

Estonia

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1. Users and content

1.1. National portals for culture, networked digital repositories, digitisation projects

State Conservation Centre "Kanut"

<<http://www.kanut.ee>>

- Virtual exhibition "Modernism in Estonian Art at the beginning of the 20th century" – a pilot project for the software solution "Virtual Exhibitions System". (See also sections 2. and 3.2.1.)
<<http://www.virtuaalmuuseum.ee/>>
- The Red Book of Estonian Museums – project started in 2000. Objective: to save Estonian museum objects on the basis of a single system and to store them in digital form in one place. To make archived materials accessible for scientific and educational purposes in Estonia via Internet.
- Digitisation project "Carpets in the Tallinn Town Hall" – the originals of the picture carpets of the Tallinn Town Hall dating from 1547 were digitised and restored. Based on the outcome of the final product new carpets were woven, the digitised material was archived and made accessible for the researchers.

National Library of Estonia

<<http://www.nlib.ee>>

- ESTER – electronic catalogue of Estonian libraries
<<http://ester.nlib.ee>>
- Catalogue of e-magazines of the Estonian National Library
<<http://atoz.ebsco.com/home.asp?l d=natlib.ee>>
- Theme gate of the Estonian National Library
<<http://pang.nlib.ee:1083/lingid>>
- ERB – database of Estonian national bibliography
<<http://erb.nlib.ee>>
- ISE – central bibliographical database of articles in the humanitarian and social field
<<http://ise.nlib.ee>>

- BIE (*Bibliographia Iuridica Estonica*) – juridical bibliography database
<<http://bie.nlib.ee>>
- DEA – digitised Estonian newspapers; a selection of papers from 1857 to 1920
<<http://dea.nlib.ee>>
- Digital collections – digitised materials from the collection of the Estonian National Library
<<http://www.nlib.ee/132>>
- On-line publications of the Estonian National Library
<<http://www.nlib.ee/135>>
- E-exhibitions of the Estonian National Library
<<http://www.nlib.ee/136>>
- EU questions and answers
<<http://elik.nlib.ee/?id=32>>

Emerging initiatives:

- DIGAR – DIGital ARchive has been developed with the support of the EU e-Content programme project reUSE. Idea is preserving digital copies of publications and making them available to the public.
<<http://digar.nlib.ee>>
- The Red Book of Estonian Publications lists Estonian national imprint from the very first copies up to the year 1850, constituting the first part of the complete list of national publications which are significant in the context of Estonian culture.
<<http://www.nlib.ee/PunaneRaamat/>>
- ERIK@ – Estonian Resources on the Internet: Cataloguing and Archiving. The aim of the project is to work out methods and means of collecting, registering, archiving and providing access to Estonian on-line publications.

Estonian Literary Museum

<<http://www.kirmus.ee>>

- BIBIS – database of the analytical bibliography of Estonian media
<<http://www2.kirmus.ee/biblioserver/>>

- ISIK – Estonian biographic database
<<http://www2.kirmus.ee/biiblioserver/isik/>>
- ELLEN – manuscripts database
<<http://www2.kirmus.ee:8080/ellen/avalik.do>>
- ERNI – Estonian cultural and literary history in texts
<<http://www.kirmus.ee/erni>>
- Databases of Estonian folklore (proverbs, sayings, puzzles, wordplay, conundrums, riddles, Web humour, ethno astronomy in Estonian and in English)
<<http://halajas.folklore.ee/ebaas/>>:
 - ESTONIAN DROODLES – digital copy of the card catalogue that was compiled on the basis of manuscript collections of droodles stored in Estonian Folklore Archives
<<http://www.folklore.ee/Doodles/>>
 - JUSTKUI – database of sayings and phraseology
<<http://www.folklore.ee/justkui/>>
 - LEPP – portal of South Estonian tradition
<<http://www.folklore.ee/lepp/>>
 - E-collection: queries of the folklorists' internal server Klaabu (electronic publications, digitised manuscripts etc)
<<http://www.folklore.ee/cgi-bin/ekogud>>
 - Sugrimaa – website of Fenno-Ugric nations
<<http://www.folklore.ee/ri/folkte/sugri/>>
 - *Estonische Sprichwörter mit der buchstäblichen Übersetzung in die deutsche Sprache* (12,700 Estonian proverbs with translations into German; searchable by keyword and type number either among Estonian or German texts)
<<http://www.folklore.ee/ri/date/saksa/>>
- RADAR project about local traditions (including also folklore and monuments) connected to GIS (geographical information system): a CD was produced for the purpose of tourism and education. A further development of RADAR is foreseen by means of mobile phones.
<<http://www.folklore.ee/radar/>>
- BERTA – database about important days in the folk calendar of the past and the present + CD version of the folk calendar: digital presentation of special days connected with traditions.
<<http://www.folklore.ee/Berta/>>
- Digitisation of folk music recordings: modern recordings of folk songs ("Anthology of Estonian traditional music" 3 records, first recording in 2003, re-issue in 2004).
- Digitisation of video collection: recording the traditions of Finno-Ugric nations on DVDs.

