

General overview of the growth and development of the services provided by Virtual Library of Serbia network and their impact on collection of statistical library data in Serbia

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Abstract: Virtual Library of Serbia is a project linking Serbian libraries into a single information system based on the COBISS platform, allowing shared cataloguing, access to foreign databases and automation of all library services. The network was launched in 2003 with establishment of a shared union catalogue integrating the bibliographic catalogues of the four largest libraries in the country (which was re-launch, actually, as the first attempt to develop such network took place from 1988 to 1992 in former Yugoslavia).

In 2006, the web application E-CRIS.SR was developed in compliance with the CERIF recommendations. It is established as a register of researchers and organisations included in the national library information system and COBISS.Net regional network.

After fifteen years, the system has grown to include more than two hundred libraries (2 national, 94 public, 83 university/academic and 23 special libraries).

In this paper we present an overview of the growth and development of the network and demonstrate all advantages of library networking for collection of data and processing of all kinds of library related statistical information in Serbia.

Keywords: library statistics, VBS network, COBISS, Serbia, E-CRIS.SR

1. Introduction to VBS

The shared cataloguing system Virtual Library of Serbia resulted from two projects dating back to 2001. The goal of these projects was to connect the public, university, and special libraries in Serbia into a shared cataloguing system that would allow electronic access to information about library holdings and electronic documents, as well as automation and standardization of library operation. The National Library of Serbia and University Library "Svetozar Markovic" were in charge of the projects Establishment of the Virtual Library of Serbia and Construction of a cooperative network for higher education libraries in Serbia.

The libraries in Serbia already had some experience with one such shared cataloguing system, which was created as a part of the project titled System of scientific and technological information of Yugoslavia in 1987 (Filipi, 2010). During this project, the Institute of Information Science Maribor (IZUM) was in charge of development of software and organizational solutions. With the help of library experts from all over former Yugoslavia, IZUM built the programming platform Cooperative online bibliographic system and services (COBISS) which has been used and developed ever since (Tasić & Vučković, 2017).

At the time of launch of the system in 1988, 55 libraries from all republics of former Yugoslavia participated in the project. The network ceased to exist in 1992, when all libraries left the joint system of shared cataloguing of Yugoslavia, except for the libraries from Slovenia. IZUM continued to maintain and develop the system for Slovenian libraries, and in Serbia the four largest libraries continued to use the software locally for their separate bibliographic-cataloguing databases.¹

On account of this, when the new project for establishment of the system of shared cataloguing and library networking in Serbia was launched, within the Virtual Library of Serbia project, the COBISS Platform was chosen as the software package with an already existing interface and operating instructions in Serbian language (Filipi, 2010).

The central shared catalogue of the Republic of Serbia (COBIB.SR) was established in 2003 through integration of electronic catalogues of the four leading Serbian libraries that continued using COBISS bibliographic databases locally throughout the nineties. At the time of establishment, the catalogue had more than 1.3 million bibliographic records. Connecting the libraries in Serbia into a single information system on the COBISS platform allowed shared cataloguing and access to foreign bibliographic databases, as well as automation of library operations pertaining to holdings, loan and reporting management. This also opened access to full text databases, data on libraries in the system and the service for production of bibliographies of scientific researchers. Operation of the libraries and education of the librarians in the system were improved and standardized.

¹ National Library of Serbia (NBS), Library of Matica Srpska (BMS), University Library Svetozar Marković (UBSM) and Bibliographic Institute of Yugoslavia.

