of the quality of the information produced within the entire cataloguing process;

- the unitary management of the cataloguing data flow in the sphere of the entire national structure and in every phase of the process, from the initial compilation (Superintendencies) to the final validation (ICCD);
- the constant alignment of archives established at the various levels of the institutional structure in charge of cataloguing (ICCD, Superintendencies);
- the integrated management of data and metadata: meaning information on Cultural Assets and cataloguing interventions within the territory;
- the sharing of the national informative heritage and its integrated utilisation through a unique access point.

MiBAC allocated more than 3 M€ plus VAT in the period 1998-2000 for SIGEC. The Informative System today holds more than 2,000,000 records and 600,000 co-related images.
In order to implement and bring out SIGEC and Risk Map Programmes with the involvement of regions and Universities too, an additional budget of 1,5 M€ has been allocated for 2003.

The **Risk Map** of cultural heritage
(`http://www.icr.beniculturali.it/rischio/rischio00e.htm`) is an initiative that aims to guarantee the protection of territory and provide the Central Administration with instruments for scientific and administrative activities. Its main result is the possibility of planning financial resources and preservation actions.
The Risk Map is a tool that involves public and private bodies which deal with the preservation of cultural heritage. It collects the experience and the methodological approach of the 1975 Plan for the Programmed Conservation of Cultural Heritage in Umbria, which was the first experiment of global

evaluation of decay factors extended to a whole territory; the validity was dramatically confirmed with the earthquakes of Friuli (1976) and Irpinia (1980). It is sided by the regional databases. The nodes of the Risk map are also organised on a regional basis.
The initiative consists in two activities:

- a permanent operative structure (the Central Hub, c/o S. Michele, Laboratory of Physics, ICR) for the managing of all information concerning the conservation of cultural heritage on a national scale;
- survey of monument decay: an activity for an effective and timely evaluation of the condition of archaeological areas, monuments and works of art.

This system aims to harmonize the interoperability of databases of different nature, produced during the years, in particular by the ICR. Its similarities to the SIGEC system are evident but while the latter is oriented towards quantification and cataloguing of cultural heritage, the Risk Map points out its decay process and status of preservation. Anyway the two systems were created to be interoperable and will be integrated in a future *System for the preservation and management of the cultural heritage*.
Between 1992 and 1996 MiBAC allocated about 14 M€ for the Risk Map, while other financial resources were made available for the period 1996-1997 (about 1.5 M€) and 2002 (about 3 M€).

The **SITIA** project (Sistema Informativo Territoriale Integrato per l'Archeologia), elaborated by the DG for the archaeological heritage of MiBAC, is targeted to the application of new technologies to the representation and management of the archaeological real estate heritage, in order to prevent the risk of loss and plan

financial and administrative initiatives. For the period 2001-2002 MiBAC funded this project with more than 3.6 M€.
SITIA will allow an easy information exchange between different administrations and will also define the basis on which the Italian Archaeological Map is going to be elaborated.
Furthermore, SITIA is targeted on three different operative levels, according to the different profiles of the users.

The DG for Archives is realising the ambitious project called Sistema Archivistico Nazionale *Archivi* – National System of Archives *Archivi*
(`http://archivi.beniculturali.it`). Its aim is to build an informative platform by gathering the experiences of all the Italian archives and to function both as provider for the archives and portal for the end users. It will also make available on line not only inventories or digitised resources but also develop a e-commerce strategy providing end users high resolution copies of documents.
Currently the 144 state archives and 19 superintendencies have their own portal *Archivi*, visited daily by more than 1.000 users, but they have organised their Web site in an autonomous way. On the other hand this gateway contains rich data bases:

- **Arcanag**, to constantly update the archives' Web sites on line;
- **Archnorm**, provides detailed information on all the archive laws and regulations; the Unesco portal says it is "the most complete data base on Italian archival legislation from 1860 till today";
- The **Digital Library**: from this section it is possible to download old or rare texts and handbooks concerning archival science

(`http://archivi.beniculturali.it/Biblioteca/indicerarita.html`);
- **ASAI**, the **Historical Atlas of the Italian Archives** is a complete mapping of the heritage of the Italian archives (`http://archivi.beniculturali.it/Biblioteca/indiceASAI.html`).

A feasibility study on how to enrich and connect all these resources in a homogeneous way is underway.

The **SIUSA** system (Sistema Informativo Unificato delle Soprintendenze Archivistiche -
`http://www.cribecu.sns.it/siusa`
`www.archivi.beniculturali.it/divisione_III/siusa.html`) is an ongoing project that has the objective to create a common platform for both internal (archives, superintendencies and DG for Archives) and public use. It represents a joint effort of ministerial offices and the scientific world in the body of CRIBECU (Centro Ricerche Informatiche per i BEni CUlturali – of the Scuola Normale Superiore di Pisa
(`http://www.cribecu.sns.it`).
Presently SIUSA is in its second phase (for which 52,000 € have been allocated) which will provide the development of the following tasks:

- friendly and easy-to-use interfaces for the final users;
- a self-control system for data entry:
- a sophisticated query system for professional users.

It is worth mentioning two significant digitisation initiatives concerning private archives:

- the **Fondazione Ansaldo** digital Archive, that gathers all the documents produced by firms;

• the *Archivi del '900 – la memoria in rete* project (http://www.baicr.it/frame%20html/sfondoarch.html), in co-operation with the BAICR consortium, a network of private digitised archives.

The **DG for Architecture and Contemporary Art** (DARC) started the ambitious project to create a data base made up of images and text of the Italian architects; this project has been carried out in co-operation with Regions. At present are available on line the private archives of architects that operated in Rome and Lazio region (http://www.archivi.beniculturali.it/SARM/Architetti/fram_iniz.htm), while soon some other archives reorganised by the Veneto region will be accessible.
The final goal is to build a network of archives (RADAR) using a common platform.