- Digitisation of exhibition materials: a portal "Kreutzwald's century" is being compiled, that gives an overview about the development of Estonian culture during the 19th and 20th centuries as compared to the development of Western Europe and Russia. (Fr. R. Kreutzwald compiled Estonian national epos "Kalevipoeg").
<<http://kreutzwald.kirmus.ee/>>
- A portal of the Estonians in the East is being compiled: depicts information regarding the people who moved from Estonia to the East.

Estonian National Museum

<<http://www.erm.ee>>

- Presentations of museums' collections with samples (photo collection, objects collection, library, archive, film archive)
<<http://www.erm.ee/?lang=ENG&node=1>>
- Exhibitions and events, including electronic exhibitions
<<http://www.erm.ee/?lang=ENG&node=54>>
- Estonian folk culture – overview of Estonian traditions, customs, lifestyle, work, items etc
<<http://www.erm.ee/?lang=ENG&node=11>>
- For children – games, events, educational programmes
<<http://www.erm.ee/?lang=ENG&node=9>>

National Archives of Estonia

<<http://www.ra.ee>>

- AIS – database that allows users to search for documents preserved in the National Archives of Estonia. Ca 3 million archival records of the total 8 million records are available via AIS.
<<http://ais.ra.ee/ais/>>

The Estonian Historical Archives

<<http://www.eha.ee>>

- URRAM – electronic catalogue of the library of the Estonian Historical Archives (URRAM is an Internet-based library management software for Estonian libraries, system development was co-ordinated by the Ministry of Culture of Estonia)
<<http://www.ra.ee/urram>>
- 17th century publications (until 1710) in the fund of the Estonian Historical Archives
<<http://www.eha.ee/plakatiid/>>

- Album Academicum Universitatis Tartuensis 1918-1944 – database of the study certificates of the University of Tartu supplemented with bibliographical data, located at the Estonian Historical Archives
 - Archival records in the archives of the Estonian Evangelist Luther Church that include bibliographical data
 - Tartu projects – collection of blueprints of the buildings in Tartu approved by the Tartu City Government during 1871-1918
 - Fellows of the George medal in Estonia
<<http://www.eha.ee/georgi/index.htm>>
 - Register of the maps of the Estonian Historical Archives
 - Register of the manors on the Estonian territory
 - Register of the communes in Estonia from 1866 to 1917
- Emerging initiatives:
- SAAGA – Digitalised Family History Sources. Contains parish registers, parish member lists of the Estonian Evangelical Lutheran Church (EELK) and the Estonian Apostolic Orthodox Church (EAÕK), tax revision lists and lists of commune members. About 4000 microfilm shots are scanned in a day, the capacity of the whole project is appraised to 3 millions pages of scanned text, which should be accessible to the users by the year 2008. By now, about 750 000 shots have been scanned and the cost of the whole project is approximately 3 million Estonian crowns (one half of this is planned for hardware and another half for carrying out the scanning).
<<http://www.eha.ee/saaga>>
 - KUPITS – map server of the administrative borders in Estonia 19th - 20th Century
<<http://www.eha.ee/kupits/>>

Estonian National Television

<<http://www.etv.ee>>

- From the year 2004 the news and sports programmes of the Estonian Public Service National Television are operated and stored in digital format
- Digitised materials of the photo archive of the Estonian Public Service National Television

Estonian National Radio

<<http://www.er.ee>>

- Cultural and historical sound-documents.
<http://www.er.ee/index.php?lang=est&main_id=225>

Estonian Institute

<<http://www.einst.ee>>

- Calendar of cultural events in Estonia
<<http://kultuur.info/>>
- Web encyclopaedia *Estonica* – bilingual Web publication, compiled by the Estonian Institute, with the aim of offering a compact and systematic overview of Estonian society, culture, history, nature, education, science, state administration and economy, and of the connections between these fields.
<<http://www.estonica.org/>>
- Electronic versions of publications about Estonia
<<http://www.einst.ee/publications.html>>
- Digital album “Empty Space” – works by 12 Estonian artists and photographers
<<http://www.einst.ee/tyhiroom/>>

