



## **VISK 7 – National Funding Mechanism for the digitization and long-term preservation of the newspapers endangered by the degradation of the paper. Looking back over more than 15 years of the cooperation of the Czech libraries.**

**Tomas Foltyn**

**Collection's Management Division, National Library of the Czech Republic, Prague, Czech Republic**

E-mail address: [tomas.foltyn@nkp.cz](mailto:tomas.foltyn@nkp.cz)



Copyright © 2016 by Tomas Foltyn This work is made available under the [Creative Commons Attribution 4.0 license](https://creativecommons.org/licenses/by/4.0/). Unported License: <http://creativecommons.org/licenses/by/4.0/>

---

### **Abstract:**

*At the beginning of the year 2000 new Czech funding mechanism for the development of the libraries was established by the Czech Government. Probably neither one from past politicians, nor librarians, did expect those days, that this funding program would be still open in 2018 and would be more and more important for many fields of librarianship, including the preservation and digitization of newspapers endangered by the degradation of the paper. Such a long time of more than 15 years is great opportunity to evaluate all the benefits and changes of the supported activities, practices and impacts of the program. The aim of this paper is to provide the information about the more than 15 years history of the VISK 7 funding mechanism, describe achieved results and benefits, and share the reached best practices including the main developed open-source tools.*

**Keywords:** funding, cooperation, digitization, long-term preservation, Ministry of Culture

---

### **Introduction**

The funding mechanism of the Ministry of Culture of the Czech Republic called Public Information Services of the Libraries (program acronym is VISK) was established in April 2000 by the Resolution of the Government Board of the Czech Republic No. 351 named The State Information Policy in the area of Education. This mechanism followed up the past funding mechanisms aimed to the culture heritage and information institutions, which were closed in the end of the previous year. The main aim of the VISK program was to support public information services of the libraries, especially by the support of the information

technologies. At the early beginning it was decided, that the financial support should be focused on:

- support of the lifelong learning
- enhancing the cultural needs of the Czech citizens
- access to the public information connected with public administration respecting the free access to the information
- strengthening the information support for tourism, business, legal awareness, independent decision making and the special library services for the social and national minorities
- support and documentation of the research and development activities
- opening the freely accessible places equipped with the modern IT facilities and professional services guarantee the equal access to the information resources and network for all the groups of citizens
- long-term preservation and presentation of the national culture heritage stored in the library collections

From the beginning the VISK program funding was opened for all the Czech public libraries, which are registered by the Ministry of Culture according the Library Act of the Czech Republic and for the public associations established by the rules of the Act No. 89/2012 of the Civil Code, whose main target is to provide library and information services or to support them actively. In the current days there are more than 5 000 libraries in the Czech Republic, so the impact of the funding is very broad. On the base of the subprogram also small libraries from different villages, municipal or district libraries can very easily ask for a funding. These days the VISK program is divided to ten separate subprograms having different aims:

- VISK 1 – The coordination centre for the VISK program realization  
The aim of the subprogram is to coordinate all the VISK activities, to decide about the structure of the VISK subprogram budgets, to support the knowledge about the program to the regional libraries and to cooperate with the Ministry of Culture on the public control mechanisms.
- VISK 2 – Out-of-school and lifelong education of the librarians  
The aim of the subprogram is to educate the librarians in the various areas of the modern librarianship and to support the education centres of the regional libraries with the special attention to the current ICT trends.
- VISK 3 – Information centres of the public libraries  
The aim of the subprogram is to support the IT technologies in the libraries including the supplies of the new IT facilities, modern tools and multimedia equipment.
- VISK 4 – Digital libraries and data archives for the support of the information services in libraries  
This subprogram was aimed from the early beginning to the support of the National Library of the Czech Republic as the guarantor of the digitization activities across the Czech Republic to optimize the tools for presentation and long-term preservation of the digital content. Nowadays this subprogram is frozen, because the National Library of the Czech Republic had obtained the direct funding to the institutional budget.
- VISK 5 – RETROKON: national program of the retrospective conversion of the library catalogues

The aim of the program is to make the library collections accessible via internet through the transfer of the card and analogue catalogues to the electronic form, which will be fully searchable by the search tools. All the new structures must be made in the accordance with the international standards.

- VISK 6 – Manuscriptorium: national program of the digitization, presentation and preservation of the manuscripts and old prints

The aim of the program is to ensure the preservation and wide accessibility of the rare documents owned by the libraries and other historical collections that form national cultural heritage through the modern methods of digitization and long-term preservation of the digital content.

- VISK 7 – Kramerius: national program of the digitization and long-term preservation of the modern documents endangered by the degradation of the paper

The aim of the program is to support all the activities leading to preserve the modern collections of the periodicals and monographs whose existence is threatened by the paper degradation.