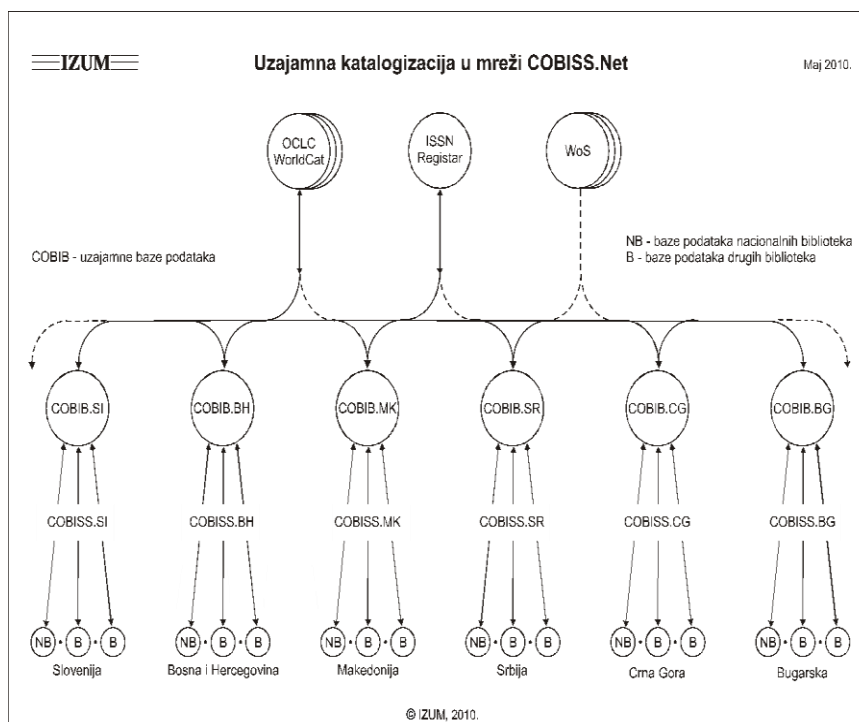


Figure 1 - Network COBISS.Net²

At the same time, in 2003, a regional network known as COBISS.net was established. Most of the former members in the shared cataloguing system from the republics of former Yugoslav renewed their cooperation with IZUM and built autonomous library-information systems on the COBISS platform. This enabled sharing and exchange of bibliographic records created in independent library-information systems of Bosnia and Herzegovina, Montenegro, Macedonia, Slovenia, and Serbia.

In the second phase of the COBISS.net project, Bulgaria joined the regional network in 2006, followed by Albania in 2012. The project also introduced an experimental system for monitoring of the scientific research work activities known as E-CRIS.

The system was finally completed in 2012, when local download of records from the WorldCat database and the Online Catalogue of the Congress Library was introduced.

² <https://www.cobiss.net/sr/platforma-cobiss.htm>

Shared cataloguing infrastructure includes one central, shared catalogue and number of local electronic catalogue. It is based on joint collection and distributed processing of bibliographic data, where the bibliographic description of a document is entered in one of the local databases and then transmitted to the shared catalogue. Once a record is made, it is available for download to all local databases of all libraries that own a copy of the document. In their local databases the libraries may add information regarding the physical copies they hold and data on their locations. The shared catalogue COBIB.SR is thus a bibliographic database with cumulative data on document locations within the COBISS.SR system.

For the exchange of data the following formats are being used: COMARC/B format for bibliographic data and COMARC/A format for normative data (based on UNIMARC format), MARC21 for exchange with LC and OCLC, as well as the COMARC/H format for holdings condition data (format developed by IZUM).

VBS Center³ is a department within the National Library of Serbia dedicated to development of this system. The center is planning development and technical maintenance of the network, revisions of the shared catalogue, education and training of employees to use the system and providing professional and technical assistance on daily basis. Currently, over 1200 library professionals work in the VBS system, that is, more than one half of the total number in Serbia. Training for the work in system is carried out according to standardized IZUM courses, conducted by 24 licenced instructors. The shared catalogue and all local catalogues are located on the servers at the computer centre of the National Library of Serbia.

The Virtual Library of Serbia Portal⁴ provides access to a number of web services the system offers:

- **COBISS/OPAC and mCOBISS** make our catalogues available to the public. These are web and mobile applications that allow end-users to access bibliographic and catalogue databases in the VBS system. My Library is a service that allows members of libraries who use COBISS automated loan services to reserve a book, extend a loan and review materials on loan via the Internet.
- **Researchers' bibliographies** and E-CRIS.SR are web applications that allow creation of personal bibliographies of researchers and access to data on scientific research activities in the Republic of Serbia.
- **Education Portal**⁵ is intended for librarians working in the VBS system and exists since 2008. It provides access to e-manuals, data on

³ VBS – Virtual Library of Serbia

⁴ <http://www.vbs.rs/cobiss/>

⁵ <http://obrazovanje.vbs.rs/>

all participants in the system, online registration for COBISS courses and automatic updating of the privileges acquired through education. With this portal the management of the privileges and user names has been decentralized and transferred from the VBS Centre to the libraries.

