

# Lithuania

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In Lithuania a nationwide policy of digitisation is implemented on the basis of the conception of the digitisation of the Lithuanian cultural heritage, approved by the Government of the Republic of Lithuania in 2005. The conception is aimed at building a single digital information space for cultural heritage, extending the lifetime of the originals and digitised content, providing domestic and global communities with relevant, exhaustive and reliable information on the Lithuanian cultural heritage, whilst ensuring systematic, reliable and proper use of these resources for scientific, educational and cultural purposes. According to the conception, co-ordination of digitisation activities is implemented by several Lithuanian governmental institutions: the Ministry of Culture in co-operation with the Ministry of Education and Science, the Committee for the Development of Information Society at the Government of the Republic of Lithuania, the Lithuanian Department of Archives at the Government of the Republic of Lithuania.

Welcoming the initiative of co-ordinating the digitisation of cultural heritage on the European level, in 2006 Lithuania supported the *Council Conclusions on the Digitisation and Online Accessibility of Cultural Material and Digital Preservation*. In order to implement the priority actions formulated in the Council Conclusions, Lithuania has committed to develop a strategy of the digitisation of cultural heritage. The Council for the Digitisation of Cultural Heritage, as formed by the Minister of Culture, has undertaken the responsibility to initiate and co-ordinate specific programmes and strategy implementation measures. Being well aware that digitisation of cultural heritage may considerably increase visibility of Lithuanian culture on the national and European level, Lithuania is encouraging relevant memory institutions to take active part in digitisation of cultural heritage. In Lithuania, digitisation projects are funded by diverse foundations and under various national programmes. Tab. 1 provides a concise information about funding opportunities in Lithuania.

**Tab. 1 - Funding opportunities for digitisation initiatives**

<b>Title of programme</b>	<b>Objectives</b>	<b>Responsible institution</b>
Promotion of print and Internet content creation initiatives - partial support for activities, raising visibility	Popularization of science and technology	Ministry of Education and Science
Promotion of literature, music, fine arts, theatre, cinema, audio-visual art, folk culture, etc.	Development and promotion of Lithuanian culture, participation of Lithuanian artists in international contests, etc.	Lithuanian Culture and Sports Foundation
Ethnic and regional culture programme	Popularization and development of Lithuanian regional culture	Ministry of Culture
Lithuanian Prioritised Research and Experimental Development programmes	Promotion and development of science and studies, speeding up the implementation of modern technologies	Lithuanian State Science and Studies Foundation

In order to collect information about current activities in memory institutions Ministry of Culture of Lithuanian Republic together with the Institute of Library and Information Science (Vilnius University) performed a survey of cultural heritage digitisation in Lithuania in December 2006. Questionnaires were distributed by email to 30 archives, 104 museums and 75 libraries. 60 institutions responded: 44 libraries (73%), 12 museums (20 %), and 4 archives (7%). Among them were the biggest national memory institutions (9 respondents) and also local organizations (51 respondents). Large-scale digitisation activities are mostly performed in national level memory institutions, which are represented in the survey, therefore, the results should be considered valid. Data obtained from the respondents will be presented below in the relevant thematic sections.

## A. Users and content

On the national level there are several categories of digitisation players: archives, libraries, museums, academic institutions. Therefore, the nature of digitisation projects and expected outcomes highly depends on the mission and needs of the institutions mentioned.

In the sector of memory institutions the most significant initiative is the *Integrated Virtual Library Information System* (IVLIS). This initiative received the support of the EU Structural Funds in 2005. At the moment this is the most ambitious digitisation project in Lithuania. This is an example of partnership between memory institutions on the large scale. The initiative is co-ordinated by the Martynas Mazvydas National Library of Lithuania. Major partners are Lithuanian Art Museum and Department of Archives of Lithuania. The major objectives of the IVLIS creation is to ensure e-services and access to the cultural heritage of Lithuania for in-country and foreign users. Due to the consortium efforts diverse cultural heritage resources will be digitised – manuscripts, negatives, archival documents, photographs, slides of museum objects, books<sup>1</sup> etc.

In academic institutions digitisation projects mostly support the needs of scholarly research and education. Several examples of such projects will be presented below. These are *LDK Skaitmena*, BARIS

and *Digitisation of Old Lithuanian Manuscripts of Eastern Prussia: hymnal of Danielis Kleinas*. *LDK Skaitmena* is an initiative co-ordinated by the Lithuanian Institute of Mathematics and Informatics. Partners are the Institute of Lithuanian Language, the Faculty of Philology of the Vilnius University, and the Scientific Library of the Vilnius University. The project considers digitisation of manuscripts of the Grand Duchy of Lithuania. The consortium of partners aims to create a methodology for digital repository of historical documents. The major issues that are being solved by the initiative are principles for electronic publishing and description of historical documents, including standardization of authority names<sup>2</sup> in order to prepare them for scientific research.