Among the main national projects which deal both with digitisation of cultural heritage and e-services provided to the citizens, must be highlighted the on line data base (with high definition pictures) of the **Comando dei Carabinieri, Tutela Beni Culturali**, the army corps which since 1969, on MiBAC dependence, has carried out research recuperation of the stolen artistic objects, (http://www.carabinieri.it/carabinieri/drvisapi.dll?MIval=tpc_search).
A large digitisation project concerning the archive and library resources of the Italian **Senate** (http://www.parlamento.it/senato) and **Chamber of Deputies** (http://www.camera.it) achieved 15 M€ of funding for the period 2002-2004; the goal is to make available on line for the end users books, archive documents, parliamentary acts and so on.
In the light of the new perspectives opened by the National Plan for Research and by the work of the

National Commission, the Italian Policy Profile will be refined in all its details; only the part concerning libraries is available on line (http://www.librari.beniculturali.it/coord_digit/nationalpages-1-it.html).
It is also appropriate to highlight that Regions in Italy have an important role to play the preservation and management of cultural heritage and they have made strong contribution to the National policy profile, elaborated on national strategic lines.

Co-operation activities

Co-ordination of national networks

MiBAC itself is a network of bodies involved in the different domains of cultural heritage. The system is structured on three different levels: the General Secretariat, which harmonizes all the ministry's activities, eight General Directorates, which represent centres of administrative responsibility, and four Central Institutes, that have an autonomous role of research and co-ordination in the fields of inventories, cataloguing, preservation and restoration. The operative level is entrusted to the peripheral bodies such as superintendencies, archives, libraries, museums (17 regional superintendencies, 85 territorial superintendencies of the various sectors such as arts, archives, archaeology, 46 state libraries, 144 state archives, 766 cultural sites including museums, archaeological sites, etc.).
The first goal of the national co-operation is to engage private or public bodies, institutions, university trusts, involved in the field of research, that
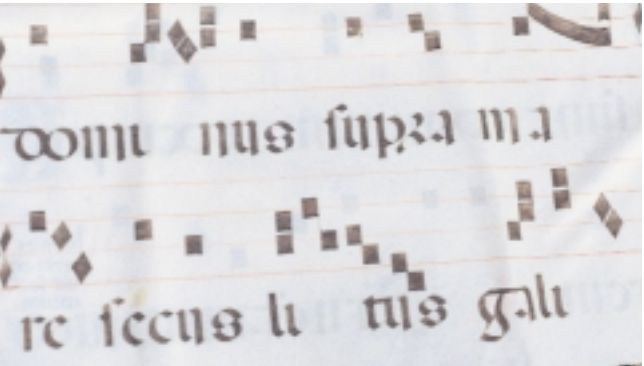
are able to give a strong and updated technical support to all the NRG activities.
MiBAC has established a close co-operation with the Italian Ministry for Education, University and research (MIUR).
Also the Ministry for Innovation and Technologies and the Ministry of Communication have close contact with MiBAC in the digitisation field, in particular within the *e*Ten programme.
The Italian representative for the digitisation activities acts on behalf of MiBAC within the technical secretariat of the inter-ministerial committee for the information society.
Moreover, co-operation has been undertaken with the following institutions and networks:

• **CNIT** (http://www.cnit.it), a National University Trust for Telecommunication, provides technical support in particular for the structuring and management of cultural Web sites.
• **AIB** (http://www.aib.it), the Italian Library Association, constantly gives strong support in organizing actions, meetings (Bibliocom, etc.) and publications connected to the spread of the Lund Principles. AIB has a very complete Web site, a portal to the entire world of the Italian national and regional on-line libraries catalogues, including metadata and statistics.
• The **Politecnico di Milano** (http://www.polimi.it) is one of the most representative Italian university in the field of technological research, particularly for usability and quality of Web sites. For MiBAC it realised a feasibility study regarding the Portal of Italian Culture.
• **Engineering Ingegneria Informatica s.p.a.** (http://www.eng.it) is a private company which

developed most of MiBAC main informative systems (for instance SIGEC).
• **Scuola Normale Superiore of Pisa**, partner of the cultural network Culturenet in order to study possible co-operation in the light of the 6th Framework Programme initiatives.
• The **CNR**, National Council for Research, promoted the Special Project *Safeguard of Cultural Heritage* (http://www.pfbeniculturali.it/index.asp) which involves a great number of researchers from many Italian universities and centres. It is strongly targeted to research and applicability of technologies to cultural heritage.

Relationships and co-ordination with other national initiatives in connection with e**Europe, e-government, e-learning, e-commerce**

MiBAC has carried out some important activities in the field of e-government, following the actions undertaken by the Ministry for Innovation and Technologies, i.e. the Portal of Italian Culture and all the initiatives concerning the digitisation of cultural heritage.

MiBAC edited, on 24 June 2002, in co-operation with the Ministry for Communication and the Minerva network, within the *e*TEN programme, a workshop on services connected to cultural heritage and activities, concerning, in particular, copyright protection for digital contents, e-commerce and life long learning. These services are included in the e-government framework of the public administration in order to allow e-inclusion and develop synergies between public and private sectors.
*e*TEN (Trans European Network Telecommunications, formerly known as TEN-Telecom - http://www.

comunicazioni.it/it/index.php?Mn1=9&Mn2=85)
is a programme funded by the European Community
which aims to implement trans-European services
based on telecommunications, taking care also of
verifying the market opportunities and demands.