1.2. Multilingualism

Examination of Estonian cultural websites still shows modest use of multilingualism. Survey that was conducted in 2005 included 30 museums (museums within the government of the Ministry of Culture of Estonia, municipal museums that are financed by the Ministry of Culture of Estonia and county museums), 20 libraries (research and special libraries, central libraries) and 4 archives (governmental and national archival institutions). 24 of these websites were monolingual, while 30 were multilingual as follows:

- 20 sites were available in 2 languages
- 7 sites were available in 3 languages
- 2 site was available in 4 languages
- 1 site was available in 5 languages

4 foreign languages were represented including English (28), Russian (9), German (4) and Finnish (3). The extent to which the content is available in these languages varies. On the websites there are many signs of work-in-progress: pages in other languages being announced or in an early stage of development.

In 2006, the Ministry of Culture of Estonia will present the Development Strategy for Museums for approval of the Government of the Republic of Estonia. This document will give a special attention to multilingualism issues.

2. Technologies for digitisation

The collaborative effort in developing strategies and standards has generated wider discussions of digital cultural heritage issues, has given an opportunity to practically all stakeholders to participate, has been mutually instructive and has spurred further co-operation between institutions involved. For example, digitisation services are now shared – the National Archives microfilm scanner was used in two largest digitalisation projects in Estonia: project “Saaga” at the Historical Archives digitising family history records and at the National Library and the Literary Museum project Digitised Estonian Newspapers (DEA). In 2005, National Library purchased its own high-powered microfilm scanner.

The Council for Digital Preservation of Cultural Heritage will form special working groups in the near future to deal with the needs of the users and formation of digital archives.

National Library is developing its projects in co-operation with the researchers of Tallinn University of Technology. Collections management software for museums has also been designed in co-operation with Tallinn University of Technology.

Virtual exhibitions system

<<http://www.kanut.ee/vns/index.php>>, established by the State Conservation Centre “Kanut”, is the special software for museums, enabling to provide also in-depth data in addition to images, or interconnect a number of images to one record. The new system grants better access to museum collections, it can be adjusted according to the needs and use different languages. (See also section 3.2.1.)

National Library of Estonia launched a project ERIC@ (Estonian Resources on the Internet: Cataloguing and Archiving) in 2000, its objective is to elaborate an archival system for Web publications and establish the functioning archives.

3. Sustainability of content

3.1. Metadata standards

Working group for compiling metadata of digitisation of cultural heritage was set up in 2003 upon the decision

of the Council for Digital Preservation of Cultural Heritage. The specialists from National Archives, National Library, Estonian Television, Estonian Business Archives, Ministry of Culture of Estonia and State Conservation Centre “Kanut” were included in the working group.

For now, 4 lists of metadata standards are complete: metadata for the digitisation process, administrative, technical and access control metadata. Internationally accepted metadata standards and examples have been taken into account and compatibility of the elements of metadata with them has been shown. Elaborated metadata do not require a special software solution and can be implemented in any (info-technological) environment.

Metadata advise the minimum of the description, which is enough for digital safekeeping and use of cultural heritage. At the same time, all the elements pointed out are not for obligatory use and it is up to every institution to decide, if it uses indicative elements or there is a need for complementary ones, which are not submitted by current directories.

3.2. Open software

3.2.1. Virtual Exhibitions System

In connection with the exhibition “Estonian expressionism in 1900-1930” of the Tartu Art Museum, which was exhibited since 30th of May till 5th of November in 2005 at Egon Schiele Art Centre in Ěesky Krumlov in Czech Republic, emerged an opportunity to summarize comprehensive and representative material to exhibition catalogue as well as to Web. In co-operation of Conservation Centre “Kanut” and Tartu Art Museum the whole exhibition introducing the creation of eight Estonian artists – Nikolai Triik, Konrad Mägi, Aleksander Tassa, Ado Vabbe, Anton Starkopf, Jaan Vahtra, Märt Laarman and Eduard Wiiralt – was digitised. Parallel to system development, “Estonian Modernism” was chosen as the first exhibition of the pilot project, which is on website
<<http://www.virtuaalmuuseum.ee/>>

Virtual Exhibitions System

<<http://www.kanut.ee/vns/index.php>> is a framework created for museums enabling to set up exhibitions of different kind. In comparison to many other software programmes, it gives an opportunity to

provide also in-depth data in addition to images, or interconnect a number of images to one record; essential part is formation of CD using moment-data. The new system grants better access to museum collections, it can be adjusted according to the needs and use different languages. Virtual Exhibitions System and Web exhibition were established in co-operation of the Ministry of Culture of Estonia, Tartu Art Museum, Conservation Centre "Kanut" and company Artaxis.

