

Overview of the EU-Funded Digitization Projects in the National Archives of Estonia

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ABSTRACT

The National Archives of Estonia gained approval for six digitization projects in the end of 2009, funded by Estonian EU structural IT-funds. Activities of the projects last from 2010 to 2012. Projects deal with different kinds of archival materials, all of them concentrating on different types of carriers: photonegatives, parchments, videos, maps, nitride-base films and paper records. In all of the projects, some conservation actions are done in the preparatory phase before actual scanning of documents. In the projects that deal with maps and parchments, conservation activities are being carried out by the digitization service providers under the control of the Archives' preservation specialists. This paper describes the principles that are used and activities that are carried out in the preparation phase and conservation of archival materials before digitization in these projects. The paper also gives an overview of the selection criteria of the archival materials for the projects.

Panoramica sui progetti di digitalizzazione finanziati dall'Unione Europea nell'Archivio Nazionale d'Estonia

SINTESI

L'Archivio Nazionale d'Estonia ha ottenuto l'approvazione di sei progetti di digitalizzazione alla fine del 2009, finanziati dal fondo strutturale estone sulle tecnologie informatiche dell'UE. Le attività dei progetti si sviluppano dal 2010 al 2012. I progetti riguardano diverse tipologie di materiale archivistico, e tutte sono focalizzate su differenti tipi di supporto: negativi fotografici, pergamene, video, mappe, film e documenti cartacei. In tutti i progetti alcune attività di conservazione vengono effettuate nella fase preparatoria prima della scansione dei documenti. Nei progetti aventi a che fare con mappe e pergamene le attività conservative vengono fatte dai fornitori del servizio di digitalizzazione sotto il controllo degli specialisti della conservazione dell'Archivio. Il presente articolo descrive i principi adoperati e le modalità effettuate in questi progetti durante la fase di preparazione e conservazione del materiale archivistico prima della digitalizzazione. L'articolo fornisce inoltre una panoramica dei criteri di selezione del materiale archivistico per questi progetti.

Pregled projektov digitalizacije v Nacionalnem arhivu Estonije, financiranih s strain EU

IZVLEČEK

Nacionalni arhiv Estonije je ob koncu leta 2009 pridobil soglasje za šest projektov digitalizacije, ki so bili financirani s strani estonskega EU sklada za IT. Projekti bodo trajali v času od 2010 do 2012. Projekti se nanašajo na različne vrste arhivskega gradiva, oz. gradivo, na različnih pisnih podlagah: fotografski negative, pergament, video posnetki, načrti in zemljevidi, nitratni filmi in papirno gradivo. Pri vseh projektih se pred dejanskim skeniranjem, v fazi priprave opravijo določeni konservatorski posegi. Pod nadzorom arhivskih strokovnjakov za konservacijo, opravijo konservatorske posege pri projektih, ki se nanašajo na načrte, zemljevide in pergament, ponudniki storitve. V prispevku so predstavljeni principi in izvedene aktivnosti v pripravljalni fazi projektov in konservacija arhivskega gradiva pred pričetkom digitalizacije. Prispevek podaja tudi pregled kriterijev za izbiro arhivskega gradiva za omenjene projekte.

Euroopa tõukefondidest rahastatud digiteerimisprojektid Eesti Rahvusarhiivis

ÜLEVADE

Eesti Rahvusarhiiv esitas Euroopa Liidu IT-struktuurifondide taotlusvoorule ühtekokku kaheksa projektitaotlust, millest 2009. ja 2010. aastal rahuldati kuus. Projektid hõlmavad eri tüüpi arhiiviallikaid: fotosid, negatiive ja klaasnegatiive, pärgamente, videoid, helisid, kaarte, nitrofilme ja paberarhivaale. Iga projekt eeldab ka erimahulisi ettevalmistustöid, nagu puhastamine ja/või konserveerimine. Eriti ulatuslik on konserveerimistö ka-

artide ja pärgamentide puhul, mida tehakse arhiivi konserveerimistalituse spetsialistide juhendamisel. Peale käimasolevate europrojektide tutvustamise annab artikkel ülevaate ka digiteerimiseks tarvilike ettevalmistus- ja konserveerimistöõde põhimõtetest. Samuti kirjeldatakse lühidalt kriteeriume, mille alusel arhiiviallikad projekti jaoks välja valitakse.