- VISK 8/A – Integration of the on-line resources

The aim of the program is the integration of the heterogeneous information resources and new approaches to their access through various information gateways bringing a significant increase of their use in the local and remote information resources.

- VISK 8/B – Uniform Information Gateway

The task for the program is to ensure the availability of the on-line information resources by the purchasing the multi-licensed access.

- VISK 9 – The Union Catalogue Development and the support of the National Authorities enhancement

The aim of the program is to ensure a prompt and effective searching for the library collections and items and the building of the list of the National Authorities.

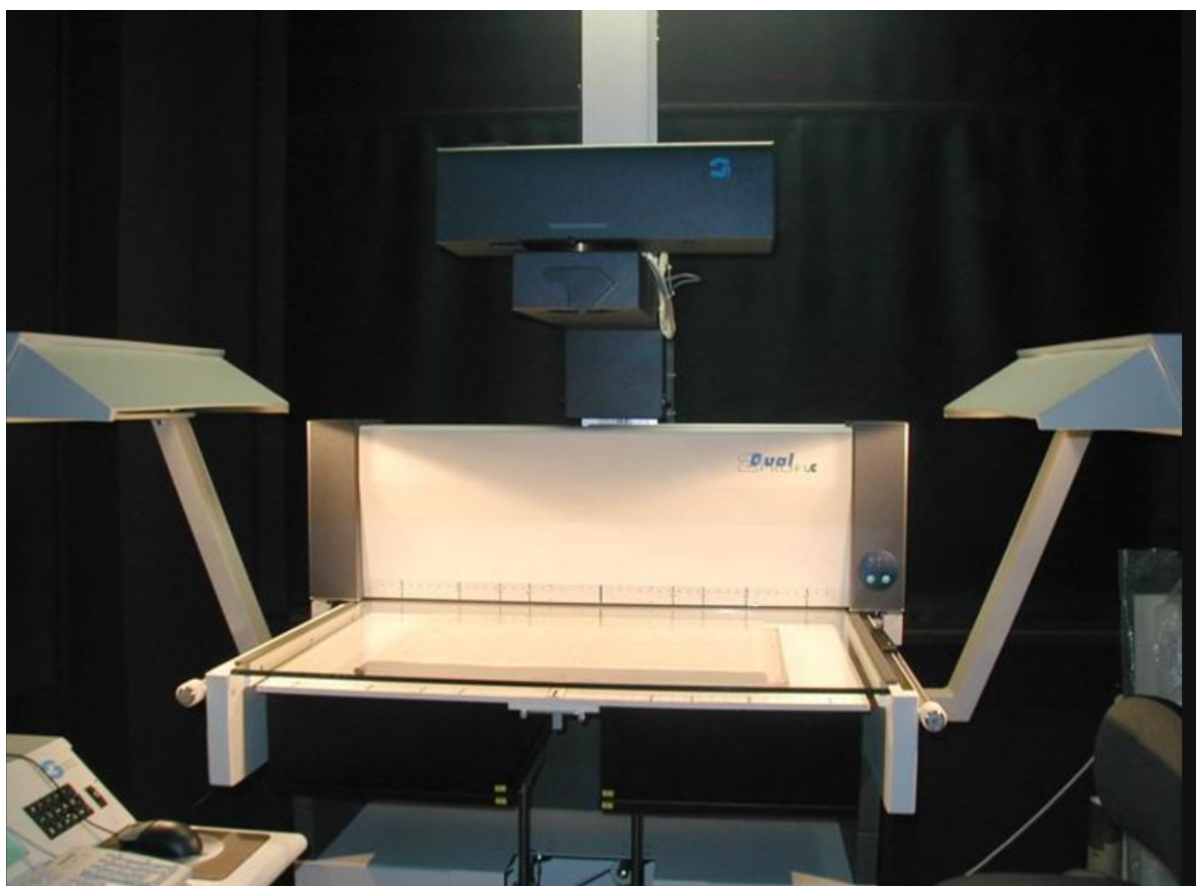
All the VISK subprograms are coordinated by the Ministry of Culture of the Czech Republic and the National Library of the Czech Republic by the selected professional guarantor, who is responsible for the methodical guidance and continual development of the subprogram. An expert committee constituted of the various experts working in different libraries decides during the approval procedures about the acceptance or non-acceptance of the project and also about the funding limits. Because all the members of the committee have just three years of their participation in the committee, it is almost impossible to influence the decision-making procedures. If the submitted project is approved, the project applicant will get 70% of costs covered from the program budget and the rest 30% will be made by co-financing. For projects with the wider national benefit, the commission can award even 100% of the cost coverage based on the rules of every single subprogram. In the recent years, 40-60 million CZK (= 1,5-2,2 millions EUR) per annum has been allocated to the funding for all the subprograms. The implementation of the VISK subprograms is in the full compliance with the strategic governmental documents supporting the Czech culture and librarianship, e. g. the Policy for the Library Development 2011-2015, the Policy for the Library Development 2017-2020, the State Cultural Policy for 2016-2020 and others.