- **Statistics for local databases⁶** is a service for monitoring the statistics regarding the use of COBISS/OPAC and mCOBISS (for search or loan) and the use of automated loan services in member libraries.
- **Statistics and system growth indicators⁷** is a page available since 2013, where data about system development are collected. At the beginning of each calendar year it is supplemented with new data for the previous year.
- **The data** used for further analysis can be found on the VBS portal under Statistics and system growth indicators page, as well as on the COBISS.net and E-CRISS.SR portals.

COBISS/OPAC and mCOBISS are applications for search of the library catalogues over the Internet. This service is particularly popular with those users whose libraries have activated the automated loan module, as they can obtain electronic catalogue information about the copies available for loan. Also, this service is used extensively by library users who have made reservations and orders through OPAC/My Library service. For the time being, 113 libraries, that is, more than a half of the libraries in the system, use the automated loan module.

The COBISS/OPAC application, which has been in use with some improvements since 1997, will be replaced in the course of 2019 with the new COBISS+ application that includes a range of modern solutions, such as the option to present faceted search results, autocomplete, interface settings, as well as the possibility to log in with multiple identities. The new application is also better suited for mobile devices.

Since 2016, all of the functions provided by COBISS/OPAC and My Library service are available for use through the mobile application mCOBISS. In Figures 2 and 3 we can see the trends in use of these services. It appears that since 2016 some of the OPAC users have switched to mobile application, so the volume of searches using COBISS/OPAC application has decreased slightly during this period, while the volume of searches using mCOBISS mobile application has increased.

⁶ http://vbshome.vbs.rs/opacstat/WCOBISS_STAT_MAIN.aspx

⁷ http://vbshome.vbs.rs/sr/o_cobissu/statistike_pokazatelj-sc.asp

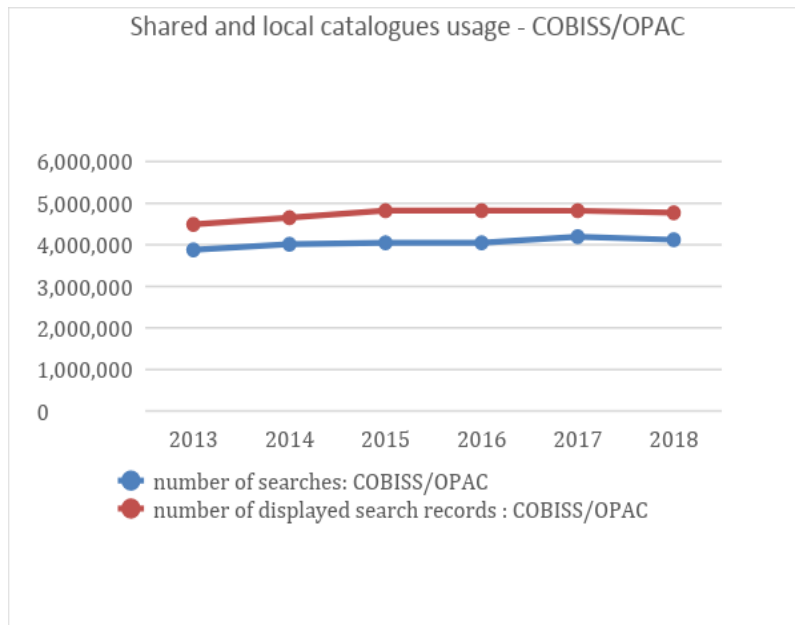


Figure 2 – The use of COBISS/OPAC service⁸

⁸ Data taken from the tables on the web pages http://vbshome.vbs.rs/sr/o_cobissu/statistike_pokazatelj-sc.asp and http://vbshome.vbs.rs/sr/o_cobissu/statistike_arhiv-sc.asp were used for graphical representations.

