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1. Highly honoured participants of the conference of International Association of Sound and Audiovisual Archives and the Baltic Audiovisual Archival Council!

Allow me to congratulate you in Riga, at one of the significant cultural events of the state this year. I am honoured to address you in the name of the Ministry of Culture and the cultural branch, which is called the section of memory institutions.

I will not reveal anything original by stating that information technologies in the digital environment have drawn closer archives, including audiovisual, libraries and museums. The convergence of various media (text, image, film and sound) continues. The digitally born goes hand in hand with analogue digital resources. Creative personalities use IT (Information Technologies); people perfect the creativity by increasing the role of memory institutions. The cooperation of state and private sector becomes more influential.

The approximation of the sections mentioned is fostered by culture political strategy on a national level and on the level of the European Union. I dare say that various states make their own scenario. Somewhere administrative activities or projects are centralized; somewhere preference is given to searching unified standards. The most important is that the process has not ended. Debates on the conjunctive and the distinctive at libraries, museums and archives continue.

To my opinion administrative, technological or even financial changes won't play the decisive role in the area

of integration and cooperation, but a user of the global Google or a client. Requirements to access the heritage on a global network are the instrument encouraging us to mutual efforts, coordinated retrieval resources, processing, storage and access to standards and technologies. We are united in facing the problems of IT industry or protection of intellectual property.

Latvia is in the process as I have mentioned. You will listen to different presentations, where the bases of audiovisual environment for the future will be outlined. My task is to characterize the intentions and projects oriented to the long-term strategy of memory institutions in general, but in particular in one aspect – digitizing of the existing heritage.

2. I will touch upon the following subjects in my report.

- > Memory institutions in Latvia and the launch of digitization in Latvia

- >The first consultations in Latvia and the Baltic States, 2001- 2002

- > Standard committee

- > The first joint projects

- > From the initiatives of European digital libraries to Lisbon i2010 strategy

- > The policy of the state

- > Culture Information Systems and guidelines for digital cooperation

- > The conception of the Latvian National Digital Library "Letonica"

- > Manuals and standards

- > DOMS

- >The centre of excellence, R & D

- > Web 2.0

3. Slightly simplifying, today the digital environment is formed by digitally born, and analogue digital objects. A number of information carriers, channels, and software and metadata systems ensure it. Today I will dwell only on the analogue digitization. Let's put aside the problems of digitally born resources, catalogues, files, registers, indexes and retrospective conversion of other meta-information and the modern archive management.

4. I will give a short insight into the structure of the major memory institutions.

**Archives:**

Directorate General of the State Archives,

The State History Archive,

The State Archive of Latvia,

The Latvian State Archive of Film, Photo and Audio documents,

Zonal archives – in Alūksne, Cēsis, Daugavpils, Jelgava, Jēkabpils, Liepāja, Rēzekne, Sigulda, Tukums, Valmiera, Ventspils,

The Special Library of the State Archive,

The Central Micro Photocopying and Document Restoration Laboratory,

Archive inspection, as well as,

The Treasure House of Folklore

The Latvian Radio Archive,

The Latvian TV Archive,

Other archives, including the private sector (for example, the newspaper "Diena").

Several archives have elaboration foreruns in the field of digitizing. I will mention them later. In total, from the

point of view of the state strategy and priority, the main task for the archive sector is formation of the Unified State Archive System, consequently to create bases for the unified meta- information.

#### **5. Libraries:**

The National Library of Latvia,  
The Latvian Academic Library,  
The University Library of Latvia,  
The Patent and Technology Library of Latvia,  
Public libraries (the network of 33 libraries).

Practically the libraries have already solved the implementation of the Integrated Library Information Network, 100% of the libraries have Internet connection, with their own portal and the union catalogue of state significance.

As you know, the integrity of publications has determined that libraries have developed their infrastructure more rapidly. Therefore the government of Latvia has chosen the NLL to be the leading institution in realizing the coordinated digitizing process.

#### **6. Museums:**

The State museums of the Ministry of Culture of LR –  
The Latvian National Museum of History, Riga History and Navigation Museum, the State Museum of Art, the Museum of Foreign Arts, the Museum of Writings, Theatre and Music, Ethnographic Open –Air Museum a.o. (altogether 13 museums),

State Museums of other ministries of LR – the Museum of Nature, Military Museum, a.o. (altogether 7 museums).

90 museums are under the auspices of local governments.

The museums have got elaboration foreruns in the area of digitization as well, but the situation is alike the archives; the national priority is the formation of the national union catalogue of museums.

7. Besides the institutions, which don't store analogue collections, but play an important role in the activities of memory institutions should be mentioned. It is the State Agency "Culture Information Systems", I'll tell about it later.

Digital environment in various capacities is fostered by IT industry:

The Institute of Mathematics and Informatics of the University of Latvia

SIA "Tilde",

Microsoft Latvia,

IT Alise,

Lursoft,

Exigen

8. The Latvian Academic Library should be considered a pioneer in the field of digitization. Already in mid 90s the 18<sup>th</sup> century collection in ten volumes "Monumente" by Brotze was published online.

The second important digitizing project was realized in the Treasure House for folklore. Firstly, Krišjanis Barons' collection of folksongs "Chest for Dainas" included into the UNESCO programme *Memory of the World*, should be mentioned, as well as wax cylinders, the digitization of which was carried out at Vienna phonogram archive with the help of Diedrich Schüller, who is present here. Among

other things, the wax cylinders stored at the Department of Rare Books and Manuscripts of the NLL.

For its part, the Institute of Mathematics and Informatics, LU from the ancient prints stored at the NLL and Latvian Academic Library (the Bible, dictionaries, grammar, sermon books) formed the storehouse of the Latvian language.

The Archive of the Latvian Film, Photo and Audio documents and the Latvian Photography Museum started making digital copies of films and photographs, but the Latvian Radio and TV started the digital preservation of records. Unfortunately, the preservation of sound recordings is encumbered by the fact that a great part of analogue heritage should be restored simultaneously; this process is more complicated and expensive.

9. In January 2001 the first meeting of archives, museums, libraries and IT industry took place at the NLL. Then the first exchange of information arose each sector. The matter of great concern was the agreement of further cooperation. I would like to point out that at first it was the initiative of leaders, the staff and IT specialists of separate institutions supported by the General Directorate of Archives, the Board of Museums and the Library Department at the Ministry of Culture.

To facilitate the cooperation and coordination an informal working team was formed representing all three sectors and IT industry. The working team defined the necessity for a closer cooperation in the Baltic region, as well as the requirements for adapting standards and starting joint pilot projects.

Owing to this initiative in September, 2001 at the meeting of Ministers of Culture of the Baltic Sea States the former Minister of Culture Karina Pētersone proposed to encourage and coordinate the digital cooperation among memory institutions of states and creative institutions in the whole region. The coordination bureau was formed at Copenhagen.

The first conference of the archives, museums and libraries of the Baltic States in April 2002 was an important step forward. The participants of this conference represented all interested groups. Presentations of several states (Sweden, Finland, Norway, Denmark, the Czech Republic, Scotland (UK) a.o.) were of great importance.

10. The next step was coordination of the standards. The Standing Committee, which approved the projects worked out at the Department of Standardization of the NLL, was the only one for the libraries. The Committee was under the supervision of the Division of Standards of the Ministry of Justice. It was decided to form a joint standing committee of museums, archives and libraries. Later this committee was under the control of the Ministry of Culture.