3.2.2. MuS – collections management software for museums

By December 2006, a Web-based information system for museums will be ready. This software is going to be a central Web-based data warehouse that has a public output. System development is co-ordinated by the Ministry of Culture of Estonia.

3.3. PPPs

Digital cultural heritage is facilitating development of new services, which are using digital cultural heritage as digital content. Using services like multimedia, digital maps, digital video etc. co-operation between memory-institutions and commercial enterprises is possible in different sectors. In Estonia for example the initiatives in the field of tourism and digital television have been successful: i.e. the project Radar at the Literary Museum, ITV in co-operation of Estonian National Television and ELION (the largest telecommunications and IT provider in Estonia), transmissions of Olympic Games in co-operation of Estonian National Television and EMT (the leading Estonian mobile connection operator).

The project Radar is an interactive educational material of Estonian cultural history. The main source of Radar is folktales, mostly concentrated into Estonian Folklore Archives and Estonian Cultural History Archives of Estonian Literary Museum. At the same time also the material from Estonian local museums and notes gathered by amateur historians are included. All folktales are being digitalised, incorporated into a database, after that the objects are located on landscape, measured with GPS and photographed, subsequently the obtained data is entered in a digital map. <<http://www.folklore.ee/radar/>>

ITV is a digital archives of media files in the Internet, constantly up-dated selection of news, broadcasts and films produced in Estonia, Web-environment which is valuing and making accessible the best of Estonian TV- and film production. <<http://www.itv.ee>>

During Torino Olympic Games in 2006 the transmissions of Estonian National Television were seen in mobile phone by medium of EMT 3G. After the Olympic Games the news of portals <<http://www.etv24.ee/>> and <<http://www.etvsport.ee>> are still accessible through the mobile phone.

4. Digital preservation

4.1. Developments for common digital preservation infrastructure

Development of digital preservation of cultural heritage started in Estonia in 2002. In October 2002 a letter was sent to the Minister of Culture, several meetings took place and in January 2003 the working group was formed to work out a strategy for digital preservation of Estonian cultural heritage.

With his directive No. 31 from the 13th of February 2004 the Minister of Culture affirmed "The National Strategy for the Digital Preservation of Estonian cultural heritage 2004-2007". Along with the strategy "The Action Plan 2004-2007" was affirmed. The action plan of the strategy has today received specialised funding for promotion of digital preservation, digitisation and access to digital cultural heritage, as well as training activities. Competence centres for digitisation are being established to help the memory institutions in achieving and implementing common standards for the digitisation and description of cultural heritage.

In 2005, the decision was made in the Ministry of Culture of Estonia to expand the strategy into the development plan of the area of activity. New document will be presented for approval to the Government of the Republic of Estonia at the end of the year 2006. A number of developments for common digital preservation infrastructure have been started, taking into account the developed standards:

- the development of the digital archives system at the National Archives, based on the national digital archiving strategy

- setting up a digital repository system DIGAR at the National Library
- guidelines for the public sector for the preservation of digital material, published by the National Archives
- metadata standards: metadata for the digitisation process, administrative, technical and access control metadata (co-ordinated by the Ministry of Culture of Estonia)
- the national strategy for the digital preservation of cultural heritage materials also includes plans for common digital storage infrastructure for all memory institutions and a feasibility study for this will be undertaken in 2006 (co-ordinated by the Ministry of Culture of Estonia).

Collaborative effort to develop standards, guidelines and best practice as part of the work towards achieving the aims of national strategies has been a success in Estonia.

4.2. Competence centres for digitisation

One of the priorities of the digital strategy is establishment of competence centres.

- Estonian National Library: Consulting, collection management, metadata ontology - planning strategy for national digital heritage preservation, including best practice guidelines and metadata set. Digitisation of photographs, maps, books and newspaper microfilms
- Estonian Historical Archives: Digitisation of microfilms and archive objects
- Estonian Public Service National Radio: Sound digitisation (phonodocuments)
- State Conservation Centre "Kanut": Consulting, collection management, metadata ontology; archiving digital objects. Digitisation of museum collections – (including: art objects, manuscripts, newspapers, photographic objects), digitalisation guidelines. Digitisation of research materials – micro and macro digital pictures for scientific research.