ABSIDE (Apprendere in Biblioteca: la Società
dell'Informazione contro la Discriminazione e
l'Emarginazione - Learning in library: the Information
Society against Discrimination and Alienation)
is the main e-learning project among the training
initiatives for cultural heritage institutions.
The project, undertaken within the Community initiative
Equal, involves central government, regions,
provinces and local communities in order to reorganise
and strengthen permanent education among adults.
It is also linked to two other similar projects, LearnEast
and Caribal-Edist (http://www.abside.net).
The main aim of the project is to create a permanent
network of libraries providing e-learning training
courses to the users. Didactical methodologies applied
are based on the integration of open and distance
learning and practical activities organised by the public
libraries. The skills that ABSIDE aims to create
in its users are connected to new and multimedia
technologies applied to cultural heritage.
Its funding for the period 2002-2003 is more
than 2.3 M€.

CREMISI (CREazione di Mediateche per Introdurre la
Società dell'Informazione – http://www.cremisi.org)
is a project that has already concluded (funded with
about 2 M€) and from which ABSIDE originated. Given
its purpose and nature, creating a network of
multimedia classrooms in public libraries, it is deeply
connected with the national system SBN.

Mediateca 2000 (http://www.mediateca2000.net;
http://www.librari.beniculturali.it/
ospiti/progetti/frmaedia.htm) is a project
aiming to spread the multimedia culture through the
net of the public libraries, in order to promote
informatic tools as a strong job support. "Mediateca
2000 Consortium" is a network of 22 cultural firms
created from the "Mediateca 2000 Action Plan", and
promoted by the Italian government. 350 young
people, mostly with a degree in humanities, have been
selected in South Italy; they have been trained on
computers, information society, digitalisation and
cataloguing, the creation and management of
multimedia libraries.
The project mission is to promote ICT and "cultural
heritage", produce multimedia contents, bridge the
"digital divide" and facilitate access to knowledge for all
the citizens. The project first goal is local development
through cultural enterprises and new media.
All the firms interact with all the cultural and educational
institutions, local governments and no-profit institutions
to valorise the vast "cultural heritage" of our country.
Until now Mediateca 2000 has benefited from of more
than 11 M€ of financial resources.

Photographic Library on the Web is the ICCD e-commerce
service permitting users to have on-line access to the
electronic catalogue of photographs of the National
Photographic Library
(http://fototeca.iccd.beniculturali.it).
This is the major public collection of photographs existing
in Italy, with extremely high quality pictures, being the
work of the leading photographers working from the end
of the 19th Century to the early 20th Century.
The catalogue currently available on the Web comprises
nearly 50,000 photographs and their relative files

concerning the city of Rome and the Abruzzo region from
the middle of the 20th century until today. Copies of
photographs may be ordered on-line by noting down on
special forms one's own personal data and the reason of
the request (study, publication, exhibition, etc.). The
calculation of expenses is made following the Italian
regulation (Law 14th of January 1993 n. 4, DM 24th of
March 1997 n. 139, DM 8th of April 1994). Payments must
be made through a postal or bank current account or
through the net by credit card. Once payment is made
and ascertained, the Sales Office delivers the order to the
photographic laboratory that takes care of the high
resolution acquisition from the originals and prints the
photographs included in the order by a 600 dpi laser
printer.
The Fototeca Web site will be integrated by with the
results of the European project TRADEX, making it
possible to manage copyright issues and buy digital
copies of the photographs through the network.

Vetrina Italia is a forthcoming and innovative project on
the MiBAC, developed in co-operation with the Ministry
for the Regional Affairs, that will develop in a large area
of the Rome Central Station (Stazione Termini), a
complex information system organized on a regional
basis: through a portal users could have any kind of
integrated information concerning all the Italian activity
sectors: tourism, commerce, transports and, obviously,
management and exploitation of the cultural heritage.
At the moment this service is available only for local
users but the goal is to provide a free on-line access.

European and international co-operation

During the meeting held in Bologna on 21st October
2002 MiBAC agreed a strong understanding with

PULMAN (PUblic Libraries Mobilising Advanced
Networks – http://www.pulmanweb.org), the
network of excellence for libraries, museums and
archives, funded by the European Commission.
Contacts with **EBLIDA**, the European Bureau of Library,
Information and Documentation Associations
(http://www.eblida.org), in particular with its
executive committee, in order to spread the Lund
Principles and Action Plan trough one of the largest and
most representative bodies that promote the
convergence of archives, libraries and museums and
address copyright issues in digital era.

CULTIVATE (Cultural Heritage Application Network -
http://www.cultivate-europe.org) is a project
funded within the 5th Framework Programme which
aims to support co-operation among archives, libraries
and museum. The network, whose Italian partner is
OPIB (Ossrevatorio sui Programmi Internazionali per le
Biblioteche) is divided in two parts: CULTIVATE-EU for
Occidental Europe and Israel, CULTIVATE-CEE for the
countries of Central and Eastern Europe.

RAI, the public Italian television, is involved as principal
partner in the **PRESTO** project, whose goal is to develop
technologies in order to preserve resources of audio and
video archives in long term and make them available.

The European Commission funded the **ERPANET** project
in order to establish an expandable European Consortium
which will make viable and visible information, good
practice and skills development in the area of digital
preservation of cultural heritage and scientific objects.
ERPANET will bring together memory organisations
(museums, libraries and archives). The Italian contact for
ERPANET is Mariella Guercio from Urbino University, also

co-ordinator of the Italian working group on preservation (m.guercio@mclink.it).