11. Since 1998 the State Culture Capital Foundation (CCF) of Latvia has occupied a steady place in Latvian cultural policy. The main task of which is to support the creative processes in art and new ideas in culture, including the preservation of heritage and its accessibility. It should be underlined, that one of the basic principles observed is – financial resources are distributed according to the results of a tender. A rotating board of specialists approves the

decisions. The CCF supports the branch programs of fine arts, music, theatre, cinema, literature, traditional culture, cultural heritage and the so-called inter-branch programs. The last mentioned supports the projects of archives, museums and libraries. At the same time according to the content, all these branches support digital initiatives, including the memory institutions. However, every branch possesses a special set of target programs created in order to highlight one or another priority. To foster the digital cooperation of archives, libraries and museums a corresponding target program was formulated. This program existed from 2002 until 2005 with the state financing over 70.000 Euro per year. The pre-condition to be observed is, that the project submitters represent at least two sectors from the memory institutions. According to their content, they were multiform projects, embracing textual, visual, audio, audiovisual and even three-dimensional objects. Cultural institutions of national significance, where visual resources dominated, participated in these projects. Particularly worthy of interest is the fact that about 80% of the projects came from the Latvian regions, accordingly a greater part of them was oriented to local history.

At any rate the greatest achievement of this target program was that for the first time several memory institutions collaborated and made joint projects. Exceedingly interesting information resources were created. It was important that the results of the projects were presented at seminars, where all three-branch specialists participated.

On the other hand it must be acknowledged that usually the libraries were the project leaders.

There were no great success in usage of standards and metadata. The quality of projects differed either.

The most successful of them proved that cooperation of archives, museums and libraries in a digital environment is possible in Latvia.

Owing to these projects and other activities the Ministry of Culture decided to support a long –term digital strategy.

12. A positive example is a heritage left by our national author Baumaņū Kārlis "**Heritage left by Baumaņū Kārlis – from a storehouse to the people**", where the Museums of Writings, Theatre and Music participated as well as the Latvian Academic Library, Limbaži Central Library and Viļķene Parish Library. In this slide you see another example – the result of cooperation among Gulbene Museum, the Library and the Regional Archive.

13. In 2004 the whole world found out about the Google new project. Mass scanning of the collections of several USA and Great Britain universities was started, as well as, scanning of new books. Despite of various viewpoints and interpretations, at the moment this project has the following aims, I am citing: "The Library Project's aim is simple: make it easier for people to find relevant books – specifically, books they wouldn't find any other way such as those that are out of print – while carefully respecting authors' and publishers' copyrights. Our ultimate goal is to work with publishers and libraries to create a comprehensive, searchable, virtual card catalogue of all books in all languages that helps users discover new books and publishers discover new readers."

Though in 2001 Lund action plan was accepted, in reality the further events were provoked by Google.

The President of the National Library of France Jean - Noël Jeanneney sharply reacted to this project. Due to this reaction President of France Jacques René Chirac appealed to the leaders of five states to form the European Digital Library. Almost all European national libraries responded to this call as well as the leadership of EU. At that time the so-called Borozzo resolution was made public. Henceforth, the initiative of the European Digital Library (EDL) was developed within the framework the European Commission. The Conference of European National Librarians/CENL responded to this call immediately and under the guidance of Director of the German National Library / Die Deutsche Nationalbibliothek Elisabeth Niggemann formulated answers to the European Commission concerning i2010 digital library (**Answers to the Online Consultation of the European Commission concerning "i2010 digital libraries"**).

It was followed by the participation of Commissioner of Information Society and Media Viviane Reding at CENL meeting in Luxembourg, 2005, where she delivered a lecture on "The Role of Libraries in Information Society", focusing on the elaboration foreruns of the national libraries on the way to EDL.

On June 1, 2005 the Commission presented the i2010 initiative, emphasizing the benefits arising from the enlargement of the role of IT in economic growth, creation of working places, and the quality of living standards of European citizens. The European Commission highlighted that Digital libraries are the key aspect to i2010. On September 30 the digitizing strategy saw the daylight –

**Digital Preservation of the European Collective Memory and Accessibility On Line.** Books, journals, newspapers, photographs, objects of museums, archival documents and audiovisual materials, form this collective memory.

Several coordinating structures were formed, for example, High Level Expert Group and National Representatives Group/NRG.

Beginning with the Presidency of Austria in the first half of 2006 several conferences on the issues of European Digital Library have taken place.

However, within the framework of the project of eContent program the European Commission has supported several projects, which politically, technologically, semantically and organizationally stipulate the development of the unified EDL initiatives.

On August 24, 2006 within the framework of the European Digital Library the *Recommendation on the digitisation and online accessibility of cultural material and digital preservation* was laid open. I am citing:

*A common multilingual access point would make it possible to search Europe's distributed – that is to say, held in different places by different organisations – digital cultural heritage online. Such an access point would increase its visibility and underline common features. The access point should build on existing initiatives such as The European Library (TEL), in which Europe's libraries already cooperate. It should where possible closely associate private holders of rights in cultural material and all interested stakeholders. A strong commitment by the Member states and cultural institutions to arrive at such an access point should be encouraged.*

14. Here is the book by the President of the National Library of France Jean - Noel Jeanneney, which evoked the support of six presidents.

15. In the letter as of April 28, 2005 to the Presidency of the European Union and the Commission, leaders of six member states expressed support to the formation of European Digital Library, which will ensure accessibility to European cultural and research documents.

The Commission has approved of this plan and will advance its implementation, by upholding i2010 initiative in connection with digital libraries.

#### **16. i2010: DIGITAL LIBRARIES**

Consequently the initiative of Digital Libraries is oriented to making the usage of European information resources online simpler and more interesting. The rich culture heritage of Europe will be used there, merging the multicultural and multilingual environment with the implementation of new technologies and the new models of entrepreneurship.

Digital libraries are generalization of the digital content accessible to the society. There you can find materials transformed into digital format. In addition, you can find information, which has been primarily created in digital format. To a greater amount, it refers to scientific information, where publications in digital format and information massive are stored at digital repositories. This initiative embraces both aspects – materials transformed in digital format and created in digital format.

To realize the potential of digital technologies for wide and easy information access, the work will be done in three directions:

- **Accessibility online**, which is a precondition to increase advantages, from which scientists, the society and businesses could benefit;
- **Transformation of analogue data into digital format** to foster its wider application in the society;
- **Storage and preservation** to ensure access to the documents in digital format and eliminate the loss of the valuable content.

17. In 2003 owing to the support of the European Commission, CENL started the project “The European Library/TEL, which on the bases of the previous portal *Gabriel* formed a single gateway to the digital collections of 9 national libraries. TEL manual and the register of metadata as well as other technologies and standard defining activities were worked out.

In 2005 – 2006 another project was implemented – TELMEMOR, where the national libraries of 10 new member states of the European Union participated. The project made possible access to digital resources of these libraries in TEL portal.

Since 2006 the project EDL is being implemented. It makes TEL richer with other EU states and the national libraries of Norway, Switzerland and Lichtenstein. In 2007 two projects are started *EDLnet* and *TELplus*.

EDLnet Thematic Network is a project, supported by the European Commission *eContentPlus* program to prepare a soil for implementing EDL. The aim of the project is to strengthen intersectional and inter-domain accessibility to

the culture content – i2010 pillar. EDLnet task is to form consensus in the fragmented culture heritage map.

Therefore, the European national libraries, museums, archives, including the audiovisual and national organizations will play the decisive role.

However, TELplus is oriented to new technological solutions - text recognition or OCR projects, open archive initiatives or OAI etc.

We are still on the way to the coordination of the initiative and guidance.

On one hand CENL was not ready to take on the responsibility of the super command. There was a precondition to integrate other libraries, archives, museums and audiovisual storehouses into the organization.

On the other hand, all mentioned sectors looked rather sceptically to a potential domination of the national libraries. The European Commission advised to focus on TEL work. The notion *a library* has been an obstacle to a certain extent. Probably one or another national library hoped that it would be the project of national libraries and objected to the integration of other institutions into CENL and TEL. At the same time many NL have no doubt that, EDL must be open not only to libraries but also to other memory institutions. Accordingly, such libraries the notion *EDB* interpret wider accentuating mainly the status of the publication, which is necessary for placing digital versions of analogue materials into Internet.

