Hungary

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Policy scenario

1. General description

In Hungary the Information Society Strategy – which was endorsed by the government in 2003 – has outlined the major directions that must be followed to achieve the main development objectives in the area of cultural and scientific digitisation. The priority areas are the following:

• preservation of cultural heritage by digitisation
• improving accessibility to digitized cultural contents
• encouraging the creation of new digital cultural works and products
• enhancing the synergic effects of cultural and creative industries upon the economy and on social cohesion.

It has been understood that cultural and scientific digitisation is a key factor in fostering development in a knowledge-base society. It has also become clear that the digitisation of our cultural heritage must be accomplished in the foreseeable future in order to keep pace with the requirements of the information age. Culture is a separate section in the Hungarian Information Society Strategy. This implies two basic roles: the twofold obligation of preserving and distributing cultural values. In this regard, steps should be made to establish a structured, mapped system of national cultural assets, which provides accessibility, as well. The fundamental objective is the inventory of cultural assets, then the harmonization and completion of catalogues. Important components of this process are:

• setting up of the National Audiovisual Archives
• digitisation of the cultural heritage

• creation of the Digital Archives of Contemporary Fine Arts
• development of common catalogues of library, museum, and archives collections
• collection, archiving and cataloguing of digitally born documents
• working out of recommendations and standards for digitisation, archiving and services.

To facilitate the efficient re-use of national data resources and the public use of our digital heritage a content development framework should be set up, which provides infrastructure, common standards, and visibility for cultural and other contents of public interest, furthermore gives easy access for those interested. Electronic meta-archives should be created which enable the improvement of our citizens' quality of life and ability of self-determination by means of the cooperation of content providers in linking existing and continuously expanding public databases into a unified framework.
This framework called NDA (National Digital Data Archives – www.nda.hu) was established in mid 2004. The initial and primary task of NDA is the integration of the various cultural contents and data of public institutions. Participation in NDA is voluntary and it embraces libraries, archives, museums, film, radio and television archives or institutions, news agency archives, and owners and holders of other public data. NDA is basically a coordinating body helping participants with uniform description rules (universal meta-database system) and standards, common search interface, and with training and advisory services. The institutions that want to become member of NDA must agree to apply the required rules and standards for the digitised contents they produce.

2. Range of policy

A survey has been completed by the National Library concerning the inventory of Hungarian cultural assets in order to assess the quantity of cultural values to be digitised. The results are:

	Inventory units	Units to be digitised	Storage needed
Movable heritage	11 000 monuments 50 000 archaeological sites 915 000 source documents	915 000 source documents	920 Gbytes grey 1,2 Tbytes colour 7,2 Gbytes text Total: 2,1 Tbytes
Library	111 000 000 documents	3 520 000 documents	7,6 Pbyts video 143 Tbytes sound 231 Gbytes text 2 Tbytes b-w image 45 Tbytes grey image 7,1 Tbytes colour Total: 7,8 Pbytes
Archives	3 500 000 000 pages	40 000 000 units	135 Tbytes b-w image 424 Tbytes grey image 288 Tbytes colour Total: 847 Tbytes
Museum	59 000 000 objects	14 800 000	710,4 Tbytes colour
Audiovisual	20 000 films 165 000 hours tv 662 000 radio tapes 44 000 000 pages of documentation	5 000 films 165 000 hours tv 662 000 radio tapes 44 000 000 pages	500 Tbytes film 16,5 Pbytes tv 160 Tbytes sound 120 Tbytes b-w image Total: 17,3 Pbytes
Total		103 902 000 units	**Total: 26,62 Pbytes**

To manage the digitisation of this enormous quantity of national cultural wealth, we have to set priorities. Estimates were made on the costs of digitising cultural assets in the framework of NDA for the coming years. Find below the share of costs for priority projects.
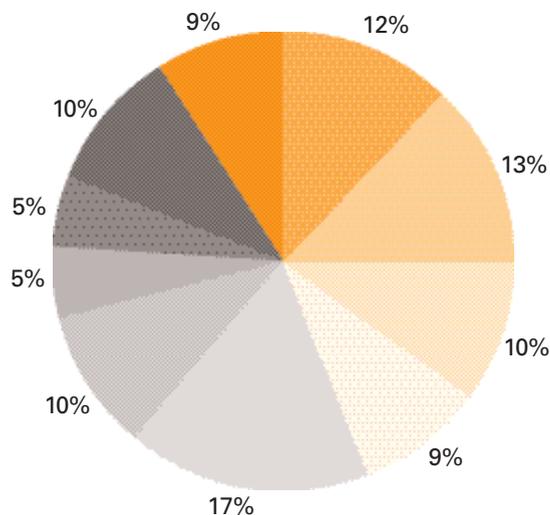
Ministries involved

In 2002 the Ministry for Informatics and Telecommunication (`www.ihm.hu`) was set up, which is responsible – among others – to take action to enable citizens to exercise their fundamental human right of access to information; it shall take action by providing state-of-the-art information facilities and opportunity to prepare society at large, to employ new means and methods in everyday life, communication, the economy, education, healthcare, transport, public services and public administration to implement the knowledge-based information society. The tasks of the Ministry include:

- the development of a uniform and comprehensive government strategy in relation to information society, and
- the co-ordination and supervision of in-country and international technological activities within his competence.