## **VISK 7 Kramerius: national program of the digitization and long-term preservation of the modern documents endangered by the degradation of the paper**

### **The first years of the subprogram implementation**

In the full compliance with the above mentioned strategical documents, the ground objective of the VISK 7 Kramerius program is to preserve and present the modern Bohemical papers and books printed on the acid paper, which are endangered by their degradation. Very poor physical conditions of such documents is the very limited factor not only for the preservation purposes but also for the interlibrary loans, common library services and for the usability of the content. From the very beginning the VISK 7 program covers the activities connected by the protective reformatting of the endangered documents by the microfilming or digitization. Special attention was acknowledged to the method of so called hybrid reformatting, when both digital and microfilm copy is made together. All the data should be produced in such a quality to correspond the international standards and prescribed methodology.

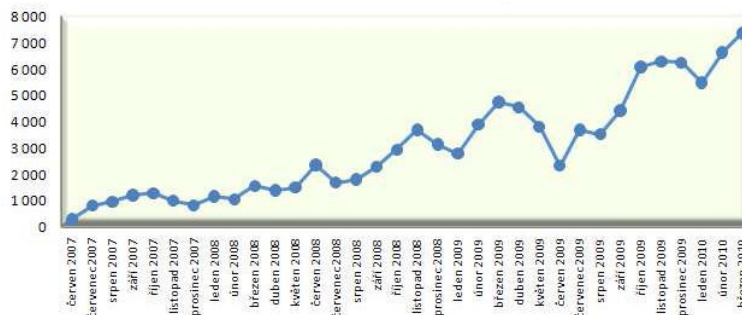
**Fig. Nr. 1.** Hybrid camera ProServ used in the National Library of the Czech Library digitization workplace to 2010. Foto: Jiří Polišenský.



At the beginning of the program implementation the results from the previous projects were reused – e. g. Digitization of Micromedia or Microfilming of the significant Bohemical periodicals projects. During the first years of the VISK 7 program implementation all the projects were dedicated especially to the protective microfilming without the digital copy creation. Five microfilming laboratories in the Czech Republic were renovated in the frame

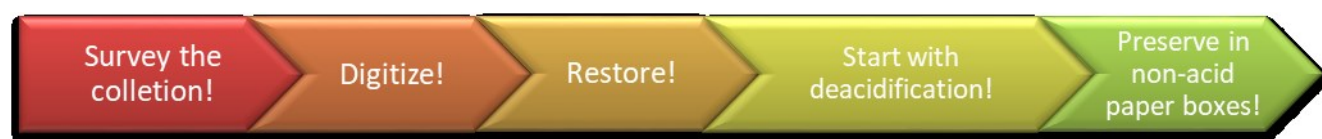
of program as well. All the micrographic workplaces build in the libraries had to accept ISO standards and started to microfilm their old newspapers. The microfilm was always made in two copies - an archive negative for storing purposes and a matrix negative used to create user copies of microfilms. The National Library of the Czech Republic was responsible for the coordination, selection of the newspaper titles and methodological support. Microfilm masters were also stored in the special repository build on the National Library of the Czech Republic premises. In the connection with these activities (supported from the different funding) in the National Library of the Czech Republic also new technical facilities had been bought including the microfilm scanner SunRise the first simple digital repository based on ADIC Scalar 1000 robotic tape library, disc fields and SAM FS file system. After the great floods, which affected the large parts of the Czech Republic in 2002, a large number of library documents were destroyed or damaged. Consequently, direct digitization was chosen as one of the main ways of rescuing or replacing the documents constituting the national cultural heritage. The National Library of the Czech Republic together with the Academy of Sciences Library and the Moravian State Library developed the special tool for the presentation of the digital content which was named Kramerius as well. To access all the sources directly on the physical media (CD-Rs or DVDs) was not considered as a suitable solution. From the early beginning it was based as open-source solution available for free use in various Czech libraries. The same digital library – but of course in continuously updated form and interface - is used till now in more than 30 Czech libraries. The first standards for digitization connected with the digital library were proprietary, using the specialized own DTD schemas for periodicals and monographs, but also international recommended file formats as JPEG or txt. During the first five years of the project running more than 5,5 million pages of digital documents were created and made accessible via the copyright and the number of users became higher and higher. In parallel to the digitization, many protective boxes made of non-acid cardboard were produced, especially for the documents, which were already scanned.

**Fig. Nr. 2.** Diagram of the number of unique visitors of the digital library Kramerius per month from 2007 to 2010, the period, when the amount of digitized pages increased multiply.