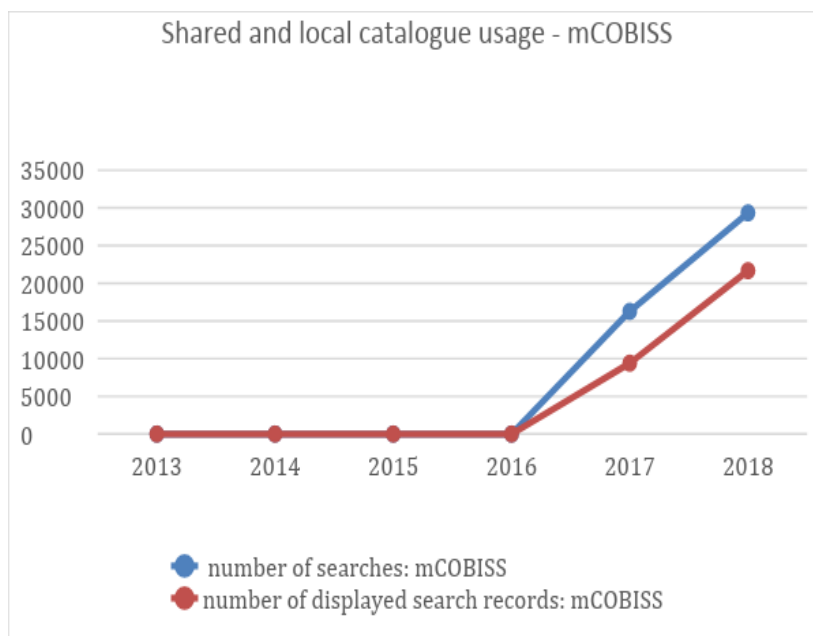


Figure 3 – The use of mCOBISS service⁹

Today, COBISS.net network has a total of 1,341 libraries from eight national centres. In recent years, over 70% of the records in local catalogues of these libraries have been downloaded either from a shared catalogue and COBISS.net network or from the global databases - LC, OCLC and ISSN (IZUM, 2017-2019). In this way, a lot of time and resources have been saved. At the same time, an important form of regional cooperation has been established. According to indicators available on the COBISS.net portal, libraries in Serbia are especially active in using the possibility to download the records from this regional network.

⁹ Ibid.

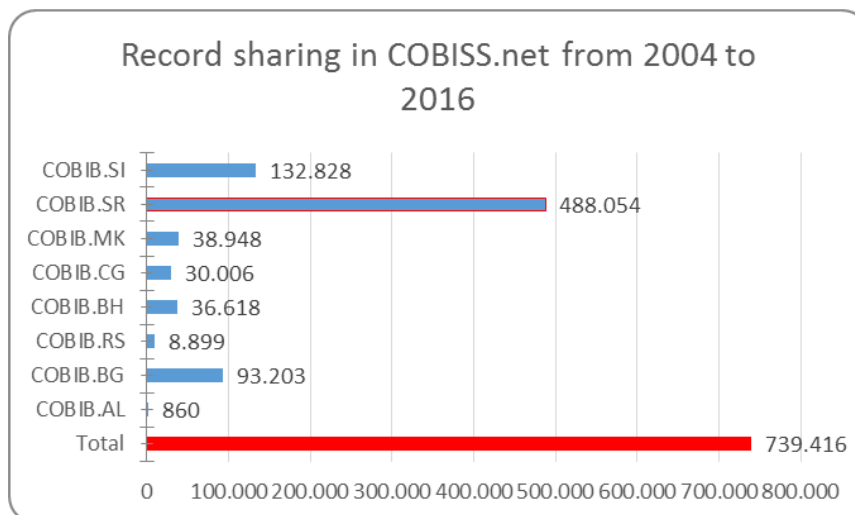


Figure 4 – Number of record downloads from the national systems in COBISS.Net¹⁰

The web application E-CRIS.SR¹¹ was included in 2006 in the second phase of the COBISS.net project, as a national information system with databases on research organizations, researchers, and research projects. All data in databases are also presented in English and structured according to CERIF¹² format (Stijepović, 2016). The E-CRIS application is also used in all other national networks of the COBISS.net system, which facilitates linking of researchers and institutions in the region.