The Ministry of Cultural Heritage (`www.nkom.hu`) is responsible – among others – for the protection and preservation of the national and universal cultural heritage, for its scientific exploration and for its availability for everyone. As digitisation serves each of the three above responsibilities, the Ministry of Cultural Heritage plays a decisive role in the emerging knowledge society.

The Ministry of Education (`www.om.hu`) is responsible for matters regarding primary and secondary general education, universities and colleges, scientific research and adult education. The institutions under its supervision are important creators and users of digitised contents. The ministry supports the national academic information infrastructure development program, which hosts the network for academic institutions and for a great number of public collections. It sponsors a school network program, which brings IT tools and contents into secondary and elementary schools.

3. Available instruments and their use

The first phase of the National Digital Data Archives (NDA – www.nda.hu) has been accomplished. The first pilot projects of NDA have shown the extensive usability of an integrated system to make digital contents available. The participants of the pilot project were major cultural institutions such as the National Library, the Hungarian News Agency, the Open-air Museum of ethnography, the Hungarian Radio, Hungarian Motion Picture Public Foundation etc. The search page of NDA is operational (`http://kereso.nda.hu`), so far only in Hungarian. As of early June 2004, NDA can provide access to more than 30000 digitised items, texts, images, films and sound documents. Three working groups have completed the first part of their work. The first one (Name Space WG) has defined the principles of putting up a name space consisting of name types such as personal names, corporate names and geographical names. This group has identified the ways how to employ the existing name indices when creating the name space of NDA. The second group (Terminology WG) has generated a starting terminology vocabulary containing 2759 terms (of which 2239 are descriptors) and their definitions. The third group (Contents-infrastructure WG) – among others – has dealt with the NDA management system capable to handle and modify the name spaces. One

- Pilot projects in National Institutions
- Support for public collections to join NDA
- Integration of existing digitised contents into NDA
- Production of the National Biliography
- Digitisation of severly damaged cultural goods
- Creation of virtual museums
- Special themes of digitisation
- Training of memory institutions staff and information brokers
- Replacement and renewal of technical equipment
- Watermark, authorisation, DRM and micropayment

of the most important tasks of this WG is to coordinate and assist NDA partners to find the appropriate metadata both qualitatively and quantitatively. NDA is a network of independent partner institutions. They may play three roles: the function of Data Provider (DP), Service Provider (SP), and Protocol Provider (PP). Data Providers are memory institutions that own the catalogues and the digital contents enabling integration. Data Providers provide services for the users based on the data of memory institutions. The Protocol Provider is a standardisation organisation which coordinates the rules of metadata and contents digitisation and transfer. The cooperation is based on the OAI-PMH protocol, the data exchange structure of which rests on Dublin Core that must be applied by the partner institutions. Since DC is too general for the memory institutions, NDA recommends the use of qualified DC for the partners, and gives them assistance in selecting or in carrying out the appropriate qDC scheme, and also in interfacing the OIA server enabling data exchange.

Co-operation

1. National networks

National networks have been organised along traditional professional lines, that is for example libraries maintain their network through the Association of Hungarian Librarians – with a section of IT librarians –, and the Alliance of Libraries and Information Institutes. However, recently new, multidisciplinary networks have emerged as a result of cooperative efforts in digitisation of public collections. As an example can be mentioned the cooperation between the National Library and the National Museum, or the collaboration of library,

archives and media experts in developing the National Audiovisual Archive. New networks came into being as a result of events organized by the Hungarian Association of Content Industry (www.matisz.hu). And last but not least the NDA project has played an important role in building new networks of experts active in digitisation issues such as technical solutions, interoperability, content creation, user needs, legal aspects and standardisation.