The project **NEDLIB** follows the ambitious goal to build a framework in which to set down all e-publications, according to the purpose of the national libraries: preserve on line documents for future generations, on the basis of the OAIS standard - Reference model for an Open Archival Information System (OAIS). The Biblioteca Nazionale Centrale di Firenze (http://www.bncf.firenze.sbn.it) is involved in this project.
ICCU and the Biblioteca Nazionale Centrale di Firenze (http://www.bncf.firenze.sbn.it) are partners of the European project **TEL – The European Library** (http://www.europeanlibrary.org). Born under the aegis of CENL, the Conference of European national librarians, the TEL project is funded by the European Commission within the 5th Framework Programme and pursues the object of developing interoperability across national boundaries.

The Department of Electronics and Telecommunications of the University of Florence (http://www.det.unifi.it) is partner of the European project **ORION** (Object Rich Information Network – http://www.orion-net.org) which is an EU-funded Thematic Networks project started in July 2002. The founding consortium comprises leading European archaeological museums and technical organisations. It deals in particularly with the application of 3D technology to cultural heritage.

Last 7th June the National Representatives Group for digitisation of cultural heritage introduced to the European Commission an Expression of Interest for the FP6, **ESCHER**, i.e. the development of a network involving European Ministries of Culture or responsible institutions, which guarantee to harmonise integration of technology and adopt in their country the outputs of the research carried out by universities, research centres, enterprises and associations working in the field of applying information and communication technologies in the cultural sector.
The co-operation at the European level is also undertaken by the Regions; access to ERDF and Development Funds are widely available and used within the INTERREG Initiatives with its frameworks MEDOC and CADSES (both relevant to Italy). The Regions also gained considerable experience with the FP5 and have now submitted several EoI for the FP6. Culture 2000 is another example of successful co-operation with similar authorities and research/cultural institutes in Europe.

Benchmarking

An official working group on benchmarking, in charge of studying a benchmarking model of cultural heritage digitisation policies (contact person Giuliana Sgambati gi.sgambati@iccu.sbn.it), has been established in Italy under the impulse of the NRG and Minerva activity in order to co-ordinate all the activities carried out in the field. The group is made up of representatives from both central and local administration and demonstrates to the shared interest in the initiative and policies.
The first benchmarking questionnaires (devised by the European Commission within the *e*Europe initiative) were sent to some Italian Institutions in March 2002. The form is divided in two parts: the first one regarding quality aspects, the second oriented to the quantity of data collection.

The English questionnaires were sent by e-mail, together with a presentation letter, following contacts with the institutions.

Of the 15 questionnaires, only 11 returned; they concern:

- 1 national project: the Italian Digital Library (BDI);
- 2 regional programmes: Digital Library of Piemonte and books, films, documentary and architectonical matters of the Emilia Romagna region;
- 2 regional projects: Imago (Data base on the prints of the Emilia Romagna region) and data base of the preservation projects of the Emilia Romagna region;
- 6 local projects regarding the following libraries: Angelica, Storia Moderna, Archeologia e Storia dell'Arte, Nazionale Marciana, Civica di Fossano, Archiginnasio (Bologna).

The data collection will be continued and increased in 2003; the model will be a basis for creating a national network for evaluating projects.

Inventories and resource discovery

Available inventories - Metadata and interoperability for resource inventories

It is opportune to point out that the Italian situation regarding inventories is absolutely fragmentary and most important projects have only a local diffusion as they funded by the Regions.

ICCU (see further, competence centres; contact person Cristina Magliano c.magliano@iccu.sbn.it), established a National Study Group on Metadata in 2000, made up of representatives of many cultural institutions

to compare and co-ordinate the metadata implementation initiatives among different cultural sectors. Its goals are:

- to create a permanent observatory on metadata applications within digitisation projects;
- to promote the regular application of metadata standards in the field of research and preservation of digital and non-digital documents of archives, libraries, museums;
- to define a shared logical model for the metadata interoperability;
- to define a *metathesaurus* for the Digital Library.

The work is still being carried out within the Minerva project in co-operation with ICCD.
ICCU has already developed keys access Dublin Core within the project SBN On-Line, on the basis of the prescriptions of the European project ONE 2.
A model data collection was defined with the aim of identifying the essential elements of the digital object, in order to share information among institutions which use different cataloguing format.
The best approach seemed to be the definition of a minimum set of metadata, based on the guidelines provided by FRBR (*Functional Requirements for Bibliographic Records*), describing the digital resources on the basis of the four fundamental functions of the bibliographical records: *finding, identifying, selecting, obtaining.* This proposal is one of the main results of the close co-operation with the French Ministry for Culture; it has been also introduced to the European working group on metadata within Minerva and was fully approved. Two subgroups have been created: descriptive metadata and managing, administrative and structural metadata; the first one analysed a standard developed by a users' task force, i.e. the Dublin Core

Metadata Element Set (DCMES) and arranged a mapping strategy, available at the URL
http://www.iccu.sbn.it/mapeta1.doc.
Furthermore, a specific glossary will be created and will be available on ICCU Web site as soon as possible.
The second subgroup elaborated a document which provides guidelines defining a set of managing, administrative and structural metadata, producing an XML outline based on METS (Metadata Encoding & Transmission Standard). This document is based on studies, implementations and comparisons at an international level. The logical and functional model analysed is **OAIS** (Open Archival Information System
http://lcweb.loc.gov/standards/
metadata.html); the model was created by space research but has been adopted in some projects by libraries and archives too (NEDLIB, CEDARS and PANDORA) and can be applied to any type of archive, digital or analogical, because of its attention to long term preservation and distributed filing.
The **ICCD** project **Information Network of the Artistic, Archaeological and Architectural Heritage** allows the network access to a high number of data bases that, until now, were not accessible to users, following the results of an experimental system created within the context of the European project **Aquarelle**. In such a way, it meets the more and more pressing demand coming from Public Administration as well as from Public and Private Institutes.
The project uses standards adopted throughout the world in the field of cultural heritage, including Z39.50 protocol, ZETA Suite platform (Finsiel), CIMI (Computer Interchange of Museum Information), BIB (Bibliographic), DC (Dublin Core) and GILS (Global Information Locator Service) profiles.
The implementation of a standard access system allows

correlating network distributed typologies of data that, from a structural point of view, are not homogeneous with respect to (catalographic, bibliographic, file-related) contents and structure.
The system of access is based on Internet technologies and dialogues with data banks in line with the Z39.50 protocol.
The project networks the following catalogues:

- ICCD, with a multimedia data bank comprising nearly 600,000 alphanumeric cards and nearly 400,000 correlated images that are constantly being brought up to date;
- Superintendence of the Artistic and Historical Heritage of Florence and Pistoia;
- Superintendence of the Architectural, Archaeological, Artistic and Historical Heritage of Pisa;
- Emilia Romagna Region;
- Friuli Venezia Giulia Region;
- Lombardia Region;
- Marche Region;
- Conferenza episcopale Italiana;
- Rome Municipality.

With a view to making up the initial core of the Historical-Artistic Heritage Network, the Internet user can:

- make simple and/or advanced inquiries, into individual catalographic data banks, into a number of catalographic data banks of the same type (art, bibliographic and archival works, etc.) with multi-target access, into a number of catalographic data banks of different type (art, bibliographic and archival works, etc.) with multi-profile access;
- obtain diversified levels presentation of textual and multimedia information on the basis of definite

user profiles and in compliance with reference standards;
• have access to folders, that is structured hypertextual documents that may also be associated with catalographic-type data.

Good practices and skills

Good practice exemplars and guidelines

During the Alicante NRG meeting in May were introduced some of the most relevant Italian good practices, gathered by all the MiBAC competence centres that are in charge of co-ordinating them; the following list will be completed and the data collected analysed:

• **SBN on line**: is the general catalogue of most of the Italian public libraries and provides an inter-librarian loan (http://www.sbn.it);
• **EDIT 16**: is the catalogue of the XVI cent. Editions (http://edit16.iccu.sbn.it/);
• **Rinascimento Virtuale**: census of the Greek palimpsests through MANUS software, elaborated in Italy with the support of other five European countries. This software has become an international standard (http://www.opib.librari.beniculturali.it/rinascimento.html);
• **Imago** is a project that aims to digitise and make available on line some important archival funds such as the Florence State Archive diplomatic fund. Until now it has received more than 6 M€ in funding (http://www.archiviodistato.firenze.it/progetti/attivite.htm#progettoimago);
• **Mediceo**: the data base of the Florence State Archive

(http://www.archiviodistato.firenze.it/Map/index.html);
• **Uffizi (Florence)**: virtual tour of the museum; high definition images and correlated data base (http://http://www.uffizi.firenze.it/Dta/daddi-eng.html);
• **Web site of Galleria Estense (Modena)**: advanced interactive didactics; the virtual tour CD won the Raffaello Prize of European Community (http://www.galleria.estense.it);
• **Web site of Pinacoteca Nazionale (Bologna)**: digitised inventory associated to the images; advanced didactics (http://www.pinacotecabologna.it);
• **Web site of Museo Nazionale d'Abruzzo – Forte Spagnolo (L'Aquila)**: clear path; catalogue of images associated to technical file of the works of art (http://www.muvi.org/museonazionaledabruzzo);
• **TRADEX**: examines the management of Intellectual Property Rights in the on-line commerce of digital objects. TRADEX considers available copyright marking technologies for solving illegal copying and proof of ownership problems in the context of multimedia objects (http://www.iccd.beniculturali.it/progetti/index.html);
• **Piazze Storiche dell'Italia Meridionale**: on-line project, a data-base on architecture, history, decoration and events of 168 Italian squares through schedules, text, 10,000 images and 4,500 architectonical drawings. Two levels of accessibility – free and protected – to preserve highly valued scientific data (http://www.iccd.beniculturali.it/servizi/testo_banchedati7.html);
• **Iconclass**: complete translation of the iconographic classification system ICONCLASS from English to

Italian (40,000 subjects; more than 12,000 key words). The classification system is structured like a thesaurus in a multilingual version as a concrete experience of interoperability of different cultural data banks (http://www.iccd.beniculturali.it/servizi/testo_banchedati7.html);
• **Information Network**: allows the network access to a high number of Italian data bases on archaeological, architectonical, artistic and anthropological objects making up the initial core of the Historical-Artistic Heritage Network (http://www.iccd.beniculturali.it/progetti/testo_network.html);
• **Photographic Library on the Web:** the ICCD e-commerce service (see point 5 competence centres) permitting users to have on-line access and buy reproductions of the photographs of the National Photographic Library (http://fototeca.iccd.beniculturali.it);
• **Galleria Spada**: on-line training guide for the classification and identification of the subject of the images. The guide is based on the Galleria Spada data bank and is linked to the Italian translation of the ICONCLASS classification system (http://www.iccd.beniculturali.it/servizi/testo_cd4.html).

Competence centres

Four Central Institutes and the Centro di Fotoriproduzione depend on MiBAC for the elaboration of standards on digitisation activities, the co-operation with the Regions, cataloguing and restoration. All of them have representatives in the national Commission and in Minerva working groups.

The **Istituto Centrale per il Catalogo e la Documentazione** (ICCD - Central Institute for Cataloguing and Documentation - http://www.iccd.beniculturali.it) is the national institute charged with programming, planning and defining standards in the field of cataloguing the Italian cultural heritage, in particular the frontiers of the digitisation. Its Web site, very rich in downloads, is an important tool of communication with users.