The National Archives of Estonia received funding for several digitization projects in the end of 2009 and in the summer of 2010 from the Estonian EU structural funds for developing the information society, maintained by the Ministry of Economics and Communications. One of the purposes of these EU funds, which were generally aimed at building new information systems and enhancing IT security, was to “transform information into universal digital format and make it publicly available”. The general funding rule was that the digitization works have to be done by a contracting company and no money is given to the institution for the wages of its employees, except only for one project manager. The contracting company was to be found via the means of a public tender following all the rules of the national public tenders law.

Among several other digitization projects of Estonian memory institutions, six projects of the National Archives of Estonia were accepted. These projects deal with different kinds of archival materials, all of them concentrating on different types of carriers: photonegatives, parchments, videos, maps, nitride-base films and paper records.

The most important criteria for selecting archival materials for writing the project applications were:

1. Attractiveness of the future digitized images of the archival materials for online users. – This is because of the purposes of EU funds which required making the content publicly available after digitization.
2. Completeness of the set of archival materials. – The aim was to digitize some sets of materials as completely as possible for making full collections available for users.
3. How widely required and physically endangered the materials are by reading room users. – The aim was to reduce to a minimum the physical usage of the materials that are either very delicate or largely used by reading room users.
4. Whether some materials that have not been allowed to be used at all for preservation and technical reasons can be made usable.

EU funded projects in NAE

- Photos: 415 500 negatives and glass negatives; 1 year; contract with 4 photo laboratories for digitization; 20 TB hardware; 450 000 EUR.
- Parchments: 4122 parchments of Historical Archives, Tallinn City Archives and Estonian Historical Museum; 1,5 years; contract with state-owned Conservation Centre Kanut; no hardware; 105 000 EUR.
- Videos: 700 hours of videos + 30 hours of sound; 1 year; contract with Orbital Vox Studios Ltd; 96 TB hardware; 200 000 EUR.
- Maps: 19 700 maps; 2 years; contract with Archives Centre Ltd, Overall Estonia and Archyvu Sistemos (Lithuania); 10 TB hardware; 506 000 EUR.
- Nitrid-base films: 30 hours of films 1920—1950; 1 year; contract to be with Estonian Digi Centre, Orbital Vox Studios Ltd and Production Group; 44 TB hardware; 270 000 EUR
- “Two beginnings”: 1 million pages of paper materials from periods 1917-22 and 1987-92; 2 years; 55 TB hardware; 511 000 EUR.

First of all work was begun with the project “The Digitizing of the Photo Negatives and Diapositive Slides of the National Archives”. The digitization of photos will last one year and 415,500 negatives and diapositive slides will be digitized during the project. As far as we know, it is the all-time largest one-time project of photo digitization in Estonia. Predominantly the photos of the Film Archives will be digitized, but also all glass negatives of the Historical Archives (an archive which holds the records from Tsarist Russia) and the negatives of the party archives of the State Archives (the preserver of records from the Soviet times). Different types of negatives of a variety of measurements are digi-

tized: acetate and polyester negatives, nitride negatives, diapositives and glass negatives. The digitized material will be made accessible to the public via the database Fotis (<http://www.ra.ee/fotis/>) which holds digital images and descriptions.

The second project is “The Digitization of and the Establishing of Online Access to the Oldest Documentary Cultural Heritage (of the parchment collections of the National Archives, Tallinn City Archives and Estonian History Museum)”. The project covers the digitizing of 4,122 parchments in the three institutions. These form the largest collection of parchments in Estonia and include documents which date back to the period from 1237 until the first half of the 19th century. As some of the parchments need to be conserved to enable the digitizing, a contract for a tender has been entered into with Conservation Centre KANUT, which combines the competencies of conservation and digitization. The contract costs amount to 1,64 million kroons, the work was begun in April 2010 and the deadline is December 2011. Digitized parchments of the National Archives will be made available to researchers in the information system AIS (<http://ais.ra.ee/>) as well as the collection of digital images, Saaga, (<http://www.ra.ee/dgs/explorer.php>).