In the 2009, together with the preparation of the National Digital Library project, new methodology for the digitization was accepted and became valid for all the Czech funding mechanisms designated for digitization. It was prescribed, that direct digitization become the recommended technology and new file formats and metadata schemas would be accepted. Proprietary xml schemas were transferred to MODS and METS, image file formats were changed for JPEG 2000, and, finally ALTOxml schema was established as the right output of the optical character recognition.

**Fig. Nr. 3.** Conceptual model of the VISK 7 activities.



After 2011 VISK 7 was expanded for new activities, which should make the program unique and cover all the activities concerning the long-term preservation of the modern documents. The support of non-acid boxes creation was strengthened, libraries have got the possibility to get the funding for deacidification activities and for regular surveys of the physical condition of their collections and are opened to submit a project also for the conservation processes. All the budget resources aim to cover the basic costs of these activities. It is strictly forbidden to cover full-time salaries, refreshments and gifts, costs related to the foreign business trips, costs for training of the non-project staff, project management costs, legal services, financial awards etc. The whole project budget is provided purposefully including mandatory conditions for its use. The rules are described in the Grant Decision Statement, which is issued by the Ministry of Culture.

### **Individual activities of the VISK 7 funding mechanism**

#### **Deep surveys of the modern library documents' physical conditions**

All the libraries are responsible for physical conditions of their collections. To be capable to organize the best possible ways of long-term preservation, conservation and restoration actions it is necessary to have overall picture of the physical condition of the library collections. Some of the modern books and newspapers are critically endangered now. Their physical state does not allow normal handling and lending to the readers. These documents end up in the damaged collections then, where are decomposing day by day. Based on the surveys, round 30% of modern documents are in the critical condition. One of the main causes is the fact, that documents produced after 1850 are printed on poor quality materials, which are badly influenced by degradation processes. The colour is transformed to yellow or brown tones and change the mechanical characteristics – break itself or brittle. The goal is to treat as much documents in shortest time. Systematic surveys make sense for the planning of conservation activities including mass procedures, e. g. deacidification or digitization. From the broader perspective, it is interesting to share the results of such surveys because of statistical information, monitoring of the physical conditions of the same titles across the institutions, comparison of the influence of the various depositories for their current state or the quality of the different restoration methods.

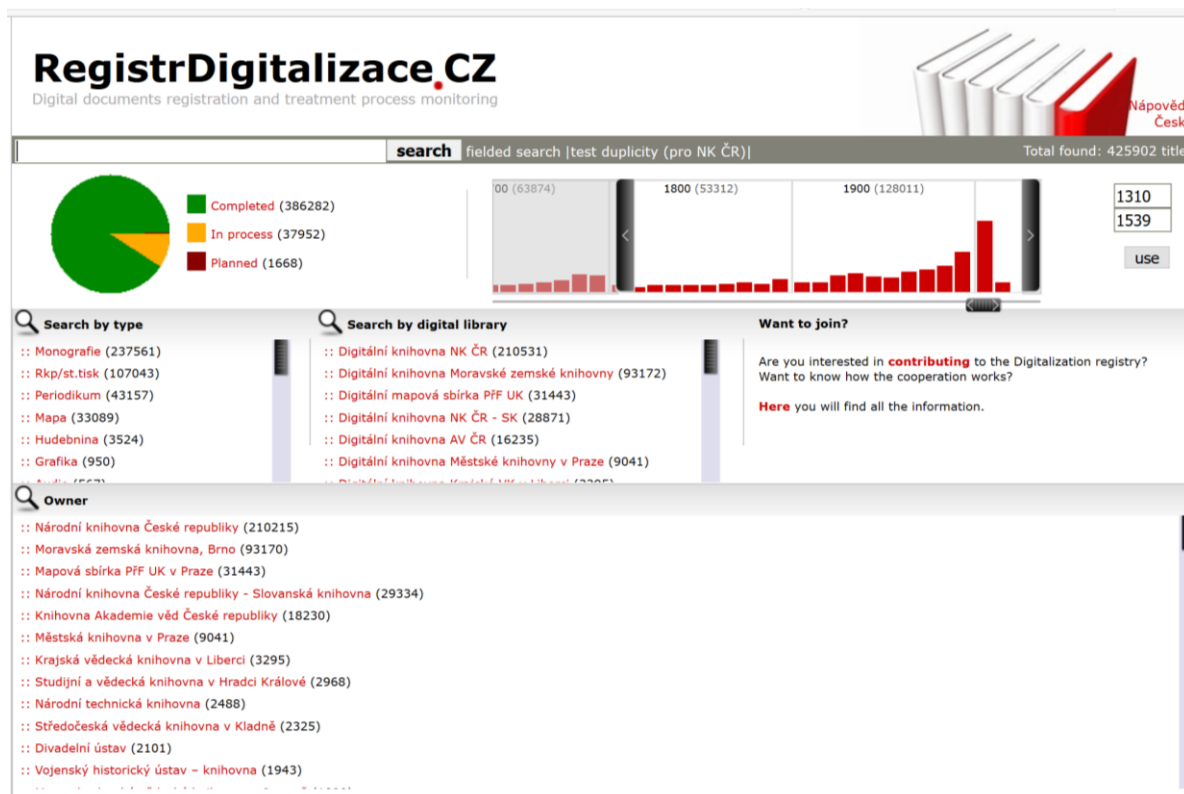
In the frame of the VISK 7 funding mechanism libraries should ask for a budget to cover the external personal cost of the employees, who realize the surveys, or equip the workplace with the necessary devices for example pH meters. All the measurements are recorded to the application known as the "Central Knowledge Base of Examined Documents", which was developed by the National Library of the Czech Republic. Currently, the database contains more than 200,000 records, which allows to reach interesting findings.