Besides, in the initiative of EDL other representatives were ready to participate. Firstly, the projects DELOS, MICHAEL, MICHAEL plus a.o., the activities of which were supported by ministries of culture, academic

libraries, archives and museums, separate NL and even Google library.

Accordingly, after a number of discussions since April this year the EDL Foundation is prepared to be the EDL umbrella structure. Former coordination structures are liquidated either.

The associations of the greatest European memory sector as well as institutions of national significance and private structures will be the organizers of the foundation.

In autumn this year, the foundation will start functioning. The European Commission is ready to entrust the envisaged financing of EDL to this foundation. Let us hope that the big and diverse circle of representatives won't cause any obstacles to reach the effective and coordinated work.

18. Here is the Latvian interface related to Tel, it proves one of the long -term aims of EDL and namely, multilingualism.

19. This year at the conference in Berlin an official of the Department of Cultural Policy of the Ministry of Culture Una Sedliniece said: "Helēna Demakova is one of the most fervent supporters to implement future technologies in the branch of culture and science." On November 14, 2005 at the meeting of ministers of culture of EU she stated:" In the result of rapid growth of technological and Internet environment the development of culture in Information society should be fostered. Though, it is vital to solve problematic questions such as copyright and related rights on a national and European scale, it is necessary to attract national and European resources to this aim. It should be emphasized that the development of digital libraries is a

contribution not only to cultural branch, but also to national economy, education, and research, and other goals of Lisbon strategy.”

Mrs. Sedliniece added: “To reach the goals of Lisbon strategy, we are proud that among economic priorities the digitization of culture heritage or the formation of the joint digital online catalogue of museums, archives and libraries was included either. “

Latvia has already laid the bases for the development of the digital library by strengthening the formation of Information Society, for example, the documents for developing the Information Society: the programs *Informatics, Culture, e- Latvia, programs in legislation. Law on the implementation of The National Library of Latvia building project* has been adopted, which envisages the formation of library infrastructure in library services, the formation of the integrated library information system. The conception of the State Integrated Library Information System has been approved. It lies at the bases of digitization of the existing culture heritage, the formation of the unified library portal, guaranteeing of the space for electronic information exchange. Digitization of the existing culture heritage at Latvia libraries, museums, archives has started. The libraries of Latvia participate at several international projects. The NLL plans to create the National Digital Library “Letonica”. Latvia is willing to continue digitization of national culture values, being aware, that it makes an integral part of the European Digital Library.

The essential questions for Latvia are:

- ◆ Measures for effective digital preservation in order to avoid risks in preserving digital materials.

- ◆ Measures for creating joint multilingual access point to the European digital culture heritage and search. We support the opinion, that access points should be based on the existing initiatives, within the framework of which the cooperation of European libraries take place (for example, the European Library – *TEL*).

It is important to determine the tasks for the developers of digital materials – to make access to one or more copies at the institution empowered.

The measures for coordinating the access to culture heritage and copyright within the EU are important. To respect the European Community and the internationally determined rights in the branch of copyright, intellectual property rights refer to only a part of the existing documents of the libraries, archives and museums.

To ensure the successful realization of the aforementioned measures, we support the position of the Commission to work out a state strategy in long –term preservation of and access to digital materials, by attracting the resources of EU programs in reaching the goals, we have set forth.

Returning to the idea about the integration of Digital Library project into the NLL project, I would like to quote the former President of Latvia Vaira Vīķe-Freiberga, who characterized the project with such words: “It is not only the question or task of new and contemporary architecture. The whole project of the NLL offers us a completely new understanding of a library and library services in the 21<sup>st</sup> century. Implementation of the NLL project will saturate architecture and building with new

achievements for the whole society, the “Network of Light” will create a rational bases for making the NLL one of the most effective information and knowledge administration instruments fostering the life -long learning of the society.”

20. To implement practically digital cooperation in Latvia, in 2004 the Ministry of Culture adopted the decision to reorganize the Library Information Network Consortium and add additional functions.

**Mission** of the agency is to help memory institutions – archives, libraries and museums to preserve and make accessible the culture heritage for future generations, making use of the contemporary information technologies.

Aim of the agency is to ensure archives, museums, and libraries with the necessary IT resources, in order to preserve and ensure its accessibility to the public.

To clarify its status, it should be stressed that CIS is not a branch administrative institution, because General Directorate of Archives, the Board of Museums, and the Department of Library at the Ministry of Culture accomplish a professional supervision.

The agency administers the state investments and structural funds to help implementing informatization in the branch of culture.

The biggest projects in the library branch are the so-called the Network of Light or the State Integrated Library Information System/ SILIS and after having received the grant of 16,2 million USA dollars Bill and Melinda Gates project.

The agency (CIS) coordinates the implementation of the State Unified Archive System and the formation of the Union Catalogue of the National Museum.

Out of the activities pursuant to digitization, the Agency's cooperation with the project *Minerva* and participation in the National Representative Group/NRG should be mentioned.

21.

22. To foster further steps in the direction of digital cooperation, CIS supervised working out of the following document **“Unified Information System Guidelines for Culture Heritage and Memory Institutions, 2005 –2012”**.

I would like to add that in some documents we have different dates for the activities of the Latvian Digital Library. The strategy of the Ministry continues until 2015, planning period of the European Union lasts until 2013, but the mentioned guidelines until 2012. And the National Digital Library project embraces the years of 2009/2010.

Returning to the guidelines I will mention the major areas:

1. Mission of the unified information system of the culture heritage and memory institutions;
2. Strategic goals of the unified information system of the culture heritage and memory institutions;
3. Priority directions/ measures;
4. Explanations, terms, definitions;
5. Assessing criteria of the projects of museums, archives, libraries and other culture heritage and memory institutions;
6. Assessing criteria of administrative projects;
7. Assessing criteria of quality projects;
8. Assessing criteria of specific projects.

23.

On September 6, 2005 the agreement was signed among the agency of Central Financing and the secretariat of e – government of the Special Task Ministry and the state agency *Culture Information Systems* for implementation of the national program and attracting resources from the Europe Regional Development Fund /ERAF.

**The Unified State Archive Information System**

**The Union Catalogue of the National Museum Collection**

**The State Integrated Library Information System**

This project is indirectly related to the digitizing initiative. Therefore dealing with these projects in each sector I will mention separate projects; the promoters are the memory institution themselves.

24. In a nutshell, I will characterize these directions; Director General of Latvia State Archives Mr. Štāls will touch on the archive projects, but museums are not the direct object of this conference. I will speak about the projects, which focus on digitization.

The goal of the project "The Unified State Archive Information System" is to form the unified state archive information system; to ensure the accessibility of information of the state archive to the public and offer integrated services for a client, as well as e-documents of the state and municipalities, data storage and preservation, in order to guarantee the protection of interests and fundamental rights of the state and population, continuity of the state and municipalities, the

development of science.  
 The total financing for the project: Ls 982 732, including,  
 ( 75% - from ERAF; 25% - state co financing).

The essential activities related to the formation of digital resources is the opening of the Electronic Document Repository at the Latvian State Archive of Film, Photo and Audiovisual Documents on March 1, 2006. The equipment for the storage of audiovisual documents TELECINE is supplemented by a devise allowing transforming a motion film into electronic form and a sound montage table.

The Ministry of Culture has paid a greater attention to the branch of archives and digitizing projects, which has been neglected for many years. The project of archives "Family Tree" has been launched. The aim is to create a massive of digital documents for genealogical research and to preserve the originals of documents.

### **On digitizing the documents of the Latvian State Film, Photo, Audiovisual Document Archive /LSFPADA**

LSFPADA ensures the preservation of various documents; in the course of time it is necessary to carry out the transformation of information carriers, copying data and documents on other information carrier. Digitization is a constituent part of this process.

