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MINERVA – THE MINISTERIAL NETWORK FOR VALORISING ACTIVITIES IN DIGITISATION TOWARDS AN AGREED EUROPEAN PLATFORM FOR DIGITISATION OF CULTURAL AND SCIENTIFIC HERITAGE

Giuliana De Francesco

Abstract. MINERVA is a project funded by the European Commission IST Programme within the 5th Framework Programme. It created a network of EU Ministries and other agencies in charge of cultural policies and programmes, which is open to enlargement to new countries and new sectors of the civil society. The network discusses, correlates and harmonises the activities carried out in the field of digitisation of cultural and scientific heritage, aiming at creating a common European platform made up of agreed recommendations, guidelines, standards. The network acts also to foster collaboration between European Commission and Member States, to ensure awareness of European policies at national level, to exchange good practice, to coordinate national programmes in order to embed in national digitisation activities the technical results achieved by the network. Some main outcomes of the activities are presented.

Introduction: MINERVA Framework

eEurope Initiative. The twofold objective of the *eEurope Initiative: An Information Society for All*[1], launched by European Commission in December 1999, was to bring the benefits of the information society to all European citizens and to make the European Union a most competitive and dynamic knowledge based economy, ensuring that the whole process was socially inclusive.

The objectives were to be achieved by supporting new infrastructure and services across Europe, applying the open method of coordination and benchmarking, and by accelerating the setting up of an appropriate legal environment. The need for political commitment was clearly stated as a condition to reach eEurope targets. eEurope 2002 Action Plan[2] focused on three main actions:

1. establishing a cheaper, faster, secure Internet

2. investing in people and skills

3. stimulating the use of the Internet. Objective 3d, encapsulated in the third action line, targeted the production of European digital content for global networks, in order fully to exploit the opportunities created by the digital technologies.

Lund Principles. eEurope 2002 Action Plan pointed out a specific action for Member States and the Comission jointly: to create a coordination mechanism for digitisation programmes across Member States. On 4th April 2001, representatives and experts of EU Member States met in Lund (Sweden) to agree on actions to support coordination and add value to digitisation activities in a sustainable way. Outcome of the meeting were the Lund Principles[3]. Starting from the statement that *Europe's cultural and scientific knowledge resources are a unique public asset forming the collective and evolving memory of our diverse societies and providing a solid basis for the development of our digital content industries in a sustainable knowledge society*, Lund Principles state that digitisation of heritage resources is a crucial activity for providing improved access for the citizen; for preserving Europe's collective cultural heritage (both past and future); for sustaining and promoting cultural diversity in a global environment. Digitised cultural assets are also a key resource for education and for the tourism and media industries. However, the full realisation of the potential of these resources is endangered by a number of key problems: among them, fragmentation of approach, obsolescence, lack of simple forms of access for the citizen, intellectual property rights management, lack of synergies between cultural and new technologies programmes and lack of institutional commitment. In order to address these issues, Member States had to establish an ongoing forum for coordination, to support the developing of a European view on policies and programmes, to exchange and promote good practices, guidelines and skills development, to work in a collaborative manner to make visible and accessible the digitised cultural heritage of Europe.

A set of actions for improving digitisation of cultural and scientific content in Europe and for achieving the objectives set out in the Lund Principles is described by the Lund Action Plan;[4] the set of actions is updated every year.

The National Representatives Group (NRG). The Lund meeting called upon Member States to establish a steering group for coordination of digitisation policies and programmes, with special emphasis on cultural and scientific resources. In 2001 the National Representatives Group[5] was established, made up of officially nominated representatives of all EU Member States, in order to monitor progress regarding the objectives encapsulated in the Lund Action Plan.

All urls quoted have been checked on October 18th, 2004.

[1] eEurope Initiative website: http://europa.eu.int/information_society/eeurope/2005/index_en.htm.

[2] eEurope 2002 Action Plan : http://europa.eu.int/information_society/eeurope/2002/index_en.htm.
It is worth mentioning that the current Action Plan is eEurope Action Plan 2005.

[3] The Lund Principles: http://www.cordis.lu/ist/directorate_e/digicult/lund_principles.htm.