2. International co-operation

The Publika Hungarian Library Group as country coordinator is active in the work of the CALIMERA project coordinating IST for Europe's local cultural institutions. They prepared and updated the country report in November 2004.
The Computer and Automation Research Institute of the Hungarian Academy of Sciences (MTA SZTAKI) has participated in the DELOS project and the DELOS Network of Excellence on Digital Libraries project. The Department of Distributed Systems has played an important role in the management and testing of the ETRDL (ERCIM Technical Reference Digital Library). The National Széchényi Library – as a test site – participated in the ONE-2 project whose main aim was to exploit the results from the project ONE (OPAC Network in Europe) and to extend those results concerning Item Ordering, Inter Library Lending, Copy Cataloguing and Update, Electronic Document Delivery. Although the project ended, the cooperation still exists. In 2004 the National Library and the Computer and Automation Research Institute (SZTAKI) played an active part in the work of the ERPANET by sharing information and practices in the area of digital preservation of cultural heritage.
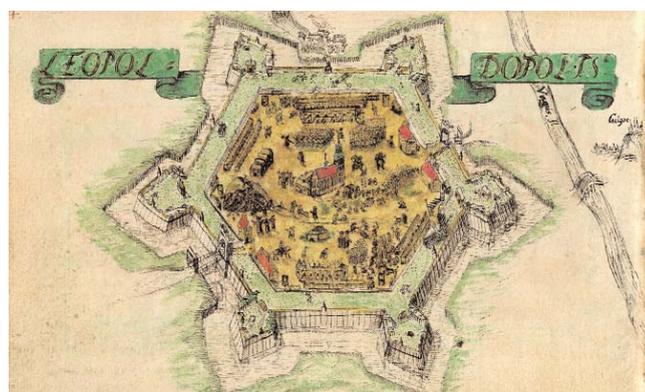
From the book of Lutheran priest Tobias Masnicius, 1674
Collection of the Lutheran Church Archives, Budapest
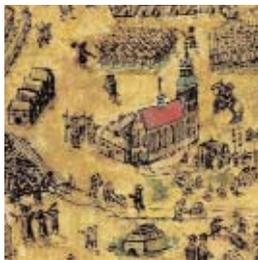
3. NRG and MINERVA results

The partner in the MINERVA project is the National Library, however the NRG-member appointed by the minister of culture is a mid level ministry civil servant. As a result of the MINERVA Plus kick-off meeting held in Budapest in February 2004, awareness of the need for cooperation in the field of digitisation has increased. The Hungarian MINERVA group was formed as an informal network of experts involved in cultural and scientific digitization. Key figures in this area were addressed and a limited number of experts were found from the following entities: library (National Library., electronic/digital libraries), museum (National Museum), mid level ministry civil servants (Library division, archives division, digitization department of the Ministry of Informatics), active experts of a research institute SZTAKI, the leader of an NGO representing content providers, and legal experts of IPR. The group now consists of 12-14 people but the number of participants will grow as more members interested in MINERVA initiatives are invited.

The group meets at least twice a year, but members keep contact by a mailing list. Since they are very busy with their regular work, little time and effort is put into network building. But many of the members actively work in digitisation related fields, so in their normal work they get involved with what MINERVA aims at. Decisions are made by consensus building.

Survey of multilingual websites and thesauri – WP3
The aim of the survey was mapping the multilingual access to the European digital cultural content. An online questionnaire was compiled (www.mek.oszk.hu/minerva/survey), which examines the multilingualism of cultural sites and institutions.

The data collection started in June, and ended in August 2004. There were 236 answers from 21 states. This high score showed diversity in participation: answers ranged from 1 to 40 per states, this shows how many institutions registered their websites in our database. There were 67 libraries, 63 museums, 35 archives, 21 cultural sites, and 45 other institutions. The results of the first run was, that 30% of the websites are monolingual, 43% are bilingual, and about 26% are multilingual. There were 31 thesauri or controlled vocabularies registered: 13 from Italy, 10 from the United Kingdom, 6 from Hungary, 1 form the Netherlands and 1 from Austria.
At the Budapest meeting on 12th of November 2004 the members of the working group presented a short country report focusing on multilingualism. New rules, and restrictions for the survey were agreed, and it was decided that a second run for countries underrepresented in the survey must be started. This will be closed at the end of January.
The report of the survey will be published in June 2005.

Main digitisation initiatives

1. National portals for culture / networked digital repositories

The most important initiative is the above mentioned National Digital Data Archives (NDA), which is a framework for digital public content creation projects comprising – first of all – cultural and scientific contents.
In the light of the new Act, the National Audiovisual Archive project is ready to start off in early 2005 based on the feasibility study completed in 2004.
www.nava.hu

In early 2004 a new portal was launched under the auspices of the Ministry of Cultural Heritage.
`www.kultura.hu`

The Hungarian Culture Homepage was created to maintain a database on the Internet to help establish cultural relations. At present they have data from 2,500 cultural organisations in Hungary.
`www.port.hu/kultura`

A portal of the network of Hungarian cultural institutions declared its aim to comprehensively inform the visitor «about everything in connection with culture, education and entertainment in Hungary».
`www.erikanet.hu`

The biggest cultural programs site offers online information on cultural programs nationwide.
`www.est.hu`

The portal for theatre makers and goers offers valuable information.
`www.theateronline.hu`