The **Istituto Centrale per il Catalogo Unico delle Biblioteche Italiane e per le Informazioni Bibliografiche** (ICCU - Central Institute for the Union Catalogue of Italian Libraries and Bibliographic Information - http://www.iccu.sbn.it) is the body responsible for cataloguing the book heritage and at the moment is the most developed sector in the field of digitisation. ICCU is responsible for SBN, the National Library Service, a network created by MiBAC with the co-operation of Regions and Universities. Libraries participating in the SBN project are the National Central Libraries in Rome and Florence, as well as state, city, university and academic libraries and those belonging to public and private cultural or research institutions operating in various sectors. SBN is a network which aims at providing services to end-users and is a service available to students, researchers and citizens in general.

The **Istituto centrale per la patologia del libro** (ICPL, Central Institute of Book Pathology - http://www.librari.beniculturali.it/struttura/default.asp) carries out research on library materials in the field of conservation. It contributes to define methodologies, and plays an intensive role in solving conservation problems arising in Italian libraries. The research activities of the Institute are carried out in its laboratories according to the following main topics: history and technology of library materials; biological, chemical and physical mechanisms involved in deterioration; environmental prevention and microclimate studies in libraries; non destructive analyses, non-invasive restoration techniques; development and diffusion of knowledge relating to book materials and their conservation. Specific teams are at work both for the evaluation of perspectives in digital media preservation, and for the digitisation of the information on book conservation. In this framework, the finalised project for the Census of the Medieval Bookbindings Kept in Italian Libraries (CLEM) represents a unique source of information. The Institute provides teaching and training on book conservation and restoration by means of a Course of Advanced Studies. Moreover a Museum carries on programmes of education on the making, the damages, and the safeguarding of books.

The **Istituto Centrale per il Restauro** (ICR - Central Institute for Restoration – http://www.icr.beniculturali.it) is the body responsible for all activities of restoration in Italy. It carries out systematic investigations according to the influence of the various environmental factors, also on the means to prevent and inhibit the effects, the necessary investigations for the formulation of rules and of the relative specific techniques of restoration and conservation interventions. It also gives scientific and technical advice to the peripheral bodies of the Ministry and of the Regions, provides teaching of restoration. The participation of ICR to the European project **Labs TECH**, which has the aim to establish a network among European scientific laboratories, must be highlighted. The Network is established among many internationally distinguished European research centres in the field of scientific and technological applications to cultural heritage. The initiative has the goal to realise an effective complementarity among these centres to be realised through the interchanging of know-how and joining of resources.
Regions and *Province autonome*, due to their statutory responsibility over libraries and museums of local authorities, have a co-ordinating body (more information at: http://www.regionibeniculturali.it) and can rely on competence centres such as Istituto per i Beni Culturali della Regione Emilia-Romagna (more information at: http://www.ibc.regione.emilia-romagna.it).

The **Centro di fotoriproduzione, legatoria e restauro degli Archivi di Stato** (CFLR, Centre for reproduction, bookbinding and restoration for the State Archives - http://archivi.beniculturali.it/cflr/cflr.htm) carries out research and experimentation in the field of safeguarding and conservation of documents. The Centre is involved in education and training for the technical personnel of the Archives Service and, in collaboration with the University of Rome "La Sapienza", has set up a master for conservator. The research activities of the Centre include studies on the structure, properties and nature of the writing support, the composition of the graphic media, the reasons for their deterioration and the effectiveness of the tools to hand. Over the years the Centre has grown, installing high-tech restoration equipment, chemistry, biology, microfilm and digital laboratories. Highly qualified technical personnel try out new methods, new products and new systems for conservation, reproduction, nowadays by means of the digitisation of documents, as well.

**Main digitisation training initiatives for cultural heritage institutions**

The *e*learning projects described above (ABSIDE, CREMISI, Mediateca 2000) have a double goal: training for library users, including disadvantaged categories, through new technologies, and developing skills of professionals of the cultural sector.
From this point of view, the workshops periodically organised by the DG for libraries and cultural institutions in order to bring professionals of the libraries up to date on the digitisation of the cultural heritage must be highlighted. The same perspective is shared at local level, where authorities run their own training opportunities.