4.3. Co-operation projects

reUSE

EU co-operation project that aims at creating a reliable digital archive that meets the requirements of long-term storage standards. In addition to creating

the technical environment and system of metadata for a digital archive, a monitoring of the public sector publishers will be carried out and a co-operation network for collecting digital materials to the archive will be developed. The project implementation stage is 26.06.2004-25.06.2006. The project partners include the Innsbruck University Library (co-ordinator), National Library of Austria, National Library of Slovenia, Estonian National Library, Graz University Library, Linz University Library, Humboldt University Library, Ljubljana University Library and Die Deutsche Bibliothek.
<<http://www2.uibk.ac.at/reuse/>>

TEL-ME-MOR (The European Library: Modular Extensions for Mediating Online Resources)

The objective of the TEL-ME-MORE project is to secure better access to the digital information resources of Europe via national libraries. TEL-ME-MORE is an extension of the TEL project (The European Library), where 8 European libraries participated as partners aiming at creating a uniform environment and service (The European Library Service) to exchange digital collections. TEL-ME-MOR will involve national libraries from 10 new member states in order to increase the exchange of quality digital information via The European Library Service. The project implementation time is 1 February 2005 to 1 February 2007.
<<http://www.telmemor.net/>>

MIP (Transitional Metal in Paper)

The project aims at researching the mechanism of ink corrosion on manuscripts and working out suitable preservation methods. The project partners are the national archives, national libraries, universities and institutions of Sweden, Norway, Finland, Estonia, Poland, Germany, the Netherlands (co-ordinator), Great Britain, Slovakia, Slovenia, Italy, Spain and France. Estonia is represented by the Estonian Historical Archives. The project takes place from 1 March 2003 to 28 February 2006.
<<http://www.miponline.org/>>

Digital corpus of Baltic-Finnic runic songs

A co-operation project between the Estonian Literary Museum and the Finnish Literary Society, which aims at creating a uniform and easily applicable digital corpus of Baltic-Finnic runic songs.

Digitisation of wax rolls

A co-operation project between the Estonian Literary Museum, Melody Archive of Sweden and the Swedish Radio, that aims at securing accessibility of music that has been recorded on wax rolls.

5. Monitoring

The Ministry of Culture of Estonia is co-ordinating the work of libraries, museums, broadcasting and the national heritage; the Ministry of Education and Science governs universities and research institutions; responsibility for records management and archiving is shared between the State Chancellery and the National Archives of Estonia. Currently only the National Library and National Archives have a legal obligation to collect and preserve digital materials. Attempts to deal with an increasing volume of digital cultural heritage material are also made by museums, research institutes, in the National Heritage Board and other stakeholders.

The Council for Digital Preservation of Cultural Heritage – a council affiliated to the Ministry of Culture of Estonia – is co-ordinating digitisation and digital preservation of cultural heritage in Estonia. The Council consists of representatives from the State Chancellery, Ministry of Culture of Estonia, Ministry of Education and Science, Estonian National Library, State Conservation Centre “Kanut”, National Archives of Estonia, Estonian Literary Museum, Institute of History, Foundation “Estonian Film”, Estonian National Radio and Estonian National Television.

In the beginning of 2006, an enquiry will be conducted among the memory institutions, which are engaged in digitisation, in order to examine current activities in the area of digitisation of cultural heritage.

NRG and MINERVA results at national level and their impact on the institutions

The main benefit to Estonia from our involvement in the NRG is the creation of the national co-operation network for digitisation activities. Due to the NRG this

topic became one of the priorities on the level of the Ministry of Culture of Estonia.

Under the direction of the Ministry of Culture the National Strategy for the Digital Preservation of Estonian Cultural Heritage 2004-2007 was elaborated. In 2005, the decision was made in the Ministry of Culture to expand the strategy into the development plan of the area of activity. New document will be presented for approval of the Government of the Republic of Estonia at the end of the year 2006.

The Council for Digital Preservation of Cultural Heritage was set up to implement the strategy. The Council joins together all memory institutions: museums, libraries, archives, national radio and television. One of the important steps has been establishment of competence centres. (*See also section 4.2.*)

Since 2004, the Ministry of Culture of Estonia and the Council for Digital Preservation of Cultural Heritage are organising the annual international conferences on digitisation. In 2005, in the framework of the conference “Managing Cultural Collections II: Continuity and Change” a MINERVA session “Benefiting from the Minerva network” took place. Next conference will be held in 2007.

Several MINERVA publications (*Handbook for quality in cultural Web sites: improving quality for citizens, Good practice handbook, Lund Principles and the Quality Principles of Cultural Web Sites*) have been translated into Estonian and made electronically available for all users <<http://www.kul.ee/index.php?path=0x877>>. Current practice has shown that the NRG has very important role in co-ordinating digitisation activities and information interchange.