**LSFPADA** digitizes the following types of documents:

Audio documents (magnetic tapes, records, cassettes, matrixes a.o.)

Photo documents (negatives, positives, slides, albums a.o.)

Audiovisual documents (35mm, 16mm, 8mm, VHS, BetaCamSP, HI8 a.o.)

For several years Latvian Radio has been working at restoring and digitizing sound recordings. They digitize the recorded sound library as one uninterrupted massive, very soon the equipment for analogue record processing and even reading will cease to exist. Already now, everything is created and broadcasted in digital format. Accordingly, without digitizing them old records are practically out of use.

The problem is that it is impossible to evaluate visually the physical condition of old records; the tapes need to be listened to. Such listening will lead these tapes to their ruin. It means, that these records need digitizing at once, at least preserving the reading off quality.

Latvian TV also has got similar problems, but the administration and the staff have started the record digital preservation program. They are ready to cooperate with the National Digital Library project.

25. New initiatives at museums have given new possibilities for accessibility of the culture historical heritage and management.

The biggest museum project is “ The Union Catalogue of the National Museum Collection”. It embraces all 110 accredited Latvian museums – including state, local government, autonomous, private, altogether 5,1 million units.

However, one of the basic tasks is to make records about the museum objects, the digital fixation of these objects grow rapidly. Within the framework of the project 54 scanners and 54 digital photo cameras are purchased.

There are projects the results of which can be seen in 2006. - O.Vācietis' multimedia disk at the O.Vācietis memorial museum gives an insight into the personality and creative biography of the poet.

The Museum of Writings, Theatre and Music in cooperation with the Latvian Academic Library make "The Database of Persons and Places".

It is characteristic of museums to form virtual galleries, which is a step forward in the direction of Digital libraries, The Museum of Photography serves as a good example.

However, Riga Cinema Museum alike the Latvian State Archive of Film Photo and Audio Documents could become an active partner of the Digital Library.

26. Before I discuss the activities of the NLL, I want to turn to the Latvian Academic Library. Besides the collection "Sammlung verschiedner Liefländischer Monumente ..." by Johann Christoph Brotze it should be reminded of the project "The Database of Persons and Place Names". At present the NLL and LAL have signed the cooperation agreement. It is a good way to link a similar but another project "Portraits", made together by the NLL and the State History Archive.

The project of Latvia Patent and Technical Library on the history of enterprises of the national economy seems to be interesting.

27. In 1999, the NLL started the digitization of newspapers.

The project Heritage "Project -1": Preservation of Latvian Periodicals (1822-1940)".

It was followed by the project in cooperation with the State History Archive “ The Culture History of Latvia in Images. Portraits.”

A great popularity gained the digitized maps of Latvia of the 16 -18<sup>th</sup> centuries. Digitization of maps of Latvia and town plans published by P.R.Mantnieks continues. We hope to form the Digital Library of Maps within the Digital Library, which will possess the functionality of integrated geographical information system.

Several projects should be mentioned:

– *Latvian Art Posters (1899 –)*, a visual database *Riga from the end of the 19<sup>th</sup> century until the end of World War II*,

“ Drawings (etchings) by Vilhelms Zigfrīds Štafenhāgens”, the collections of postcards, ex-Libras, and small prints.

Projects with the audiovisual component “ Conversion of Records of Latvian Music and Performers”

“ Digitization of National Sound Recordings (1896-1960)” and downloading of discographic records into the NLL database are at the very outset.

At present 14 collections are available at the NLL home page:

- 90 titles or 35 049 numbers of newspapers (about 200 000 pages); digitization of microfilms has started;
- 564 Latvian art posters;
- 178 maps of the XVI – XVIII centuries, and about 3.000 maps of the 20s century;
- 3.500 portraits of Latvian cultural figures;
- Several thousands of postcards and ex-Libras;
- 7 scores of the symphonic music by Latvian composers;

- Pilotproject “Jāzeps Vītols”

All these projects are dispersed; different technologies are used with the minimal usage of metadata. These acknowledgements made to think about transition from a repository to the Digital Library.

28. The first newspaper of the Republic of Latvia. No one of the members of the project (NLL, LAL and Liepāja Research library) possessed a full set of the newspaper.

29. Media spectrum

30. A gateway to the NLL Digital Library at the NLL home page [www.lnb.lv](http://www.lnb.lv)

31. Declaration of the government sounds: “To foster the structural development of the NLL and make it become the central node and coordinator of the state library network. “

1. To ensure the functions of the state library network, and a coordinator, starting with January 1, the NLL Bibliography Institute has enlarged its functions by taking up the responsibility of cooperation with research, academic, special and school libraries. The group of editors of the Latvian library portal has been established. The price inquiry for acquiring the software for the portal takes place.
2. The NLL develops a strategic plan, 2007 – 2011, which embraces all services envisaged at the new NLL building.

3. The working group is formed in order to make the conception of the Museum of Book Publishing on the bases of the permanent exposition, which will be situated on Floor 1 at the new building.
4. The decisive role the government has laid upon the NLL is the formation of the National Digital Library "Letonica".

32. The National Library of Latvia (NLL), the state agency " Culture Information Systems" and the company „Microsoft Latvia" have concluded an agreement about cooperation in implementing the project "**National Digital Library**" for 1,9 million Lats. At the same time the NLL and " Microsoft Latvia" signed an agreement on strategic cooperation to popularize and disseminate the idea of information technologies for digital libraries and joint work of culture and memory institutions in Latvia, Europe and in the world.

What refers to the project " National Digital Library" at first the digital object management system will be elaborated, which will help to realize the basic goal of the project. For the first time in Latvia significant resources will be accumulated in digital format in one place, irrespective of their physical location (in libraries, archives, museums, in Latvia or abroad). The task of the Digital Library is not only to preserve the originals, the existence of which are endangered by time, bad storage conditions, but also to improve information services for library clients and remote users. Therefore, periodicals, graphic documents, maps, scores, sound recordings, manuscripts, books and other digital resources will be

available for wider public via Internet. The copyright and protection of personal data will be respected.

Every individual by entering a simple key word will be able to get access to the treasures of different store-houses simultaneously. All these treasures will be transformed in digital format and available via Internet. It will be an interactive node between knowledge, their creators, and users. Accordingly, a lot of people will find support to their studies, work, and to spending a free time. At the same time the project of the Digital Library will be a corner stone of the European Digital Library.

33. To avoid repeating the long title of the project I will use the shortened form DiBi.

34. Long term goals of the Latvian National Digital Library "Letonica" are:

- To ensure the preservation of the digital heritage (digitized and digitally born resources)
- To describe reliable information for quick and effective search
- To develop unified information services based on the synthesis of electronic and traditional information
- To ensure long-term access to national digital resources observing the legal rights of every individual
- To extend the information space for the cooperation among museums, archives and libraries and life-long learning for various target groups
- To urge information users become information creators

- To diminish digital divide in regions by using the content *Light Net*
- To realize international innovative research in the branch of digitization
- To foster full – fledged two-direction systematic information flow between the European Library (TEL) and the European Digital Library (EDL).

35. The fundamental goals of this project are to create a unified platform for complex solving the problems of object identification, processing, search and accessibility (Digital Object Management System). In order to process these resources and ensure accessibility, DiBi simultaneously should ensure long- term accessibility of digital resources, and equivalent functionality within the projects of TEL and EDL, at the same time DiBi is open to cooperate with all memory institutions in Latvia – libraries, museums, and archives.