European added value and content framework

Quality and accessibility for Web sites

On the 17th October 2002 MiBAC edited the international workshop *Quality in cultural Web sites* for the Bibliocom exposition, in conjunction with the European Commission and AIB (Associazione Italiana Biblioteche), within the Minerva project (documents available on the Web site http://www.minervaeurope.org/events/bibliocompapers.htm). Bernard Smith, the head of section of the DG for Information Society of the European Commission, participated in order to illustrate the opportunities for the cultural heritage within the FP6 to
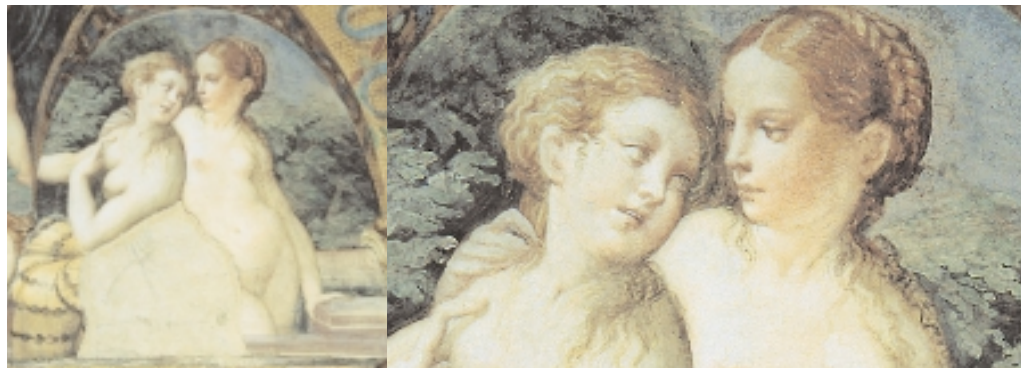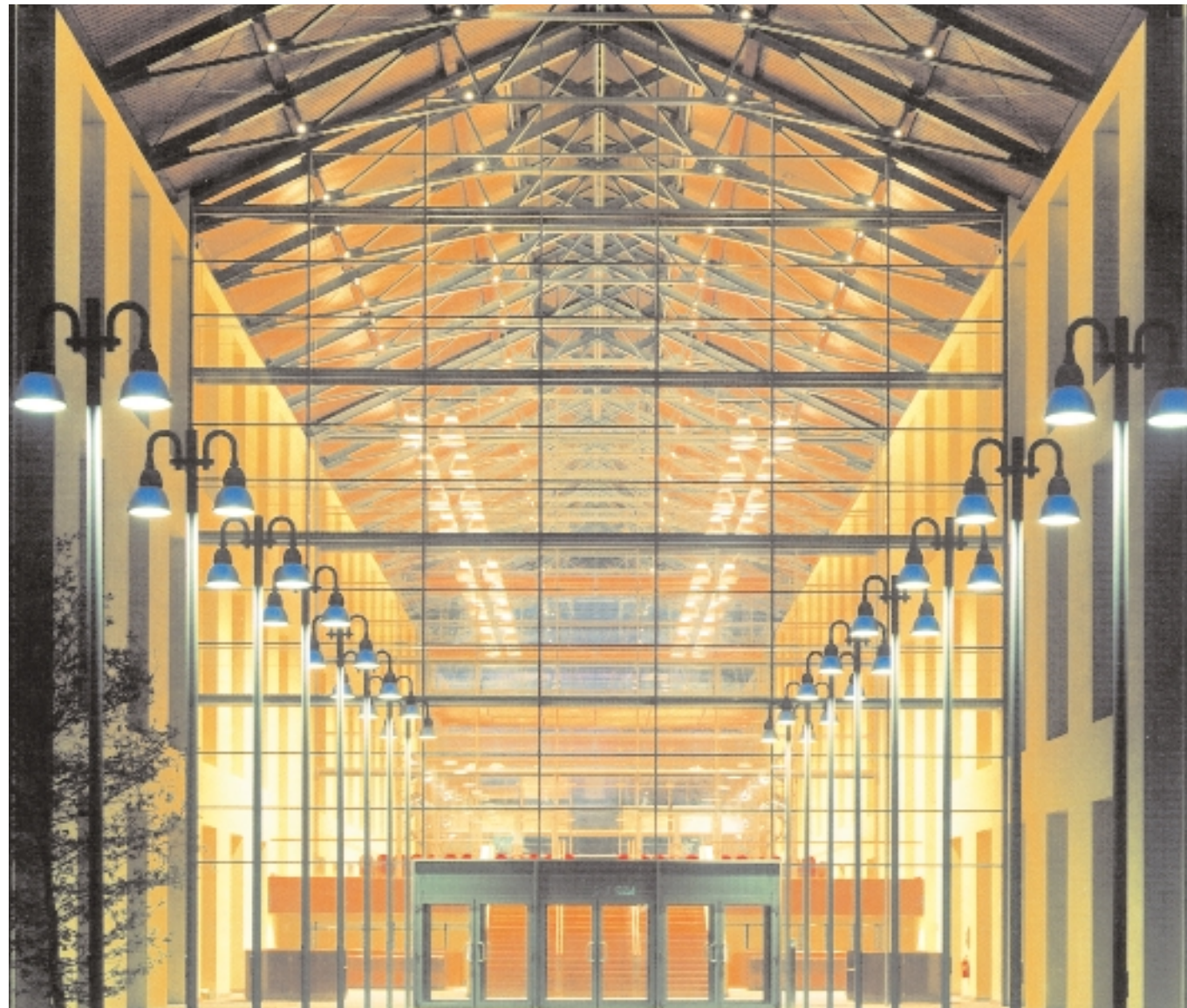
the participants, and Isabelle Dujacquier, the NRG for the French community of Belgium, spoke as expert on quality of cultural Web sites. The other speakers represented all the department of MiBAC and Universities involved in the Italian Working Group on Quality and gave a survey on the initiatives concerning libraries, museums, quality control tool and accessibility. The Italian Working Group on Quality has contributed to the refinement and extension of the Brussels Quality Framework, which was presented on the 11th of December 2001 during the first meeting of the Group of National Representatives, and to the content of the document containing the Preliminary Definition of the Minerva Quality Framework.
Its co-ordinator (Fedora Filippi
fedora.filippi@archeorm.arti.beniculturali.it) has also elaborated some guidelines that will soon be submitted to the European working group.
The main contributions of the Italian Working Group on Quality can be summarized as follows:

• investigation of the state of the art in Web quality, in particular: survey of existing international standards in software quality, such as ISO 9126 and ISO 9241 (the latter focused on usability – a fundamental quality aspect); analysis of the W3C Consortium criteria and guidelines for Web accessibility;
• contribution to the identification, within the end user perspective of quality as defined by the Brussels Quality Framework, of the main quality "quality dimensions": content, navigation, operations and presentation;
• contribution to the identification, for each quality dimension, of a set of quality attributes that can be more directly measurable;
• refinement of some content and navigation criteria;
• in terms of library the Web sites, research in the field

showed that even if they can be easily reached by national and local repertories, they must be improved regarding their usability and accessibility must be improved;
• the concept of quality also includes the problem of accessibility: some testers have been analysed, in particular Torquemada, a software developed by the Bordoni Foundation (http:www.webxtutti.it/testa.htm), together with the fundamental standards to extend the concept of eenclusion to the disabled people.