#### **Digitization**

The purpose of the activity is to digitize original printed modern documents in order to protect them and make them accessible to a wide range of users within the network of Czech libraries. The digitization projects target primarily to the Bohemical documents (periodicals, monographs, maps etc.), exceptionally also the content of Bohemical documents issued abroad or the rare foreign documents to the important collections in the connection to the Czech culture history. All the digitization must respect the standards and formats used by the

National Digital Library in the current version valid to the date of the project submission. An integral part of the project must be a list of all documents proposed for reformatting with a minimum bibliographic description, an explanation for the proposal of the selected documents, and statutory declaration that valid identifiers such as ISSN, Czech National Bibliography Number and URN:NBN will be used during the project. The project applicant must also promise to use the Digitization Registry web service. The Digitization Registry of the Czech Republic is the national web system that helps the librarians to avoid unwanted duplicities and to enable sharing the digitization results all over the Czech Republic. It is designed especially for the libraries or other memory institutions that digitize their collections. Nowadays, more than 425 000 titles are registered, more than 50 institutions use this system almost daily, which makes digitization very effective. The biggest advantage of the system is the possibility to involve the planning digitization to the system. All the libraries ask for the money from the state budget are obliged to do it, when they are proposing any project. During the evaluation phase it becomes obvious, if the digitization makes sense and if it is reasonable and if it is needed to support the project, which is aimed to make duplicities. That can save money and human resources.

Fig. Nr. 4. Digitization Registry front page. Please see <http://registrdigitalizace.cz>.



### Further protection of the documents from diverse environmental impacts with emphasis on preservation and restoration treatments

Within this activity, basic conservation and restoration treatments on modern funds endangered by their destruction are supported. According to recent research, roughly a third of modern Bohemical collections is in a physical state that negatively affects their everyday use in accordance with their original purpose, and without their conservative or restorative interventions, their condition will be even worse. All the procedures must be preceded by a detailed survey of the collections describing actual physical state of the documents, which will be documented by a ground evaluation report, on the basis of which the conservative and

restoration processes will be designed. Libraries should not reach the budget only for the treatments themselves, but also for the evaluation of the microbiological smears, detection of the mold spores, disinfecting procedures, mechanical cleaning or for the measurement of microclimatic conditions in repositories, buying measuring and recording devices for checking microclimate parameters etc. All the treatments must relate to the documents that will be or have been digitized in the frame of VISK 7 subprogram or to the documents, which will be digitized soon from the library institutional budget. After conservation or restoration the library must promise to store the documents in the good conditions, limited UV radiation, in the temperature from 18-20°C, 45-55% of relative humidity, dust-free stores and protect them against the big climate divergences.

### **Deacidification**

The biggest problem related to the long-term preservation of the modern physical units is the degradation of the acid paper, especially in the case of newspapers. The only way of restoring such documents is the massive deacidification. It is the specific chemical treatment. Free acid located in the structure of the paper is neutralized or removed. During the process of acid neutralization the catalytic effect is cancelled and so called alkaline reserve based on magnesium or calcium is inserted to the paper. Alkaline reserve enables to create a special reserve for the future, because it neutralizes the acid formed in the paper layers due to its natural aging or absorption from the environment. The technology of deacidification renews the chemical stability of the paper, abolishes catalytic effect of acids and slows the degradation of the paper down. From the budget of the VISK 7 subprogram it is possible to outsource the book deacidification. There are some mandatory rules, which need to be followed:

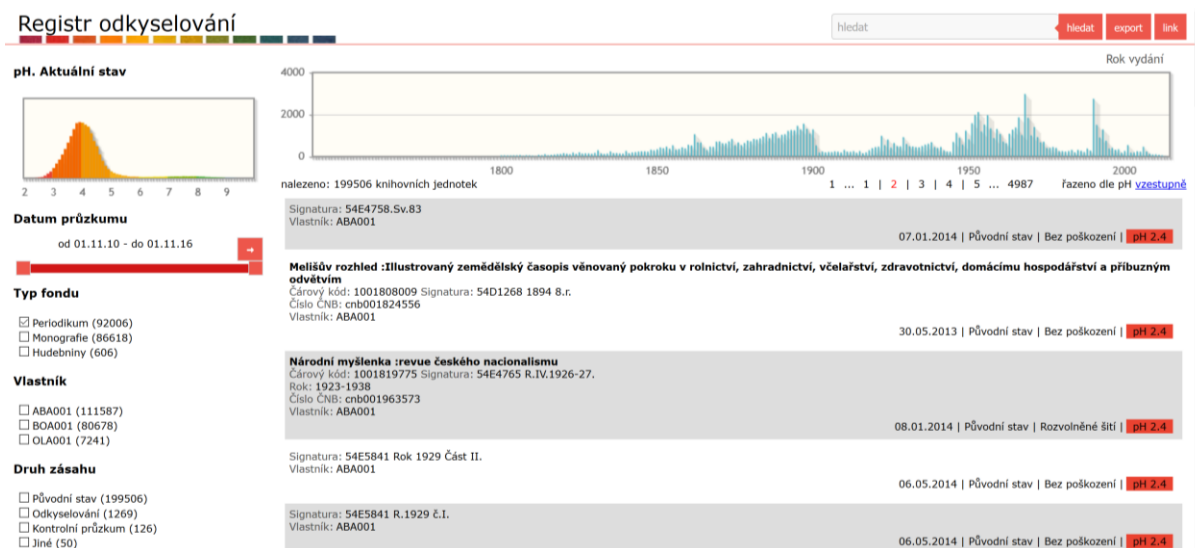
- The process must be applicable to all types of paper.
- The documents should not be unbended.
- The process must not affect any kind of material used in the book.
- The look of the book must not change.
- All acids must be completely and permanently neutralized.
- Neutralization must be done in paper with an alkaline reserve equivalent to 2% calcium carbonate - determined according to ISO 10716.
- The distribution of pH and alkaline reserve must be homogeneous throughout the whole book and all the materials used in the book.
- The lifetime of neutralized paper (determined by accelerated aging tests according to ČSN 50 0375, now rather according to ISO 5630/1 and ISO 5630/3) should increase ideally five times.
- Mechanical properties of book materials should remain unchanged. It is desirable to improve them. Determination of different mechanical properties ought to follow the reference samples according to standards, e. g. ISO 5626.
- Chemicals used must not be hazardous for the operator, future readers and the environment.
- The chemicals used must be permanently harmless to all parts of the book.

The data about deacidified documents are stored in the Registry of the Deacidified Documents, which is developed and coordinated by the National Library of the Czech Republic. The Registry allows to browse library documents, which are planned to be processed by the mass deacidification. Every single library has the possibility to verify that the selected books have not been yet deacidified and can be included in the project



submission. The aim is to avoid the duplicities, to share the results and to manage all the activities effectively.

**Fig. Nr. 5.** Registry of the Deacidicated Documents and the way, how data are presented. Please see <http://odkyselovani.nkp.cz/>



### Non-acid cardboard boxes production

This activity supports the production of the paper boxes. They are made of non-acidic cardboard for damaged or physically degrading documents to enhance the conditions for their long-term preservation. Non-acid boxes are used to prevent library collections from the effects of the negative external influences. The library collections are mostly stored in various depositories. The impact of external degradation parameters is various.

**Fig. Nr. 6.** Picture of the cutting plotter used in the National Library of the Czech Republic premises. Foto: Dana Hřebecká



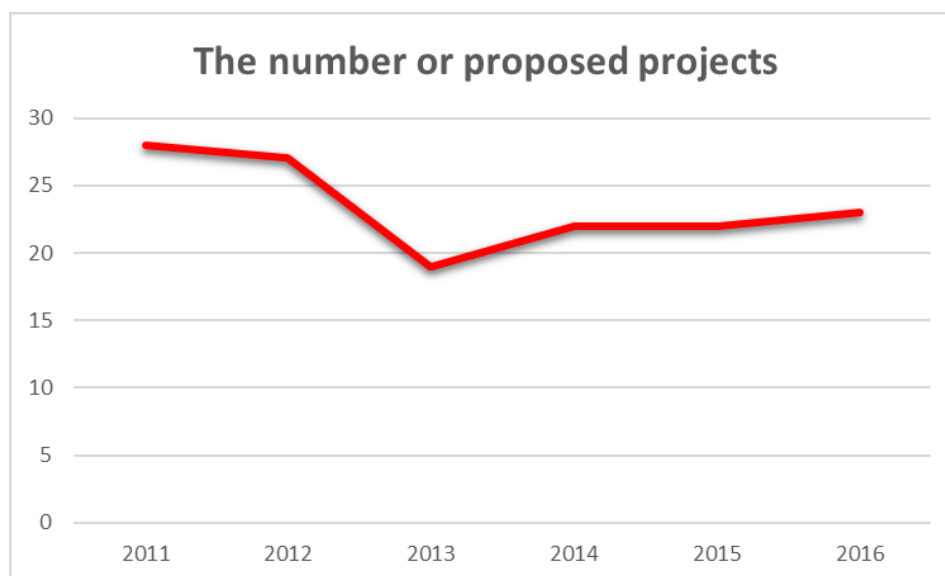
The boxes enable the protection against external degradation effects (pollutants, dust, biological pests, natural catastrophes and accidents in storehouses) very effectively. All the boxes are made from the cardboard with the archival character. In the optimal case, three layers card-board should be used. The outside layer should be free of soluble dyes. The cardboard must not contain any optical brighteners, lignin or lignin substances. A stable adhesives based on acrylate dispersions, starch or gelatin must be used to bond the layers.