[4] The Lund Action Plan: http://www.cordis.lu/ist/ka3/digicult/lund_ap_browse.htm.

[5] The National Representatives Group: http://www.MINERVAeurope.org/structure/nrg.htm.

The objectives of the NRG, as described by the NRG Terms of reference[1], are to share national experiences; to create a common platform for cooperation and coordination of national activities across the European Union; to provide the focus for consensus building among Member States for coordinating policies and programmes and for directing their follow up at national level; to promote good practice, skills development and training. The NRG identifies and nominates experts for the workgroups set up for the implementation of the Lund Action Plan, and validates reports, studies and recommendations prepared by the workgroups; each NRG member disseminates the results and promotes discussion on emerging issues in the own country.

The NRG meets every six months, under the chairmanship of the representative of the rotating EU Presidency, supported by a representative of the European Commission.

The *Charter of Parma*[2], a strategic document that continues and reinforces the Lund principles, was approved by the NRG, gathered in Parma on the 19th November 2003 for their 5th official meeting. The Charter highlights progresses and outlines strategies, aiming also at consolidating the NRG position and high-level political commitment.

The 7th NRG meeting took place in The Hague on 17th September 2004[3].

The NRG Report. An important task of the NRG is the production of a report illustrating progress in the coordination initiative and presenting an overview of each Member State's national policies, programmes and networks in the field of digitization of cultural and scientific heritage. *Coordinating Digitization in Europe: Progress Report of the National Representatives Group*[4], edited by the MINERVA project on behalf of the European Commission, is simultaneously an outcome and a tool of the coordination initiative. In 2004 was published the second issue of the Progress report, referring to the policies, programmes and activities carried out in 2003.

MINERVA Project

Funded by the European Commission IST[5] programme within the Fifth Framework Programme for Research and Technological Development, the MInisterial NEtwoRk for Valorising Activities in digitisation (MINERVA) established a network of EU Member States Ministries in charge of cultural policy, aiming at creating a common European vision on politicies and programmes and at harmonising the activities carried out in the field of scientific and cultural heritage digitisation.

MINERVA supports the activities of the NRG as an 'operative arm' and works to accomplish the Lund Action Plan.

The project is coordinated by the Italian Ministry for Cultural Heritage and Activities.

MINERVA's twin-track action. The attempt to coordinate digitisation policies and programmes, in order to avoid fragmentation and waste of resources, requires both political/institutional strategies and technical tools. Therefore MINERVA acts on both a 'political' and a technical level. The main political effort is made to guarantee closer collaboration among Member States and between these and the European Commission. The network gives international visibility to national initiatives, thus promoting the exchange of good practices, and ensures the awareness of EU policies and MINERVA achievements at national and local levels. The strategic impact of the network helps in several countries the coordination of national programmes, and stimulates the arising of several national digitisation programmes under the aegis of MINERVA.

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[1] *Terms of Referenceof the NRG:* http://www.cordis.lu/ist/directorate_e/digicult/t_reference.htm.

[2] The *Charter of Parma* is available in English, French, German and Italian at:
http://www.MINERVAeurope.org/structure/nrg/documents/charterparma.htm.

[3] The conclusions of NRG meetings are published on MINERVA website:
http://www.MINERVAeurope.org/structure/nrg/meetings.htm.

[4] NRG Report is both printed and published on MINERVA website:
http://www.MINERVAeurope.org/publications/globalreport.htm.

[5] Information Society Technologies (IST): http://www.cordis.lu/ist/.

The network is open, and aims at establishing contacts and cooperation with other countries, international and national organisations, associations, networks and projects engaged in the digitisation field.

MINERVA action at technical level concerns the workgroups for the implementation of the Lund Action Plan. They are further presented in detail.