36. Realized and planned work in 2007:

- Formation of the content
- Metadata
- Digital Object Management System (DOM)
- Standards
- Cooperation with other memory institutions
- Issues of copyright
- Participation in European projects
- Research and development
- Education and training
- Services
- The new projects – Digitizing of printed matter from the collection of Letonica (short hand reports by

Saeima), speeches and articles by Vaira Vīķe – Freiberga and a new pilot project *Bruno Vasīļevskis*

**37. According to the content and digitized sources, DiBi is a universal electronic body of information, which by respecting the conditions of copyright and protection of personal data, strives to embrace the most significant, unique, and more requested culture historical information of the NLL and other parts of the collection in a concentrated form, focusing on the amount of information concerning the Latvian culture in a global network.**

The content of DiBi is determined by several factors. The most essential are:

The collection is universal in the content. It is formed by various information carriers –published and unpublished, (books, periodicals, graphic documents, maps, musical compositions, sound recordings, manuscripts etc.). Specialized collections (Letonica, periodicals, rare books and manuscripts, maps, small prints, graphic documents, music, scores, sound recorded library etc.), as well as unique cultural values of Latvia and the world, which have no analogue elsewhere, are stored at the Library. In order to foster the accessibility of this unique material to remote library users and facilitate the preservation of the originals, digitization is one of the priority tasks.

**Several equal parts will form the process of digitization**

1. Preservation of exceedingly significant culture historical publications and collections;
2. Transformation of the parts of the physically endangered collection to another information carrier;

3. Fostering access to frequently requested items;

**The following considerations determine the priorities for digitizing the collection:**

Preservation of the unique collection and ensuring its accessibility;

Harvesting of accessible materials via Internet (www pages etc.) (collection and archiving);

Observing copyright and protection of personal data, as well as the principles of professional ethics.

38. One of the instruments for determining priorities is the national register of UNESCO program “ The Memory of the World” embracing the main criteria –authenticity, uniqueness, irretrievability, significance, time, place and people, which are essential for DiBi program likewise.

39. Interests of the society will determine the content of the Digital Library.

- The significant target groups will be: pupils, students, teachers, researchers, whom information is necessary daily;
- In future they will participate in creating the content;
- The Digital Libray will improve the content and process of studies in formal and informal education.

40. DiBi for pupils and students

It is the compulsory literature for schools and higher educational establishments.

- Text books,
- Projects created by pupils and students,
- Culture historical documents,

The cooperation has started with the Centre for Learning of the Ministry of Education and Science to use DiBi resources in learning.

41. For researchers and scientists it is:

- Scientific literature;
- Rarities, manuscripts and other authentic objects.

42. Strategy until 2010. It is determined by:

- Elaboration foreruns – existing projects;
- Exchange of experience; DiBi working group has visited the national libraries of Lithuania, the Czech Republic, Slovakia, Finland, Sweden, Denmark, the Netherlands, France and Great Britain (England and Wales) and participated at various conferences and seminars.
- The new NLL building project is the source for the necessary investments.

43. Finances:

- In 2006 – Ls 90.000
- In 2007 – Ls 1.500.000
- In 2007 - Ls 230.000
- 2008 – 2010. At present the Ministry is doing its utmost to defend the project. The budget is not approved yet, but our calculations prove, that until 2010 ca. Ls 3 million will be required.

44. Governing body coordinates the work of DiBi project groups and assesses the results obtained. The possible project participants from the memory institutions were found out and organizational tasks for widening the number of institutions for the project were carried out.

An exceedingly successful cooperation has started with the Academy of Music of Latvia and the Latvian Academic Library.

Criteria and standards pursuant to digitally born and analogue materials for the process of digitization were clarified. The results of this work are included into the Manual.

Institutions interested in cooperation with memory institutions were found out. And they were invited to cooperate in DiBi project.

The elaboration foreruns for working out the program of the Digital Library until 2010 was realized.

The technical group has investigated the existing situation. The number of computers, Internet connection, access rate and quality, software, peripheral equipment, harvesting of Internet resources is taken into account.

The volume of the stored data is ascertained; the necessity for memory equipment is formulated. Discussions on the versions of ensuring data storage –external or internal have taken place. External data storage at “ Lattelecom” is studied. But the internal solution at “ Latvia Radio” is revised.

The installation of the necessary software for DiBi project is done: open –source digital object repository system *Fedora*; the system for digitizing the scores *Sibelius*.

The technical group has compiled data on the necessary computers, software and purchases, etc. necessary for the implementation of the DiBi project. These data will be at the bases for the State Purchase Procedure.

An important work is done to swot up the requirements for digitizing resources of various types at the libraries of the world; discussions are organized on the version

desirable for Latvia situation. All these results are compiled in DiBi Manual (Manual for Digitization).

Metadata group has revised the access points in metadata usage used at digital libraries in the world. A special interest is paid to the standard of the European Digital Library.

DiBi metadata standard is made; its form and indications for usage are described in DiBi metadata standard document.

DiBi metadata scheme is made.

The staff members of various departments of the NLL (the Department of Music, the Department of Rare Books and Manuscripts, the Department of Restoration and Digitization) have been trained in make – ready metadata to digital resources, in compliance with DiBi metadata standard, using the system Fedora.

The supervision over the inclusion of resources of various types (scores, images, sound files, letters, books, interactive materials) into and providing with metadata to DiBi collection “ Jāzeps Vītols” has been accomplished.

In future the Project Board consisting of leaders of memory institutions will be created. For the time being, the most active partners take part in working and leaders’ groups.

45. Timing

46. Methods:

- Flexibility
- Integration of the existing digital collection
- Migration of formats
- Interface with external systems

- (Aleph, Alise etc., including the controlled dictionaries)
- The role of a user and work flow
- Automated, not manual approach to creation of files

When the system is ready, we will deal with large- scale production to a certain extent.

What quality criteria do we use for non- corresponding objects?

47. Components of DiBi are:

**Infrastructure:**

-Servers, network, software (including the complex object management system)

-Equipment (scanners, digital cameras etc.)

-Services (scanning, text recognition etc.)

-Logistics (work flow and transfer of the originals for digitizing)

-PR (beneficial public opinion in the society and amidst professionals)

-Documentation–unified quality criteria and standards

**Nowadays:**

-Modern scanners are purchased;

-Data are stored on CD and DVD;

-The first purchase of servers and software is completed;

-The tender to working out Digital Object Management System is announced;

-Efficiency analyses for paid external scanning services takes place;

-Workflows are elaborated;

-The Manual for digitization is available, which determines standardised processing of the objects;

- The pilot project *Jāzeps Vītols* is launched;
- Series of articles in the Latvian newspapers (“Diena”, “NRA”) and in Internet portals have been written.

**In 2009:**

- Digital Object Management System is introduced, which ensures the integrity of data.
- Scanning capacity is doubled.
- Software for retrieval many resources simultaneously is purchased.
- The existing collections have migrated to the joint repository.

**The content:**

Full text objects in various formats: books, newspaper articles, scores, sound and video records, multimedia objects, Internet resources.

**Nowadays:** 14 separate collections can be viewed at the NLL home page.

**In 2009:**

- The Latvian National Digital Library is established- User- friendly one- access point to all objects.
- The amount of data is tripled.
- Types of new digital objects are added (audio and video).
- Qualitatively new functionality is offered: recognition of diacritical marks, which ensures search in full text.

**Cooperation**

Domestic,

International,

Copyright licensing agencies.

**Nowadays:**

- **3 partners:** The State Archive of Latvia, the Library of the Academy of Music and the Latvian Academic Library.

- We are full -fledged members of the European Library (TEL).
- Preliminary consultations with Copyright Licensing Agency (AKA/LAA) on the issues of copyright prove that their approach differs from the European practice.

**In 2009:**

- At least 20 partners in Latvia – archives, the biggest state libraries and libraries in regions;
- The European Digital Library (EDL); project members and possible leaders;
- The acceptable solution to copyright issues is found for all parties and mainly for users, for example, electronic account settling for users outside the library.