2. Services for the users

The National Library provides electronic library services called MEK. MEK collects resources concerning Hungary or the Central European region, in the fields of culture, education and academic research.
The collection consists of text-based resources, but does not exclude other formats such as maps, sheet music etc. The Hungarian Electronic Library also collects periodicals and journals, and links to other relevant resources, services and documents concerning libraries.
`www.elib.hu`

Acquisitions of MEK in 2004	918 documents
MEK's collection consists of totally	2 311 documents
Visitors of the MEK's website in 2004	2 437 855 visitors

The digital library named John von Neumann Digital Library – which was the first one in Hungary – keeps to play a significant role in providing digital library services.
`www.neumann-haz.hu`

These services are:
- *WebKat.hu*: building the online catalogue of Hungarian Internet sources - The number of documents held at the end of 2004 exceeded 227 thousand.
- *Digital Literary Academy*: the online database of Hungarian contemporary literature – more then 33 thousand literary works held.
- *Bibliotheca Hungarica Internetiana*: digitization and publication of texts on the web. The number of documents is over 27 thousand.
- Providing access to the works of *Classic Hungarian Poets and Contemporary Hungarian Writers*.

The major public institutions
The key actors in digitising cultural contents are the national libraries, the main university libraries and a few municipal (and/or regional) libraries, the Hungarian Film Archive (`www.filmintezet.hu`), the National Archives (`www.natarch.hu`), and the major museums: the Hungarian National Museum (`www.hnm.hu`), the National Gallery (`www.mng.hu`), the Museum of Fine Arts (`www.szepmuveszeti.hu`), the Museum for Natural Sciences (`www.nhmus.hu`) , the two museums for ethnography (`www.hem.hu` and `www.sznm.hu`) and others (`www.museum.hu`).
The National Library (`www.oszk.hu`) plays a leading role

Wanderbook, 1852
Collection of the Textile Museum

in providing digital services for other libraries and for the general public, as well. A great part of its holdings is accessible through an online catalogue on the Internet and the library is currently carrying out a retrospective catalogue conversion project. The library continued to fulfil its task in the field of electronic publications: to store, register and make available all types of electronic documents received as deposit copies, and to manage and make available the electronic documents created through the complex digitisation activity in the library.
Museums and archives in Hungary have made a considerable progress in the digitisation of their holdings in 2004. Good examples are the website of the open-air museum for ethnography (`www.sznm.hu`) and the National Archives (`www.natarch.hu`), and the LAPODA museum inventory and registry system using the most recent technology and XML standards (`www.lapoda.hu/textilmuzeum.hu`).
The National Audiovisual Archive (NAVA) has been established underlying the fact that the preservation of the national audiovisual heritage is of utmost importance. An act on legal deposit of broadcast programs has been passed by Parliament.
This new Act defines the scope of audiovisual documents (used in the broad sense: including all kinds of broadcast material) to be digitised and preserved. A legal deposit already exists for cinema films, and the documents are collected by the Hungarian National Film Archive (`www.filmintezet.hu`).

3. Emerging initiatives

Management of electronic documents of legal deposit
Legal deposit of electronic documents currently covers digital objects published on physical media like

CD-ROMS, DVDs etc. The issue of extending legal deposit to documents made available on the Internet is considered. The principles of electronic document management are that it should:

• follow the scheme of traditional document management
• be based on standards
• ensure multiple retrieval
• enable controlled access
• offer long term solution
• handle archival and service copies together
• note copy right issues.

At the end of 2004 the results are encouraging: the file system of the digital storage has been shaped, URN generation and resolution are operational, and the bibliographic description of electronic documents has been worked out.
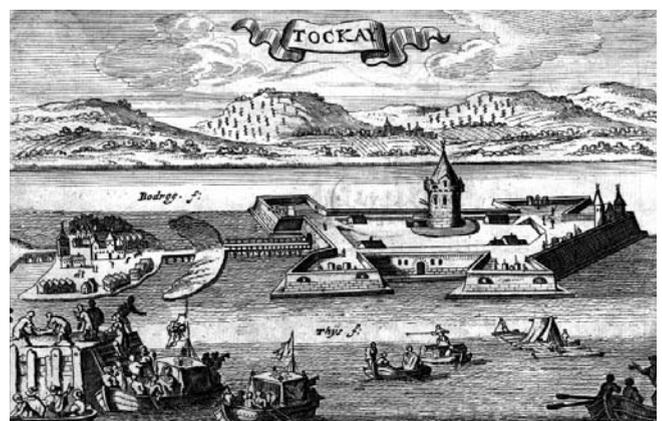
Military history map of Tokaj, 1688
Tokaj [Anvers] : [Chez Henry van Dunwalt… & chez Gasper Bouttats…], [1688], copperplate
Map Collection of the National Széchényi Library