MINERVAplus. The MINERVA project started in March 2002 with 7 partners; the remainder of the then EU member states joined the network during the first year of activity. The enlargement of the EU with ten new Member States in 2004 provided the opportunity to enlarge the network to the New Accession States (NAS). MINERVAplus[1] is the name of the project, financed in the framework of Sixth Framework Programme, which officially allowed the extension of MINERVA project to six NAS, plus Russia and Israel; the kick off meeting took place in Budapest in February 2004. MINERVAplus too is coordinated by the Italian Ministry for Cultural Heritage and Activities. MINERVA and MINERVAplus action lines are synchronised.[2]

MINERVA Website. A strong effort is devoted by MINERVA to the dissemination of results; its most important tool is the website. Every information, document or publication produced in the framework of the various Minerva action lines is published and/or uploaded on the website www.minervaeurope.org, which is constantly updated and provides other relevant information in the field of digitisation of cultural and scientific heritage. Minerva website is therefore considered as a knowledge base. Documents and publications are freely downloadable, for non commercial purposes only, and other websites are permitted to link them, even if they are not allowed to include MINERVA's contents without permission.

MINERVA Workgroups

The real 'engine' of the network is represented by the thematic working groups. The goal of the workgroups is to establish a common European platform made up of shared recommendations, guidelines, metadata and standards related to digital cultural content creation and access; Another goal is to foster the convergence among archives, libraries, museums in a perspective of integration of the services offered by the memory institutions. MINERVA technical workgroups deal with interoperability and long-term preservation of resources, discovery of cultural content, benchmarking and good practice, quality and accessibility of cultural websites. The activity carried on in the framework of MINERVA workgroups by the new MINERVAplus partners is focused on the deeper investigation of four specific topics, as further explained under each working group.

WP2, Benchmarking framework. In line with the eEurope approach, Member States representatives have recognised the value of benchmarking, an ongoing search for best practices that produce superior performance when adapted and implemented in another organization, as a tool for exchanging experience and learning from good practice. The aim of MINERVA workpackage 2[3] was to outline key issues and to identify a method and a model for benchmarking digitisation programmes and projects, thus developing an innovative approach for the cultural heritage sector. Benchmarking activity closed by the end of 2003, delivering the final report *New Opportunities for Benchmarking the Digitisation of Cultural Heritage in Europe*.[4] Benchmarking is now considered an ongoing method crossing every workgroups' activity, and particularly that of WP6.

WP6, Identification of good practices and competence centres. Expertise and skills on digitisation are widely available across Europe, and a key issue is to feedback the experience and expertise developed within projects.

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[1] Project presentation at: http://www.MINERVAeurope.org/whatis/MINERVAplus.htm.

[2] Some partners have set up MINERVA websites in national languages: Hungarian MINERVAplus website: http://www.mek.oszk.hu/MINERVA/; Israeli MINERVAplus website: http://www.ejewish.info/reka/minerva/index.htm; Russian MINERVAplus website: http://www.minervaplus.ru/.

[3] Benchmarking framework workgroup presentation: http://www.minervaeurope.org/structure/workinggroups/benchmarking.htm; Reports and documents related to the activity of the workgroup are to find at the following url: http://www.MINERVAeurope.org/structure/workinggroups/benchmarking/docindex.htm.

[4] Benchmarking full text report at: http://www.minervaeurope.org/intranet/documents/benchmarkingreport2.pdf.

WP6[1] deals with criteria for the selection of good practices, benchmarking as support for evaluation, promotion of guidelines and recommendations as extracted from good practice examples. Aim of the group is also to undertake the identification of specialised ("advisory" or "competence") centres at national and European level.

A first collection of good practices was carried out in 2002; A second campaign for the collection of good practices in digitisation and of information on competence centres started in 2004, in order to involve new MINERVAplus partners and to update MINERVA Knowledge Base with the collection of a critical mass of examples. The campaign is still ongoing, and both Good Practice and Competence Centre nomination forms are available on line,[2] so that interested organisations can submit the forms directly through the MINERVA website.

The main outcome of the activities carried out by MINERVA WP6, the *Good Practice Handbook*[3] is conceived as a practical guide for the establishment, execution and management of digitisation projects, with particular focus on the cultural area. The target audience of the handbook is teams within and across cultural institutions contemplating, or already executing, digitisation projects. The core text is articulated into ten categories, corresponding to as many steps of the digitisation process: Digitisation Project Planning; Selecting Source Material for Digitisation; Preparation for Digitisation; Handling of Originals; The Digitisation Process; Preservation of Digital Master Material; Meta-Data; Publication; IPR and Copyright; Managing Digitisation projects. The first printed edition of the Handbook was quickly exhausted. A second, more concise edition has just been published in English, French, German, Italian, Portuguese, and Slovak. The Handbook is to be complemented by the selected list of digitisation guidelines[4] and the MINERVA good practices list, published on the website.