In the third project – “The Digitizing of Original Videos and the Copies for Use of Films in the Film Archives” – a contract was entered into and the digitizing work started in May 2010 and the deadline was April 2011. The plan intended the digitization of 700 hours of video from a variety of cassettes (VHS, S-VHS, Betacam, Video 8). In addition, 30 hours of separate sounds which belonged with the videos were meant to be digitized and synchronized with the video. The project also specified the creation of an application for showing videos on the Internet meant for the Film Archives information system FIS (<http://www.filmi.arhiiv.ee/fis/>). The information system had already earlier (2006-2008) created access to records kept in the Film Archives - Film+Video and Sound - their findings and annotations. In addition, the rights of showing some of the videos on the Internet had to be negotiated with the authors.

On May 4 in 2011, the video portal introducing the collections in the Film Archives was officially launched on the public site at <http://www.filmi.arhiiv.ee/fis/>. During the project approximately 2,100 film records/titles were digitized. Older archival film documents on the 35mm film have been digitized using the intermediate format of Betacam-SP video recordings. The archival documents preserved in the collections of the Film Archives and originally created as analog video have been digitized using the original (Betacam; Video 8; VHS; S-VHS). Thus, a significant number of the Film Archives analog videos has been digitized. The digitizing of films manages preservation risks to a large extent as video information on magnetic tape constitutes a medium that fades over time and makes it available in contemporary file-based format for use. The most delightful fact for the users is that the films of interest can be watched online. Most cinema roundups produced in Estonia are exhibited on the Internet, shortly documentaries and introductory samples from the collections belonging to smaller film producers will be added.

The fourth project - “The Digitizing of Maps and Blueprints of the State Archives” - is as far as we know the largest one-time contract of digitizing maps. It involves the conserving and scanning of 19,700 maps and blueprints in the State Archives (an archive which preserves the records from the period of Estonian independence, 1918-1940) and the Historical Archives. The project lasts from June 2010 until May 2012. The project foresees the creation of about 10 TB of digital images, which will reach the public in Saaga and the new information system of the National Archives which incorporates map descriptions and digital images (<http://www.ra.ee/kaardid/index.php/en>).

The fifth project is the digitizing of nitride-base chronicle films (35 mm) in the Film Archives. 30 hours of mainly chronicles from the first half of the 20th century on nitride-base films will be digitized. These films are highly flammable and fragile and so far access to these has been truly limited or altogether impossible. There is hope that as a result of the project our Estonian film heritage will be enriched by a number of chronicle images that have been so far unknown. The volume of the digital material being created is estimated to be 44 TB.

The project application for the sixth large digitizing project of the National Archives was accepted and provided with 511000 euros - “The Digital Beginning - the Digitizing of the Documents on the Formation and Regaining of Estonian Independence”. The project intends to digitize approximately 1,000,000 pages of about 10,000 paper records in two years. These documents deal mainly with

the periods of 1917-1921 and 1988-1992. The digitizing work should be completed by the beginning of the year 2013 and it can be estimated that at least 50 TB of materials will be created.

Additions to the preservation hardware in the National Archives which are worth 3,3 million Estonian kroons were obtained for the five projects. In summary, we can say that as a result of European Union financed projects the capacity of disc array in the National Archives has increased ten-fold.

Workflow steps in the digitization process

Several archives in Estonia are simultaneously involved in ensuring the workflow of up to 3 European funded projects. The daily work of preservation and conservation units is especially influenced by digitizing.

The general (and most practical) rule is that minimum conservation treatments are used just to make all information visible and mass digitization of objects possible. Digitization projects consist of the following main activities:

- Selection of archival materials. – Depending on the scope of the project, specific materials have to be chosen and a list of them made according to the content and physical conditions of materials.
- Definition of the technical project requirements. - Technical standards and digitization technology have to be chosen according to the purposes of the project.
- Preparation and conservation of archival materials for digitization. - In general, as little effort as possible is used for preparation and conservation because of the large volume of the projects. The aim is just to make digitization possible. For instance, maps have to be conserved to the minimal degree so that they can be scanned. After conservation and digitization maps will be placed onto new specialized shelves or into drawers.
- Digitization. - Digital images are produced according to the requirements of the project and type of archival materials.
- Quality control of digitized images. - Several aspects have to be looked at: existence of technical metadata; correspondence of the file name to the archival record; that no images are missing; that the images are of good quality; etc.
- Placing the archival materials back on shelves. - It is reasonable to consider where to shelve the digitized objects because most probably these materials will be physically required really seldom as the digital images will be used from now on.
- Moving image files to the final destination. - After quality control the images have to be copied to the server disks, smaller files for online and offline use have to be made, backup files have to be moved to backup locations. Finally files meant for online usage have to be copied to the web server and made available to the public according to project targets and rules.