The initiative *Metadata information system of Vilnius Church provincial archives documents and books* (BARIS) is concerned with cultural heritage of church institutions which is an invaluable source for historical research. The major objectives of the project were to discover valuable documents, to catalogue and digitise them. The project was co-coordinated by the Institute of Library and Information Science at the Vilnius University. The partners included Vilnius Church Province Curia, Department of Theory of History and History of Culture, and Lithuanian museum of Ethnocosmology. During the project several expeditions were arranged to discover the documents, inventory and catalogue them and, finally, digitize the originals. The outcomes of the project are digitised surrogates, metadata descriptions, indexes of authority and geographic names<sup>3</sup>.

In 2006 the Institute of Lithuanian Language continued the implementation of the initiative *Digitisation of Old Lithuanian Manuscripts of Eastern Prussia: hymnal of Danielis Kleinas*. This project is implemented in collaboration with Humboldt University (Berlin) and is aimed at safeguarding cultural heritage of Eastern Prussia. Among expected outcomes are the digital surrogate of the hymnal, several concordances, catalogue of prints used in the book etc. The initiative is a continuation of efforts to create the database of old manuscripts in 1996-2005<sup>4</sup>. According to the results of the survey of digitisation initiatives in Lithuanian memory institutions (2006), an increasing number of them is getting involved into digitisation initiatives.

**Chart 1. Involvement in digitization of Lithuanian memory institutions**

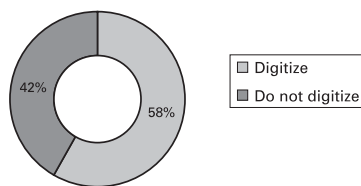


Chart 1 indicates that more than half of respondents are engaged in digitisation activities. However, a large

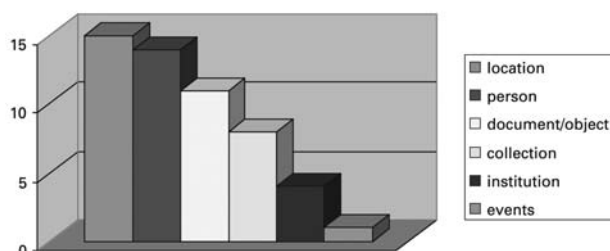
number of institutions still are not involved. These are only local memory organizations. Most respondents indicated that digitisation of cultural heritage is a strategic priority of their institutions (33 respondents, 55%). Some of respondents do not consider digitisation to be of strategic importance – 19 respondents, 31,6%). The survey reveals that the Lithuanian memory institutions, which responded to the questionnaire, have been implementing or accomplished 53 digitisation initiatives by the end of 2006.

**Tab. 2 - Digitisation projects in Lithuanian memory institutions**

Institutions	No. of projects	No. of respondents	Average no. of projects per respondent
archives	3	4	0,75
libraries	35	44	0,79
museums	15	12	1,25

Tab. 2 shows participation rates in digitisation initiatives according to diverse types of memory institutions. From the thematic point of view, projects in Lithuanian memory institutions (2006) may be divided into several groups according to the major topical criteria as it is shown in CHART 2. Notably, most projects are performed by local memory institutions and can be described as initiatives that promote local history.

**Chart 2. Thematic coverage of digitization initiatives (main criteria)\***



\* the number of topics does not necessarily correspond to the total number of projects; several aspects may be reflected in one project.

The most popular are location-based projects that are typical initiatives for the local memory institutions promoting the history of particular geographic location they are serving. The second most often applied thematic principle is to launch projects devoted to famous writers, artists and other well-known citizens. Often this criterion is closely related to the place of birth of the person. In other cases institutions are concerned with digitization of certain type of cultural heritage resources. Many of such projects are oriented at digitisation of audiovisual materials (e.g. photographs, video and audio records). Finally, three less popular criteria are collection (when the decision to digitise is made according to the collections kept by the institutions and, often, management demands – e.g. documentation or better preservation of the original), institution (a history of schools, libraries, universities, monasteries etc.), and events (e.g. historical events). Most popular way to organize access to the digitised content is to present it on CD, DVD and similar carriers. However, online delivery of content is a quickly increasing habit of providing access. Most likely, in future internet will become a common channel for the delivery of cultural heritage resources to the users.