WP6 Specific Topic. On the basis of the activity carried out and tools produced by the working group, the MINERVAplus WP6 will propose a model for digitisation cost reduction for the validation through experimental actions. A preliminary result of this activity is the survey *Good practices in cost reduction for digitisation: resources for Minerva and Minerva Plus WG on good practices.* [5]

WP3, Inventories, discovery of digitised content, multilingualism issues. This working group[6] deals with visibility and accessibility of European digital cultural and scientific content. The group addressed the definition of a sustainable technical infrastructure for coordinated discovery of European digitised cultural and scientific content, including a common set of metadata for the description of digital cultural collections; the analysis of possible solutions to make content accessible across different languages (multilinguality); the proposal of a common platform (XML and open source) for accessing distributed information in Europe.

Among the main outcomes is the *Specifications for Inventories of Digitised Content*[7], already adopted by several national programmes and projects, and basis of MICHAEL project (see further).

WP3 Specific Topic. In the framework of MINERVA plus, WP3 is focusing the activity on the specific topic "Multilingual thesauri". The first stage is a survey[8] on the implementation of tools for multilingual retrieval by European cultural websites, which is particularly focused on controlled vocabularies and multilingual thesauri.

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[1] Presentation of WP6 at: http://www.minervaeurope.org/structure/workinggroups/goodpract.htm. WP6 Reports and documents can be referred to at: http://www.minervaeurope.org/structure/workinggroups/goodpract/docindex.htm.

[2] The campaign for the collection of good practices is presented at: http://www.MINERVAeurope.org/goodpractcamp.htm; the campaign for the collection of information on competence centres at: http://www.MINERVAeurope.org/competencentrecamp.htm.

[3] Good Practice Handbook*: http://www.MINERVAeurope.org/publications/goodhand.htm.*

[4] *Digitisation guidelines: a selected list* (http://www.MINERVAeurope.org/guidelines.htm).

[5] The study is to read at: http://www.minervaeurope.org/structure/workinggroups/goodpract/costreduction/documents/wp6costreduction0904.pdf.

[6] Workgroup presentation: http://www.minervaeurope.org/structure/workinggroups/inventor.htm. Reports and documents related to the activity of WP3 are to find at the following url: http://www.minervaeurope.org/structure/workinggroups/inventor/docindex.htm

[7] The *Specifications* is published just online (http://www.minervaeurope.org/intranet/documents/specinv0311.pdf).

[8] Survey of Multilingualism and the Use of Controlled Vocabularies of Cultural Sites in MINERVA Countries: http://www.mek.oszk.hu/MINERVA/survey/survey.html

WP4, Interoperability and service provision. This action line was set up with the ambitious objective of identifying a European common framework for an information environment allowing the delivery of shared services and the integrated access to digital cultural resources.[1]. The goal was to be achieved through analysis and comparison of international and national approaches, activities, research and best practice concerning technical and metadata standards. Main outcome of this action line is the *Technical Guidelines for Digital Cultural Content Creation Programmes* (presented further).**WP4 subgroup IPR, copyright and data protection**. In some countries a specific sub-group was set up to address IPR issues,[2] because of their wideness and complexity. This sub-group deals with how rights can be assigned to or shared with funding bodies, negotiated with licensing agencies, special provision be made for free access for educational or other specific uses, how cultural institutions can exploit commercial rights for reuse, as well as other legal and regulatory issues, such as privacy, data protection, freedom of information, security.

WP4 Specific Topic. The study of IPR issues is particularly focused in the framework of MINERVAplus. The University of Athens, Greek partner of the network, continues the activity undertaken by English and Italian working groups, aiming at defining a business model for digitisation projects which will represent a specific tool for the management of IPR and related issues.