The aim of long-term digital preservation is to ensure accessibility and authenticity of information over time. In digitization projects two main aspects have to be considered to ensure longevity of the data produced and to reduce to minimum the need to re-digitize archival units in the future:

It is essential to choose file formats for images which are archiving-friendly, i.e open and company-independent, and will probably not need to be converted to new formats for a long period of time.

It is reasonable to digitize using as high technical requirements as possible to ensure usability of the images for purposes that need high-resolution output (publications, TV, cinema, etc.) also in the future technologies.

Images have to be saved in the same condition as they are digitized; no alterations or changes to improve image quality are allowed in the high resolution backup files.

Project Shipwreck



Project *Shipwreck Heritage: Digitizing and Opening Access to Maritime History Sources* (SHIPWHER) was approved by the Central Baltic Programme Steering Committee on 15.04.2010. The Estonian-Swedish cooperation project is conducted by the National Heritage Board of Estonia, the National Archives of Estonia, the Estonian Maritime Museum, the Swedish National Maritime Museums and it will be in progress until spring 2013.

Shipwrecks represent a part of the international cultural heritage. The history of one ship is commonly linked to many different countries (e.g. the country where the ship was built; where the crew was from; by the cargo of the ship; the shipwreck location, etc.) Many shipwrecks have been preserved only partially and therefore a thorough analysis of the records found from different archives play a very important role in identifying the shipwrecks. On the other hand, archival records are also the basis for carrying out archaeological fieldwork in order to find a specific object. The archival records and shipwrecks are sources which complement each other and together form a whole.

As the leading partner, the Estonian National Heritage Board has the responsibility to coordinate the cooperation between project partners in order to ensure the fluent implementation of the project. In addition to the responsibilities of project management, the main activities are: establishing and developing an internet-based shipwreck database and carrying out underwater archaeological research. The role of the National Archives of Estonia is to identify the archival records which reflect the history of shipwrecks. They will carry out expeditions to the Danish, Dutch and Swedish archives and enter the data they find into the shipwreck register. Sources related to the maritime history and shipwrecks will be digitized and made accessible through the collection of digitized archival records Saaga which will be linked with the shipwreck register. The Estonian Maritime Museum will make entries into the shipwreck register of the materials gathered throughout the years from underwater archaeological fieldwork and organize an exhibition of the most remarkable findings.

The Swedish National Maritime Museums will update the existing Swedish shipwreck register, carry out underwater archaeological fieldwork and conduct a variety of events outside the museum premises.

One aim of the project is to create an internet-based database which will be linked with the already existing databases of project partners, making it possible for divers and non-divers alike to obtain an overall picture of shipwrecks in the Baltic Sea. Within the framework of the project there will be seminars organized, a book published and different excursions carried out, with the intention of introducing maritime history to a wider audience.

Conclusions

As can be seen from the projects, the National Archives is clearly the memory institution most dedicated to digitizing in Estonia and has procured the largest amount of European Union funding. Six projects out of the eight which were submitted in 2009 were funded. The preparing, digitizing of archival records and the creation of user environments and databases for these has become the main work task for archivists. This is a win-win situation for archive users as well as the archives themselves. The access to archival records and the use of these will improve significantly and become more comfortable, at the same time, the actual physical use of archival records will be reduced to almost nothing, which enables these to be preserved better and their lifespan is extended.

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SUMMARY

The National Archives of Estonia received funding for six digitization projects and the Estonian-Swedish cooperation project Shipwreck in the end of 2009 and in the summer of 2010 from the Estonian EU structural funds. These projects deal with different kinds of archival materials, all of them concentrating on different types of carriers: photonegatives, parchments, videos, maps, nitride-base films and paper records. In big digitization projects archival materials always need to be prepared and overlooked before digitization takes place. The general rule is that minimum conservation treatments are used just to make all information visible and mass digitization of objects possible. In digitization projects two main aspects - archiving-friendly formats and as high technical requirements as possible - have to be considered to ensure longevity of the data produced and to reduce the need to re-digitize archival units in the future to minimum. The access to archival records and the use of these will raise remarkably and become more comfortable. At the same time, the actual physical use of archival records will be reduced to almost nothing, which enables these to be preserved better and their lifespan is extended.

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