A computer controlled cutting plotter can produce boxes, which are designed individually for every single book, of any size and of any shape. It puts high demands on the quality and mechanical properties of the cardboard. The type and dimensions of the boxes must be consistent with the size of the document. The combination of industrial and manual technology needs a specialized CAD system of the cutting plotter. It is controlled by the computer and the box is adapted to the parameters of the particular library document.

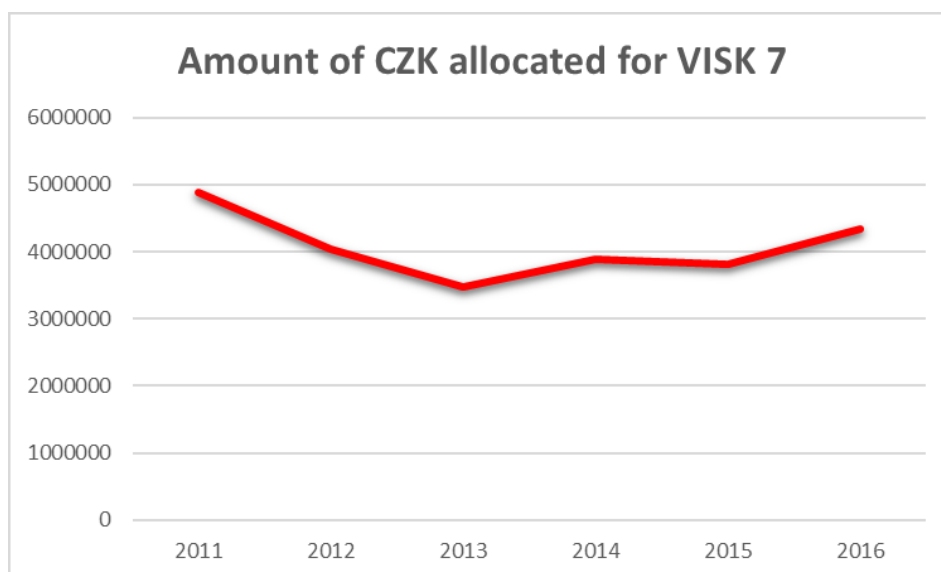
### Summary

Long-term preservation of the modern Bohemical documents should be guaranteed by highly professional institutional system, and, by the strong and systematic support by the governmental and state bodies. Equally, it is important to lead all the individual activities under clear methodical guidance and long-term vision. All these aspects are fulfilled within VISK 7. It is a good and regular funding mechanism, which is not dependent so much on the political decisions. VISK 7 program is developed continuously and gradually and there are various new supported activities added to. The program is well coordinated and it includes specific methodological aids, e. g. *The certified methodology for building, long-term preservation and management of the conservation books collections*, *The certified methodology for the calculation of the minimal number of book copies necessary to store in the system of the libraries with conservation duties* or *The certified methodology for the modern book collection's physical conditions surveys*. The stability of the program funding and other indicators it is possible to track with the help of statistics:

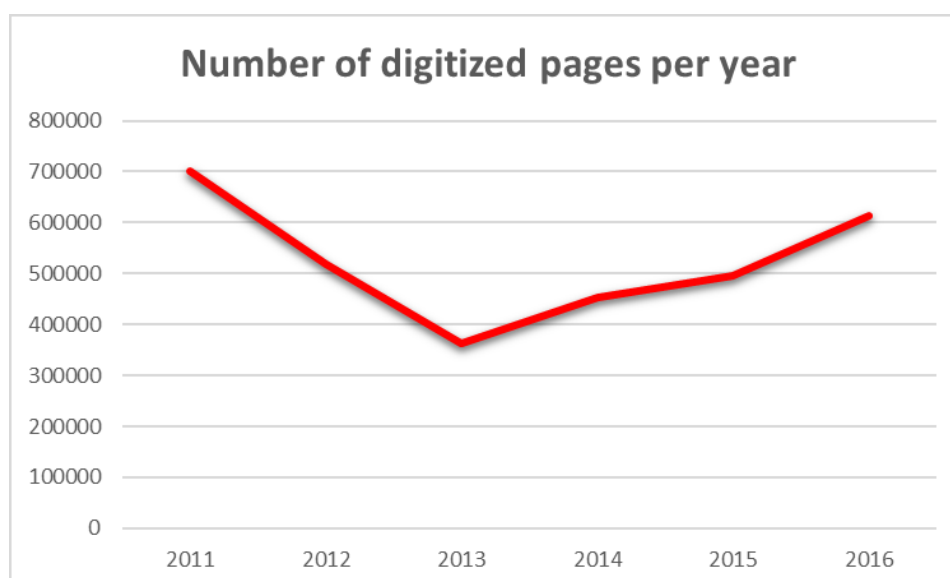
**Fig. Nr. 6.** Number of the proposed project during last five years.