WP5, Identification of users' needs, content and quality framework for common access points. The objective of this workgroup is to provide a shared vision of quality criteria for websites intended to give access to cultural and scientific contents, and to encourage the use of accessibility and quality framework in cultural websites, thus facilitating the networking of cultural information.[3]

The workgroup published the *Handbook for Quality in Cultural Websites: Improving Quality for Citizens*,[4] it arises from the Brussels Quality Framework, edited in 2001,[5] which proposes some criteria for accessibility and quality of cultural websites. An English version and an Italian edition of the Handbook have been issued, a German version is foreseen.[6] The Italian WP5 is at present checking the criteria proposed by the handbook through a programme of test beds.[7] The results of the assessment will be presented in Spring 2005.

The basic concepts of the quality handbook have been condensed into ten *Cultural Website Quality Principles*, whose translation into several European languages is available on MINERVA website, but has also been disseminated through printed posters and postcards.[8] The European WP5 has further developed an explanatory document on the criteria for the adoption of the ten Principles.[9]

WP5 Specific topic. The specific objective of MINERVAplus WP5 activity is to provide concrete tools for the creation and management of quality cultural content for the Web to small and medium cultural institutions, adapting and disseminating the MINERVA WP5 products.

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[1] Workgroup presentation at: http://www.minervaeurope.org/structure/workinggroups/servprov.htm. Reports and documents produced by WP4 can be referred to at: http://www.minervaeurope.org/structure/workinggroups/servprov/docindex.htm

[2] IPR Subgroup presentation: http://www.minervaeurope.org/structure/workinggroups/servprov/ipr.htm

[3] Presentation of the workpackage at: http://www.minervaeurope.org/structure/workinggroups/userneeds.htm. Reports and documents are to find at: http://www.minervaeurope.org/structure/workinggroups/userneeds/docindex.htm.

[4] Handbook webpage: http://www.MINERVAeurope.org/publications/qualitycriteria.htm.

[5] Brussels Quality Framework website: http://www.cfwb.be/qualite-bruxelles/.

[6] *Manuale per la qualità dei siti Web pubblici culturali:* http://www.MINERVAeurope.org/publications/qualitycriteria-i.htm.

[7] For information on *Handbook* testing:
http://www.MINERVAeurope.org/structure/workinggroups/userneeds/handbooktest-i.htm.

[8] Cultural Website Quality Principles: http://www.MINERVAeurope.org/structure/workinggroups/userneeds/documents/cwqp-uk.htm The text of the principles has been so far translated into: English, French, Spanish, German, Greek, Estonian, Hungarian, Italian, Slovenian.

[9] Commentary and Exploration of the Ten Quality Principles
http://www.minervaeurope.org/publications/qualitycommentary_en.htm. Also available in Hungarian.

Digitisation Cluster

MINERVA promoted the set up of a so-called cluster of the European networks and projects dealing with digitisation of culture heritage. Purpose of the initiative was to promote reciprocal cooperation among the networks in order to avoid duplication of efforts, maximise the effectiveness of the projects and define a common research area in the field of digitisation of cultural heritage. [1].

The digitisation cluster met for the first time in Rome in October 2003, on which occasion a first set of issues to tackle was agreed.

The cluster gathers at present the following projects, mostly funded by IST 5th and 6th FP: BRICKS, CALIMERA, DELOS, DIGICULT, EPOCH, EMII-DCF, ERPANET, EVA network, HEREIN, MUSICNETWORK, PRESTOSPACE, EUROMED HERITAGE II and SCRAN.

Among the outcomes of such coordination initiatives:

– MINERVA and EMII-CDF joint position paper *Encouraging IST research on European digital cultural content, fostering a common strategic action line to enable the transfer of new technologies to memory organisations*[2].

– MINERVA and ERPANET workgroup on long term preservation of digital memories.

Technical Guidelines for Digital Cultural Content Creation Programmes

MINERVA WP4 promoted the cooperation among IST-funded cultural networks on technical and metadata standards. The main outcome, the *Technical Guidelines for Digital Cultural Content Creation Programmes,*[3] was drafted in cooperation with the PULMAN, EMII-DCF and ERPANET projects and proposed for adoption and improvement to all cluster projects.