Many of the achievements of the Italian Working Group on Quality exploit the results of a usability method for Web applications, named **MiLE** (Milano – Lugano Evaluation), which has been developed by Politecnico di Milano and the Istituto per I beni culturali della Regione Emilia-Romagna as in the past by some members of the Italian Working Group on Quality. It has proved to be very effective and pragmatic for the analysis and evaluation of Web usability in general, and for cultural heritage Web applications in particular.
The Politecnico di Milano elaborated for MiBAC a feasibility study for the **Portal of the Italian Culture**, in which a section to be implemented by the results of Minerva European Working Group on quality of Web sites will be arranged.

MiBAC is going to inaugurate **Culturalweb**, the first on-line daily paper oriented towards the management and exploitation of cultural activities in Italy.
Culturalweb is an important tool to radically transform the cultural sector and promote the use of new technologies applied to heritage, in accordance with the institutional duty of the MiBAC.

Long-term sustainability

MiBAC, with the aim of avoiding the fragmentation of study and research initiatives in the field of preservation of tangible and intangible memories, has planned for 2003, during the Italian presidency of the EU, a feasibility study to define the characteristics of durability of digital devices according to their destinated use and create a data base of technological standards used, in order to supply knowledge for the reproduction of digital heritage and include a technical report on metadata and information treatment and management. Particularly, one of the most important projects in this field is the creation of a Centre of Excellence for the long term preservation of digital memory, proposed in the **National Plan for Research,** mentioned in the next paragraph. A **working group on the preservation** of digital memory was set up. An international congress on Long Term Preservation of Digital Memories will be organised during the Italian presidency.

Research activities on digitisation

In October 2002 MiBAC elaborated strategic lines concerning the applications of new technologies to cultural heritage within the **National Plan for Research**, developed under the aegis of the Ministry for Education, University and Research. This plan was elaborated in co-operation with the different departments of the ministry itself (all the Central Institutes and all the General Directorates, 12 bodies in total); they are not only in charge of collecting the experiences of the peripheral administrations but also of doing applied research. Most of the thematic issues produced absolutely coincide with the Lund priorities, focus the attention on

the topics connected to the digitisation of cultural heritage and are organised as follows:

• digitisation of cultural heritage, its knowledge, decay process, conservation status and accessibility through the network;
• long term preservation of digital memories;
• technologies for restoration and preservation of cultural heritage.

Dissemination and enlargement

The main instrument to diffuse the Lund Principles and Action Plan is the involvement of new countries in the NRG. The enlargement should follow three dimensions, i.e.:

• to finalise the participation of the candidate East-European countries;
• to start a dialogue with Mediterranean countries, as well as non European countries and, in particular, the USA, Canada and Japan;
• to achieve the maximum consensus from institutions, universities, private companies, directed towards to the creation of a users group in relation to Lund principles and NRG activities.

Within the digitisation activities of cultural heritage MiBAC, in order to facilitate accessibility to the network, has planned initiatives to be organized in collaboration with Regions, Universities and local administrations:

• developing the Italian Digital Library;
• integrating the systems SIGEC and Risk Map, the two most complex data-base systems of MiBAC.

Interoperability will regard in particular the data implementation methods;
- starting up the Portal of Italian Culture project, addressing the objectives defined by MiBAC the resources and the projects already funded by MIUR for more than 17 M€, with the support of private and university trusts;
- increasing the participation of the Italian memory institutions in European and international projects, thanks to the European framework that NRG, the Lund principles and action plan and Minerva, the operative sector of the framework itself, represent;
- developing, in co-operation with Regions and Universities, strategic lines to implement e-learning methods in the field of new technologies applied to the cultural heritage. from this perspective the main goals will be to increase ABSIDE and the ICCD *e*learning project based on the SIGEC/Risk Map systems;
- pursuing an integrated access through a network of libraries, museums and archives;
- preservation of cultural heritage.

During the Italian presidency of the EU, in the second half of 2003, within the Lund Principles spreading activities, two main events will be organised by the Cabinet of the Minister, the general Secretariat and all the General Directorates of MiBAC, in co-operation with the Regions:

- Florence, 16-17th October 2003: international conference in Florence about Long Term Preservation of Digital Memories, in collaboration with the Tuscany region;
- Rome, 30th October 2003: meeting of Minerva user group, in conjunction with the national conference of the Italian Library Association (AIB) at Bibliocom 2003;
- Parma, 19-20th November 2003: international congress in Parma on Accessibility and Quality framework on cultural Web sites, organized by Minerva in co-operation with all the General Directorates of MiBAC, the central institutes, the Emilia-Romagna Region and Parma local authorities. The organization of the congress will be carried out within the National Commission;
- Parma, 21st November 2003: meeting of the NRG, in conjunction with the congress above mentioned.

In 31st October 2003, during Bibliocom, the first European meeting of the cultural network such as Delos, DLM Forum, Erpanet, Herein and so on will be organised in co-operation with the General Directorates for Archives. During the Italian presidency of the EU the National Commission will produce, in co-operation with Minerva working groups and supported by specialists and representatives of the university domain, the following documents concerning both national and international digitisation issues:

- a paper regarding priorities, policies and guidelines for the digitisation initiatives, accessibility, e-services and so on;
- a report on benchmarking activities;
- a position paper on the quality of cultural Web sites.

MiBAC is also setting up a working group that aims to elaborate operative rules in the field of IPR.
The Ministry for Foreign Affairs, in co-operation with MiBAC, drew up a draft decree to be submitted by 22 December to the Parliament in order to agree to the European directive 2001/29 CE on intellectual property. In October 2003 the IST conference will be held in Milan; on that occasion some events (workshops, congresses, etc.) connected to the NRG activity will be organised.