Tab. 3 - Delivery of digitised content

Channels for content delivery	Preferences (no. of answers)*	Preferences (%)*
Internet	20	34,5
CD, DVD etc.	27	46,5
PC work stations	11	19

\* One institution might choose several or no preferences.

Only minor group of respondents provides access via computer work stations in their institutions.

## B. Technologies for digitisation

Cultural heritage information space based on common standards is one of the priorities of the *Lithuanian digitisation concept of cultural heritage* (2005)<sup>5</sup>. Currently, there are no national level strategies on establishment and implementation of digitisation standards in memory institutions. However, the latest trends show that memory institutions and other players are highly interested in standardization of cultural heritage management. This trend is vivid in larger initiatives. For instance, *Martynas Mazvydas National Library of Lithuania* has a long tradition of implementation of international standards, considering organization of access and preservation of digitised and digital materials. Systems developed by the national library comply with and based on international standards (e.g. reference model of Open Archival Information System (OAIS), Z 39.50 protocol, Dublin Core and many others)<sup>6</sup>. In library sector, as well as in some other cultural heritage initiatives there is a tendency to implement *Dublin Core* metadata standard (this is also true for current IVLIS initiative described above)<sup>7</sup>. However, there are a lot of gaps in the field of application of digitisation standards and recommendations. Most efforts are fragmented and isolated, causing problems for interoperability of cultural heritage systems. Application of standards is problematic in local memory institutions.

## C. Digital preservation

Digital preservation is defined as a priority objective in the *Lithuanian digitisation concept of cultural heritage* (2005)<sup>8</sup>. On the national level digital preservation issues are regulated only in archival sector by the *Electronic document management rules* adopted by the Lithuanian Archives Department in January 2006. The rules incorporate digital preservation issues into the whole management cycle of electronic documents. The document provides general recommendations and requirements for major management processes of electronic documents, e.g. creation, registration, storage, retention and destruction<sup>9</sup>. Libraries holding the cultural heritage collections of national significance – *Martynas Mazvydas national library of Lithuania* and the *Library of the Lithuanian Academy of Sciences* apply migration strategy for digital preservation of their holdings<sup>10</sup>.

## D. Monitoring progress

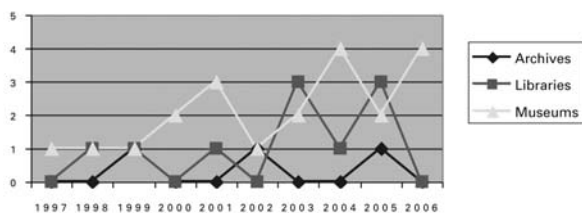
In 2006 11 digitisation projects was funded under diverse programmes. The projects varied according to their thematic scope and funding provided. Funding provided by the Lithuanian governmental institutions is summarised in Tab. 4.

Tab. 4 - Funding of digitisation initiatives in 2006

Input	MEUR	Comment
Funding allocated to support digitisation - government	0,121539	Total funding is calculated by summing up support to digitisation projects in 2006 by all Lithuanian governmental bodies

In the Lithuanian memory institutions digitisation initiatives are mostly a recent activity, as it is shown in Chart 3.

**Chart 3. Launching digitization initiatives in Lithuanian memory institutions**



The earliest efforts appeared in 1997-1998, while the majority of respondents of the survey have started digitisation between 2001 and 2006. Therefore, digitisation of cultural heritage should be considered a new domain for most Lithuanian archives, museums and libraries, especially, for local institutions.

Survey of the Lithuanian memory institutions revealed that there is no common methodology for measuring digitisation results. Tab. 5 exhibits results grouped into two categories according to the method of measuring. The first method is focused on outputs and employs number of images or digitized pages as measure units, and the second is concentrated on inputs and indicates items that were digitised (e.g. 1 book, 1 exhibit etc.).

**Tab. 5 - Digitised documents/objects\* by type**

Type of document/object	Digitised material (no. of images, pages, audio/video files)	Digitised material (no. of items)
<b>Text documents (total)</b>	<b>3385773</b>	<b>32753</b>
-manuscripts	53970	26577
-printed books	759076	923
-newspapers	1194283	3
-journals	-	4
-journal articles	-	4039
-microfilms/microfiches of periodicals	1377444	-
-bibliographic materials	1000	1
-local history material	-	1151
-archival documents	-	55
<b>Images (total)</b>	<b>102927</b>	<b>31120</b>
- photographs	95306	5620
- postcards	783	-
- exlibris	-	200
-art works	608	621
-maps	67	-
-negatives	4400	150
-other visual materials	1763	24529
<b>Audio/Video (total)</b>	<b>-</b>	<b>5546</b>
- audio	-	5017
- video	-	529
<b>Total</b>	<b>3488700</b>	<b>69419</b>

\* only digital surrogates of analogue originals are considered, metadata information is not included.