**The staff:**

Know-how staff

**Nowadays:**

- The Department of Digitization is founded. It carries out the processes of scanning and after-treatment.
- The target group of the Digital library is formed, which works out strategy and finds practical solutions.
- At present the staff involved in digitization is trained.
- An official to deal with the text semantic computer analyses is hired.
- The competence centre for digitizing is formed; R & D will be one of its trends.

**In 2009:**

- Joint projects are realized in cooperation with Latvian businesses to make the analyses of multilingual texts and the “intelligence search”
- Systematic training of the staff according to special program is realized.

48. What is DOMS? It is a complex of servers, computers, software and network.

49. DOMs tasks – Eternal preservation and eternal accessibility of digital objects

50. Safe transfer of digital objects from the place of creation to that of storage.

51. Management of the digital library users' rights and the rights of accessibility.

52. Two stages for data storage and access are envisaged:

a. DOM 1.stage – storage, description, search (the beginning of 2008)

b. DOM 2.stage –personalization of information (different content for different users) and interactivity (the possibility to comment resources, tagging, formation of private collections etc.)

53. The principal scheme of DOM Latvia is as follows:

54. Certain activities should be pointed out in the process to be analysed from IT point of view.

55. In the process of retrieval we speak about some physical object– digitizing of a book, a picture, a sculpture, a piece of music.

Digitization envisages:

- Description of essential features in digits
- It is important for digitizing:

- What is digitized? – It is determined, what object parameters are digitized.
- What quality is it important to preserve in? –It is determined, what digital formats are used and what requirements are needed for retrieval.
  - Not only the text but tagging can be important etc
  - Archive files. TIFFi. OCR'd texts – xml/pdf/plain uc.? DjVU?
- Retrieval of digitized objects in DOM system means preservation of digitized objects in the electronic system:
  - Besides quality, it is important who and how to access the system in order to enter data.
    - Remote access
    - What standards and protocols to use and (maximum accessibility)

#### 56. Organizing: DOM core

- Process, going on all the time with new and already existing objects;
  - The utmost work for editors;
  - The quality of DiBi is dependant on the quality of their work;
- “ Where” does it take place: inter-stage storage place, repository
- At first – quarantine
- Afterwards – versions
- It is important:
  - To store objects according to metadata schemes and standards (Dublin Core, METS, etc.)

- Access control – anyone can't change the objects
- Multilingualism – translation of metadata as an independent work (the more the languages, the more popularity, possible for Latvian texts as well).

57. Repository – one of the essential DOM aspects, if there is no repository, there is no place to store.

- Uninterrupted work has to be ensured for decades – solutions of infrastructure (separately in the presentation);
- The volume exceeds all the time;
- Master files and access files are stored as well as their new versions;

Nothing is deleted.

- There are concrete requirements for access rate (to a certain extent solved by the access module) and reliability –data security (no one will modify, virus won't spread etc.
- Storage – won't be endangered by flood or fire etc.
- Compared with the storehouse of physical documents– controlled environment: temperature, moisture, electric feeding.
- Expenses – constant and growing (volume)
- What to do about curved lines; how can they look like; no data at present
  - Price for storage a data volume
  - A data volume to be stored
- Compromise to be found between expenses and data volume

58.Capacity

- a certain number of computers (servers) ensures simultaneous access to a certain number of users
- more users , more expenditure for ensuring access.

#### Interface

- to make and maintain not only www interface, but also for automatic searchers robots (TEL, EDL.net etc.)

#### Formats:

- binary data formats change – ten years ago the following programs existed WordStar, (USSR:) ChiWriter, MultiEdit, it is impossible to access these data. The same refers to flexible diskettes. What is the choice? Maximum simple formats. (INA experience – tar files on DLT tapes)
- multilingualism – it has to be envisaged on the level of metadata; translation

### 59. Expenses

#### Servers and store- houses:

- Within the framework of DOM system – impossible to do by us – high expenditure refers not only to creation, but also to maintenance (electricity, people etc.)
- External services –IT infrastructure is not the major competence of the NLL
  - separate services –webcrawling; the possible Internet Archive (BnF experience)
- inclusion of costs for maintenance into the budget.

### 60. Requirements for metadata are as follow:

A set of metadata elements is required for finding solutions to DIBi metadata:

- a possibility for users to have a convenient search and find a digital object irrespective of its type;
- a set of metadata elements can be used for describing all the objects included into DiBi, irrespective of the institution digitizing an object or administering it.

61. On August 11, 2006 DiBi *Metadata standards* are adopted.

Minimal description length is ensured by metadata, recorded in compliance with Dublin Core standard. Compatibility with other systems is ensured by metadata, which are asked by:

- The European Digital Library project user profile (v.1.5.)
- Metadata and e –services identification standard of the State Integrated Library Information system (SILIS)

Latvia metadata standard is based on and compatible with Dublin Core Metadata Element Set (DCMES), documented in Dublin Core Metadata Initiative (DCMI). In any case metadata can logically be divided into three groups – descriptive, administrative and structural metadata. Descriptive metadata contains information for describing intellectual content of the object. Administrative metadata contain physical characteristics of resources, usage and copyright. Structural metadata describes the internal structure of digital resources and the relationship between their parts.

62. Decisions on standards and protocols are equally important. They are as follows:

- File- naming convention

- Object identification published in Internet (URN) I
- Data Exchange protocols
  - OAI-PMH
  - SRU/SRW
- Master and access files formats:
  - for a wide range of objects (texts, images, maps, audio, video, Sibeliuss' records, web etc.)
  - Various choices and one format (PDF/A vs. DjVu)
- Complexes, documents of many pages
  - User files
  - Marking (for example, Olive software for newspapers)
- Criteria for quality control & procedures

### 63. Video type object metadata are included in the set

- Video type object metadata are described, using MPEG-7 standard. MPEG-7 standard is ISO/IEC standard, worked out by the Moving Pictures Expert Group (MPEG), which works within the International Standards Organization ISO. MPEG-7 has been adopted as a standard in 2001. MPEG-7 is the first standard, which is not based on compression format, but on metadata, that is, on the content description. MPEG-7 uses XML and defines the descriptors set for audio, video and graphics, using the Description Definition Language DDL. MPEG-7 is meant for users to search, browse and retrieve audiovisual content. The standard does not envisage, how to form metadata from content, how to process metadata.

- MPEG7 format is like a container, which contains information of the segments of the resource – video, audio, audiovisual.
- MPEG format parts are video and audio segments. Below, the structures of audio and video segments are seen.

64. Metadata of sound recordings at various institutions are formed according to a different level of perfection. . The most complete possible is the description of audiovisual resources in MPEG-7 standard. Exceedingly detailed description of audio resources is possible using bibliographic description standard MARC. Concise, but satisfactory for the requirements of many users is the description of audio records formed at the virtual music library – the project formed jointly by the Danish Library Consortium.

65. The necessary provision of information resources with metadata is ensuring qualitative learning possibilities – additional information about the nature of resources, the possible way of usage, copyright status etc.

**The architecture of the National Digital Library envisages two level metadata adjusted for digital documents. The Minimum level corresponds to the requirements of the European Digital library and uses 15 element set in Dublin Core system. The Second level comprises advanced metadata –descriptive, administrative and structural.**

For educational aims a special significance is to the so-called LOM metadata –**Learning Object Metadata**. The Learning object means to use a part of the process repeatedly. The course of learning can consist of learning

objects; one and the same objects can have several courses. The sequence of presenting learning objects and the track can be adjusted to users' requirements. LOM access allows saving up, forming a personalized training.

LOM metadata creation asks for the work of qualified pedagogues, allowing realizing didactic training and constructive approach to individual experience of influential pedagogues.

66. An example of minimum level of metadata in Dublin Core

67. – 68. Another example, metadata are described according to the library information system Aleph500 in MARC21 format.