**Fig. Nr. 7.** The amount of money allocated for VISK 7 funding.



**Fig. Nr. 8.** The amount of digitized pages in the frame of VISK 7 per year.



All the numbers provide important information about the stability of VISK 7 program. The most interesting statistic information concerns the number of the digitized pages. On the base of the research from the year 2015 written by Martin Lhotak, where the total amount of the digitized pages was counted, it was revealed, that in the Czech Republic there is more than 90 million pages available. From this number, at least about 500 000 pages was scanned in the frame of VISK 7 program every year almost without any duplicities. That makes the process of digitization, as the part of the long-term preservation of the Bohemical content, very effective. As it was mentioned above, all the activities are almost never-ending and the process of the VISK 7 optimization is gradual. Since the year 2018 new activity will be included to the list of the supported activities. The new activity will cover another area of the

special library collection preservation – musical documents. It will be possible to get funding for the digitization of the old shellac and gramophone discs, which are endangered by degradation. This new activity will fulfill another huge gap in our culture heritage preservation.

## References

Foltýn, Tomáš: All about the books! A few ideas about the international cooperation of formal Visegrad countries with library books collections. Conference Libraries V4 in the Decoy of Digital Age : proceedings of the 6<sup>th</sup> Colloquium of Library and Information Experts of the V4+ Countries held from 31<sup>st</sup> May – 1<sup>st</sup> June 2016 in Brno; str. 95 – 118; Brno 2016.

Foltýn, Tomáš – Lhoták, Martin: Czech Digital Library - Big Step to the Aggregation of Digital Content in the Czech Republic; Research and Advanced Technology for Digital Libraries; 19th International Conference on Theory and Practice of Digital Libraries, TPD 2015, Poznań, Poland, September 14-18, 2015, Proceedings, Springer 2015, page 351-354.

Foltýn, Tomáš: Has It Been Already Digitized? How to Find Information about Digitized Documents; Review of the National Centre for Digitization, Faculty of Mathematics, Belgrade, 2013, Issue: 22, ISSN: 1820-0109.

Foltýn, Tomáš; Koncepce trvalého uchování a zpřístupnění tradičních textových dokumentů; Knihovny současnosti 2013, Sborník z 21. konference konané ve dnech 10. – 12. 9. 2013 v Olomouci, Ostrava 2013.

Foltýn, Tomáš: Kramerius Information System as a Tool of Access to Digital Documents; PRESIDENTIAL LIBRARY COLLECTIONS, Digital Library series, Issue 3, Coordination and Standardization in the Sphere of Creation and Use of National Information Resources 2012, ISBN 978-5-905273-25-4.

Vávrová, Petra: Péče o novodobé knihovní fondy v Národní knihovně ČR – průzkum fyzického stavu; IT Lib 2016/2, ISSN 1336-0779.

Vávrová, Petra - Kašťáková, Tereza - Neoralová, Jitka - Boumová, Kristýna - Szamová, Tereza: Péče o tisky 19. století v Národní knihovně ČR. Petra Vávrová, Tereza Kašťáková, Jitka Neoralová, Kristýna Boumová, Tereza Szamová. In: Knihovna : knihovnická revue Praha : Národní knihovna ČR Roč. 26, č. 1 (2015), s. 37-57.

Vrbenská, Františka - Tisky 19. století a ochranné mikrofilmování. Vrbenská, Františka. In: Tiskárny a tisky 19. století. Sborník příspěvků z celostátní konference pořádané při příležitosti 200. výročí založení jindřichohradecké Landfrasovy tiskárny / Jindřichův Hradec : Okresní muzeum v Jindřichově Hradci, 1998 s. 33-37.

## Relevant web pages:

<http://visk.nkp.cz/>

<http://kramerius-info.nkp.cz/>

<http://mkcr.cz>

<http://www.registrdigitalizace.cz>

<http://odkyselovani.nkp.cz/>

<http://sdruk.mlp.cz/data/xinha/sdruk/2015/KKS/Koncepce/Digitalizacni%20projekty.pdf>

<http://vdk.nkp.cz/>