Despite differences in measuring results the main tendency to digitise mainly textual materials is obvious (see Tab. 5). The most significant volumes

are produced by digitisation of periodicals. Tab. 6 indicates digitised no. of images, pages, files and items, distributed across memory institutions.

**Tab. 6 - Digitised documents/objects by institutions**

<b>Institutions</b>	<b>Digitised material (no. of images, pages, audio/video files)</b>	<b>Digitised material (no. of items)</b>
Libraries	3381966	12566
Museums	17851	29631
Archives	88883	27222

The data in the table shouldn't be used for comparative analysis, because of dominance of libraries among respondents of the survey.

## Conclusions

The positive trend in Lithuania is a growing involvement of diverse Lithuanian institutions into digitisation initiatives. Remarkably, that digitisation is no more a privilege of large memory institutions and local libraries, museums and archives are also digitizing their holding.

However, there are several challenges that should be overcome in order to make digitisation efforts more effective. These are strategic approach, collaboration and standartisation. Strategic approach would suggest the national priorities and directions in digitisation and provide a framework for collaboration between various national players in digitisation. Long-term sustainability of digitisation initiatives and interoperability of digitized holdings is impossible without standardization efforts on the national level.

1 Lietuvos Martyno Maivvydo bibliotekai – Europos Sąjungos parama [online], retrieved on 27 December 2006, <<http://www.lnb.lt/lnb/selectPage.do?docLocator=B523F01F988E11DA96DA746164617373&inLanguage=lt>>.

2 LDK Skaitmena, *Digitisation of Manuscripts of Grand Duchy of Lithuania* [online]. 2006, retrieved on 27 December 2006, <[http://www.svarstome.lt/LDK/index\\_en.htm](http://www.svarstome.lt/LDK/index_en.htm)>.

3 Pacevičius, Arvydas; Laužikas, Rimvydas, *Vilniaus bažnytinės provincijos archyvų dokumentų ir knygų metaduomenų informacinė sistema (akronimas BARIS): baigiamoji ataskaita*, Vilnius, 2006, 27 p.

4 Senujų Rytų Prūsijos lietuviškų raštų skaitmeninimas, *Danieliaus Kleino giesmynas ir maldynas* [online], Lietuvių kalbos institutas, updated 2006-02-21, retrieved on 27 December 2006, <<http://www.lki.lt/index.php?asm=608>>.

5 Dėl Lietuvos kultūros paveldo skaitmeninimo koncepcijos patvirtinimo, in: *Valstybės žinios* [online], 2005 08 30, no. 105-3877, retrieved on 27 December 2006, available <[http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc\\_1?p\\_id=260975](http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_1?p_id=260975)>.

6 Varnienė, Regina, *Skaitmeninių dokumentų informacijos sistemų projektas*, in: *Informacijos mokslai*. 2004, vol. 31., p. 124-140. ISBN 1392-0561.

Varnienė, Regina, *Elektroninių išteklių posistemis bendroje LIBIS struktūroje*, in: *Informacijos mokslai*. 2002, vol. 20, pp. 177-182. ISBN 1392-0561.

7 Pilinkaitė, Miglė. *kultūros paveldo skaitmeninimas didžiosiose Lietuvos bibliotekose* [bachelor thesis], supervised by Zinaida Manžuch, faculty of Communication, Vilnius University, Vilnius, 2006.

8 Dėl Lietuvos kultūros paveldo skaitmeninimo koncepcijos patvirtinimo. In *Valstybės žinios* [online]. 2005 08 30, no. 105-3877. Retrieved on 27 December 2006, <[http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc\\_1?p\\_id=260975](http://www3.lrs.lt/pls/inter3/dokpaieska.showdoc_1?p_id=260975)>.

9 Dėl elektroninių dokumentų valdymo taisyklių patvirtinimo, in: *Valstybės žinios* [online], 2006 01 19, no. 7-268, retrieved on 27 December 2006, <[http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc\\_1?p\\_id=269626](http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc_1?p_id=269626)>.

10 Pilinkaitė, Miglė. *kultūros paveldo skaitmeninimas didžiosiose Lietuvos bibliotekose* [bachelor thesis], supervised by Zinaida Manžuch, Faculty of Communication, Vilnius University. Vilnius, 2006.