69. And there is the description of Dublin Core.

#### 70. **Metadata**

The work is continued within the standard TEL Dublin Core Application Profile for Object Description

The usage of TEL Dublin Core Application Profile for Collection Description is approved and adapted.

MARC21->TEL Dublin Core Application Profile for Object Description metadata migration scheme

Access file testing

In summer 2007 the training of metadata specialists will start.

71. To introduce unified standards based on the best international practice, as well as official and de facto standards, the work to make **the Manual for Digitization**

has started. At present the chapters on object scanning, creation of master files and access files and metadata have been completed.

**What is reliable facsimile quality of digital reproduction?**

A reliable digital reproduction should be long –lasting (accessible eternally) and compatible with various platforms and software. A reliable digital reproduction is a digital image, made to reproduce the original document precisely in content (including autographs a.o. specific features) and semblance (tonality and colour) and the sequence of pages. Facsimile print outs of reliable reproductions will be available when they will be of the same size as originals. (1:1).

72. The manual consists of the following chapters:

- MASTER FILES
- ACCESS FILES; ACCESS IMAGES
- SCANNING AND PROCESSING
- TITLES OF MASTER FILES FOR LONG –TERM STORAGE
- METADATA
- APPENDIXES
- A. COMMON MINIMAL REQUIREMENTS FOR MASTERFILES
- B. MASTERFILES
- C. ACCESS FILES OR ACCESS IMAGES FOR VIEWING
- D. SAMPLES OF THE FREQUENTLY FOUND TYPES OF ORIGINALS AND PECULIARITIES OF THEIR SCANNING

## E. MATRIX FOR CREATING FILENAMES

73. Scanning is not a completely mechanical process-for example, the image of the present –day Unibanka building on the corner of Lielās Pils street shows, how important it is to investigate the original, to choose such a resolution and colour palette, which will allow preserving all details existent in the original and difficult to notice at once.

74. Photographs. Another example shows how time-consuming is digitizing of one object. You see three men in this photo; we recognize one as Jāzeps Vītols. But who are the other two? That's where the research begins, the metadata on the right of the screen prove the successful result.

75. When we speak about the text we encounter the text recognition problems.

There is a seemingly simple text in the book about Vītols in this image acquired with text recognition software.

When you look closer you discover several problems.

- 1) Orthography software has not recognized an old work "meldijas" (melodies) and changed it to media.
- 2) The old orthography is used in the text and if you try to find the word "kori"(choirs), there is no such a word.
- 3) Versions of personal and place names are found – Vīgneru Ernests

**It is envisaged that the difficulties will arise with the old font used in Latvia until the mid 30s. The text will need rereading.**

76. The pilot project (“Jāzeps Vītols”) has started. The major aim is to digitize several types of objects and find out the possible difficulties and stumbling blocks. Today the system is installed and configured; metadata scheme and users’ interface is worked out. Branch metadata specialists are trained and first 150 objects are described (sound recordings, scores, video films, images, manuscripts, a book, music written by Sibelius etc.). The program for recognition of characters is tried. The pilot project will be completed in the end of September 2006.

**Why have we chosen Jāzeps Vītols?**

**Firstly, Jāzeps Vītols has been a very creative composer. His compositions have been stored at the collections of various organizations: the National Library of Latvia, the Latvian Academic Library, and at the Academy of Music. The new digital collection will offer a good opportunity to check the inter-organizational cooperation abilities.**

**Secondly, Jāzeps Vītols has written his scores and letters in a calligraphic handwriting, it is important for those users interested in the originals of the manuscripts.**

**DiBi pilot project Jāzeps Vītols gives a possibility to compile rare materials in one place, to create a new unique collection – autographs, published compositions, sound recordings, images and portraits, letters, bibliography –and ensure its accessibility to a wide range of interested persons, simultaneously offering a wide development program of Latvian academic music. A great part of J.Vītols’ scores, especially at the beginning of 1890s and 20s century are available in one or two copies, in the course of time**

paper has become fragile, and requires restoration. To ensure the more complete choice of materials, several music organizations are involved in the project: departments of the NLL, J. Vītols Music Academy of Latvia, (especially J.Vītols' study), the Museum of Latvian Literature, Art and Music, J.Vītols' museum "Anniņas" in Gaujiena.

Until the end of September, 2006 192 materials of various types are found in the pilot project "Jāzeps Vītols". They are: audio records, photographs, books, interactive resources, concert programmes, scores, printed music, posters, letters, video films, drawings.

77. – 78. Gateway

79. Compositions written by hand and in a digitally reproducible format

80. Browsing digital pages

81. The next step - Migration with all metadata schemes Migration from Fedora/Fez vides to DOMS; from the end of 2007 to the mid 2008 in full functionality.

82. Cooperation with other memory institutions is one of the most important aspects of this project.

Within the framework of the pilot project the cooperation with other memory institutions of Latvia has started (at present - the Academy of Music of Latvia, Latvia Radio and the Latvian Academic Library. It is planned to involve new participants in Latvia and in

abroad. The aim is to form the Digital Library "Letonica".

It is envisaged, that the cooperation will be continued with the State History Archive.

Negotiations on cooperation after the implementation of DOM have started with the leadership of the University of Latvia and its separate structural units – libraries, the Treasure House of folklore and the Institute of Mathematics; Latvian Patent and Technological Library, the Latvian State Archive of Film, Photo, Audio Documents, the Museum of Cinema, Latvian TV etc.

83. We foresee a special direction –a support to regional digital libraries. The formula is as follows:

Digitized collections of regional memory institutions + digital repatriation from the collections of the world and the national collections of Latvia (National Digital Library Letonica) + "texts in the context " + links to the home page/ portal of regional libraries (archives, museums, schools, local governments, development agencies, tourist information bureaus etc.).

84. To ensure a successful direction of DiBi a great significance is paid to formation of the corresponding ICT structures. It is necessary to make reserve copies of big master files, to offer audio and video stream files, which determine the necessity for high- powered technologies, including broadband network.

If there is no good library, there is no access possible to these files from Kārsava or Rucava.

The complex software is necessary to be compared to that of Amazon, and professionals know it as Digital

Object Management System, as well as software for processing images, maps, text, audio, video etc.

And the most essential is – specialists are required with skills in IT, which will create these systems and use them.

The list of purchases for the requirements of Digital Library is prepared: the necessary IT infrastructure – computers and software.

Survey of scanning, after-treatment and metadata, research and calculation of the financial profitability have been carried out.

The agreement has been concluded with Olive Software company about the text object after-treatment, indexation, and testing of software for data organization.

85. In June, 2007 with the help of the Ministry of Culture negotiations started with Latvia creative and professional associations on cooperation to solve access rights to digital materials.

86. The Centre of Excellence.

The NLL has hired several researchers; the Department of Research and Development is established, the staff members have joined in several international projects.

I have already mentioned about gaining experience.

In the field of training several activities were realized. Members of DiBi target group examined the work with the content, for example digitizers studied the programme DeJaVu in scanning materials.

For entering concrete resources into DiBi, employees of several departments of the NLL (the Department of Music, the Department of Rare Books and Manuscripts,

the Department of Restoration and Digitization) learned metadata adjusting to digital resources.

Experts are attracted to acquiring after-treatment programme.

87. The NLL TIC will offer training to practical digitizers, how to create DiBi resources and how to improve the accessibility to digital resources with the help of the *Network of Light* (Bill and Melinda Gates project) and other institutions.

However, the University of Latvia TIC offers advanced course of continuous learning "DIGITAL LIBRARIES" (32 h)

A similar programme is LU SZF Bachelor's programme.