Throughout Europe, international, national, regional and local initiatives are investing significant public and private sector funding to enable access to a range of cultural heritage resources through digital channels. In order that the content produced is as widely useful, portable and durable as possible, resources should be interoperable, accessible, preservable and secure. *Technical Guidelines* suggest the appropriate use of standards in digitisation as the way to ensure for digital resources the consistency that makes interoperability possible.

Intended primarily as a resource for policy-makers, and for those implementing funding programmes for the creation of digital cultural content, *Technical Guidelines* is not intended to be a single prescriptive set of requirements to which all projects must conform, but seeks to identify those areas in which there is already a commonality of approach and to provide a core around which context-specific requirements might be built. TG structure reflects a 'life cycle' approach to the digitisation process, paralleled in MINERVA *Good Practice Handbook*, which emphasises the importance of seeing the project as a whole, and how decisions taken at given stages have implications for the rest of the process and affect the continuing development of the service. The guidelines text distinguishes between requirements and guidance using the keywords 'must' 'should' and 'may', based on Internet Engineering Task Force (IETF) terminology. Within each section guidance on practice and detailed standards is provided, and links are provided to sources of further guidance and information when available.

Technical Guidelines aims at representing a firm foundation for the development of interoperable trans-European services and will be maintained and updated. To foster the adoption by national digitisation programmes and by European projects dealing with digitisation of cultural heritage, *Technical Guidelines* are being translated,

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[1] Digitisation cluster webpage: http://www.MINERVAeurope.org/digicluster.htm.

[2] http://www.MINERVAeurope.org/intranet/documents/emiiMINERVA0310.pdf.

[3] Technical Guidelines webpage: http://www.MINERVAeurope.org/publications/technicalguidelines.htm; full text of the English version 1.0 at: http://www.minervaeurope.org/structure/workinggroups/servprov/documents/techguid1_0.pdf.

updated and localised. To date, a French translation including French references is already available on the website.[1]

An Italian workgroup has been established to issue an Italian edition, taking into account national standards and guidelines, to support the creation of digital resources in the framework of the forthcoming National Multilingual Portal of the Cultural and Tourism Resources.

MINERVA Spin Offs: MICHAEL

MICHAEL is the first MINERVA spin-off, based on the joint efforts of Italy, France and United Kingdom on interoperability and inventories carried out within MINERVA, and was approved and funded in the framework of eTen programme, based on national funding.

The project acronym stands for Multilingual Inventory of Cultural Heritage in Europe;[2] it aims at establishing a trans-European inventory of digital cultural collections and resources and an international online service allowing the users to search, browse and examine them, also enabling the search across multiple national cultural portals from a single access point.

The MICHAEL consortium is made up of the French Ministère de la culture et de la communication, the UK Museums, Archives and Library Council and the Italian Ministero per i beni e le attività culturali, which is the project coordinator. The Ministries are supported by three private partners for the technological and administrative aspects.

Participation of other European countries is expected; some candidate partners have already expressed their interest, and will start their activity once a stable MICHAEL instance will be ready (first half of 2005).

MICHAEL platform is based on standards and open-source technologies that allow flexibility and and extensibility, and builds upon the following existing assets:

– the technical platform used in the French *Catalogue des fonds culturels numérisés*;[3]
– the metadata model for inventories of digital collections developed by MINERVA WP3;
– the French-Italian Prototype Portal, developed by MINERVA WP3 based on the two previous assets;
– European standards, methodology and further guidelines established by MINERVA and agreed and validated by the NRG.

The end user will exploit MICHAEL services to find and explore European digital cultural heritage, made accessible over the Internet on a multilingual basis. MICHAEL will thus make further progress towards the implementation of Lund Action Plan.

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[1] Recommandations techniques pour les programmes de création de contenus culturels numériques:
http://www.minervaeurope.org/structure/workinggroups/servprov/documents/techguid1_0-f.pdf.

[2] MICHAEL project website: www.michael-culture.org.

[3] http://www.culture.gouv.fr/culture/mrt/numerisation/fr/f_02.htm.