88. Research functions carried out by the Digital Library of the NLL are specific, different and unique. The NLL Digital Library is the only one in the Baltic region succeeding in the following research trends:

*Users' interactivity, personalization.* This work is oriented to a creation of users, knowledge, and psychologically adequate interface. Usage of digitized resources will be adapted and adjusted to the requirements of users. Offer of complementary access will be a novelty, including, bottom-up strategy, where the starting point is users' interests and knowledge structure.

*Elaboration of user oriented access,* using empiric epistemology; these are researches on semantic ontology. It is an innovative, at present a crucial direction in implementing digital projects in the world.

*. Elaborations of semantic ontology* take place compiling

semantic, psychological and computer science and reaching balanced (a) formally effective and (b) semantically and psychologically adequate digitizing module of semantic ontology.

To promote the support to ontology and interactivity- it is the work with innovative access OCR and further developing of indexing.

An essential research is made in formation of semantic filter for the purpose of search. The result of this work will be not only the quantitative, but also qualitative product of high value. It is essential if you take into account the rapid growth of digitized resources.

Processing and analyses of the text of natural languages will take place in the process of search. Directions of research will deal with the analyses of metaphoric, polisemic, deictic components, which are not practically created in the existing search systems.

Attraction of the users knowledge base to digitized resources in the application process is important. Experience of any library and database doesn't begin and finish the usage of the corresponding material. This aspect is essential to increase the efficiency of digitized resources. The trend of this research is innovative, and less investigated in the world.

The research of DiBi of the NLL envisages not only the replenishment of the existing resources in future, and digitizing of the content but also elaboration of innovative methods, by attracting interdisciplinary research resources from the leading research centres of the world.

Research in DiBi at the NLL has an important role in attracting further funding in Latvia

and institutions outside Latvia, among EU target programs and the private sector.

Digital Library of the NLL is not only a digitizing institution with practical and informative tasks, which electronically embraces analogue resources, but also realizes international innovative research thus fulfilling the functions, which possess Research and Development centres in any representative Digital Library in Europe and in the world. Digital Library of the NLL cooperates in research with leading research centres of the world. Among cooperation institutions are specialists of computer science, book science, psychology, ontology, cognitive sciences and other branches.

The cooperation in the project TRIPOD (TRI-Partite Multimedia Object Description) of the 6<sup>th</sup> framework program of the European Commission (FP6) has started.

Participants: 10 European research institutions, Latvian partner – SIA „Tilde”

Preparatory works for the project announcement in e-ContentPlus program.

89. WEB 2.0 has initiated to define Library 2.0. (L2) is an alternation of those services, which the library offers to its users. It offers new tools, which corresponding to the community of users, allows making the library environment (virtual and physical) interactive and cooperation more contributory. It fosters socially mutual interaction between library staff and users. L2 asks for a cooperation of users and feedback in development and maintenance of library services.

Moreover, understanding of L2 necessarily leads to DiBi.

90. To use technologies in order to form interactive ties with the public.

A user 2.0 could mean a certain amount of skills, and experience and simultaneously a generation born in the turn of the millennium, the computer skills of whom are a self-evident truth. This generation is characteristic of certain information retrieval habits: not all is needed, but what is needed is needed immediately. The characteristic practice of search is –starting from the wider to the narrower (faseti0 in another cut).

If the library won't become a part of the life of this audience, it could mean that the research and educational quality would become worse in the course of time.

An example: the examples with copying home tasks from Internet – one and the same mistakes repeat in one or other work.

In the opposition: –  
<http://www.inmotionaame.org/education/subject.cfm?subject=Geography> (NYPL resource for teachers) – a reliable source

91. The NLL has started to coordinate the elaboration of the following projects, involving the society in making resources and reliable resources.

- “ My photos”
  - A personal view to the significant events in Latvia
- “The Lost Latvia”
  - Memories of the lost monuments of nature and other objects in Latvia

- Resources from the libraries, archives, museums and private collections

## 92. Aims of the project

The pilot project "Lost Latvia" continues the work of the NLL to form the Latvian National Digital Library "Letonica". Within the framework of the project it is planned to digitize important culture historical materials, related to various Latvian places and objects, which has once existed, but nowadays has totally disappeared or got lost.

At present images, documents video and other records about different lost places in Latvia have been preserved, however, every physical object is subdued to the influence of outer conditions and these documents gradually deteriorate. Implementing the pilot project "the Lost Latvia" documents will be digitized and it is possible to store eternally.

The target audience:

Pupils and teachers especially in the countryside, users of district libraries, researchers of local history, students of culture historic disciplines, promoters of culture tourism.

The scope of the project and restrictions

A number of materials correspond to the aims of the project. It is impossible to digitize all of them. We have neither enough human resources, nor technical capacity. Initially the pilot project "Lost Latvia" envisages various restrictions to the content, which could be expanded in future including more and more materials in the digital collection.

### **Restrictions to objects and types of places**

The project has to embrace a wide spectre of objects:

Places: once existed rivers, castle mounds, streets etc.

Buildings: castles, manor houses, ruined houses at world wars, churches, fishermen villages etc.

Monuments: monuments of artistic quality, monuments of historical persons (*to Lenin, Stalin*) etc.

Market places and harbours

Bridges: wooden bridges, pontoon bridges, railway bridges destroyed in World War II, rope bridges etc.

Nature objects: like Staburags, secular trees, parks, alleys etc.

### **Restrictions of time**

The pilot project "Lost Latvia" envisages embracing the time period from 1945 (including the destroyed objects of World War II)

Every digitized lost object of Latvia must be supplemented by an image, what the place or object, looks now.

### **Geographical restrictions**

The pilot project "Lost Latvia" will embrace the materials about the whole Latvia in its historical territory until 1945, for example, Abrene district, Valga etc.).

The pilot project doesn't envisage to digitize materials connected with Latvian colonies Tobago and Gambia.

### **Format restrictions**

Primarily it is envisaged to gather images in the pilot project "Lost Latvia, including also video records, audio records (for example, memory readings, „Staburaga bērni" radio reading etc.).

### **Restrictions to the content**

The content of the pilot project is determined by the organizations involved, while all the chosen materials correspond to above-mentioned requirements. The content is compiled and coordinated by the National Library of Latvia. (For example, to avoid duplicate copies Technical solutions of the project

Digitizing should be carried out in compliance with “The Manual for Digitization” observing all quality standards of master files.

The organizations involved, within the limits of their possibility, have to digitize the materials independently or use the external services of digitization.

Project organization

Supervision of the project lays on the NLL; however, archives, museums, Riga and regional libraries can participate in the implementation of the project.

93. On November 19, 2007 the Ministry of Culture of LR and the NLL is going to organize the first international conference *Digital Libraries for Learning (DLL)*.

The conference will investigate the contribution of national libraries to the process of learning by participating into study programmes, supporting professional training and life-long learning and other branches.

The main attention of the conference will be paid to:

- Assessment of the target audience in the context of learning;
- Content: primary sources, additional sources, and value added content;
- Formation of digital collections in order to foster education: formats, metadata and structuring.

About 150 participants from Europe, the USA and the Commonwealth of Independent States will take part at the conference.

94. In future we envisage, that DiBi will determine

\* **Multiform content from the wide range of memory institutions of Latvia:**

- **The content oriented to learning (for example, design education at art schools)**
- **Information in the context and added value features (texts in the context)**
- **The content from the publishers directly**
- **Objects from private collections**
- **Optically recognized (OCR-d) and indexed materials.**

95. **Organization and accessibility characterized by:**

**In 2008**

- **Capacity to form personal collections**
- **New pilot projects**
- **Bilingual metadata**
- **Joint search interface**
- **Controlled dictionaries**
- **Further participation of memory institutions**
- **Hierarchic browsing.**

**In 2009**

- **Intersectional or unified search**
- **Ontology**
- **Multilingual metadata**
- **Content for specific users, based on semantics of textual analyses**

- **Complete integration into EDL**