¹⁰ Ibid.

¹¹ <https://e-cris.sr.cobiss.net/public/jqm/cris.aspx?lang=sr&opdescr=home&opt=1>

¹² Common European Research Information Format

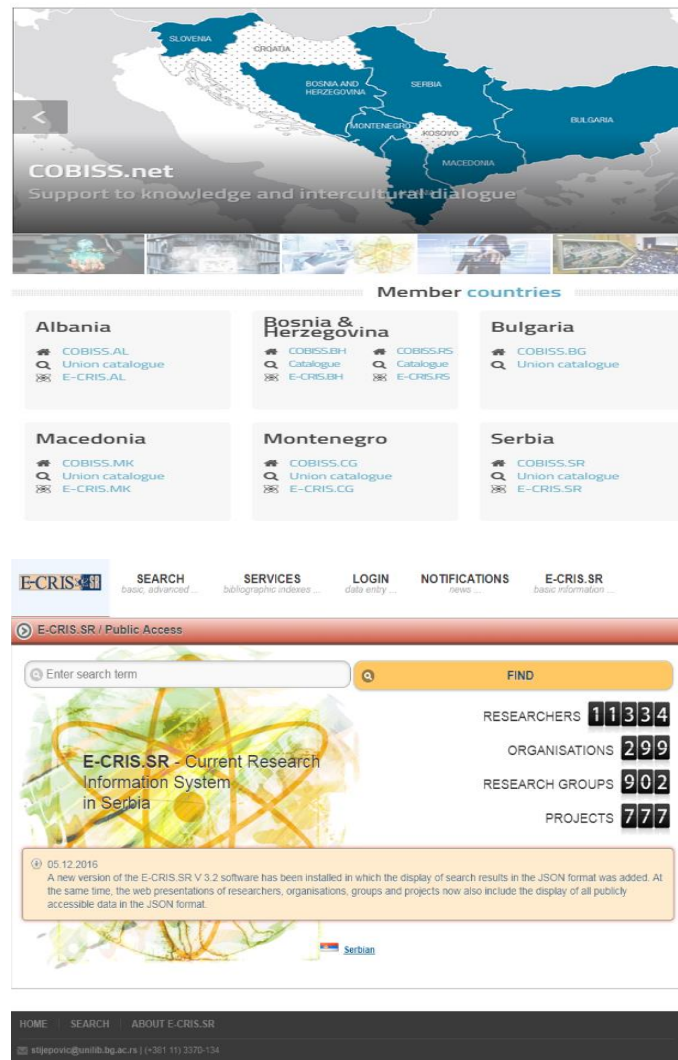


Figure 5 – Web portal COBISS.net and Web portal E-CRIS.SR

Using this application all researchers registered in the E-CRIS system can generate online personal bibliographies of their works recorded in the COBISS.SR shared catalogue. This link between the system E-CRIS.SR and COBISS.SR simplifies the procedure for evaluation of results of research work.

The E-CRIS.SR system has 11,344 registered researchers from 299 research organizations, working on 777 projects. In 2018 the registered researchers generated 16,572 personal bibliographies.

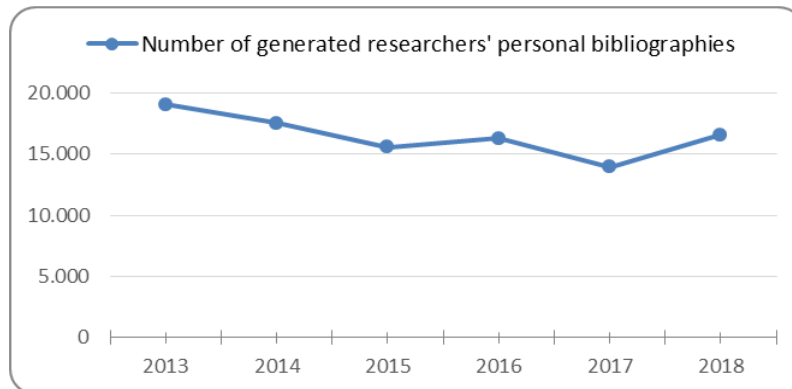
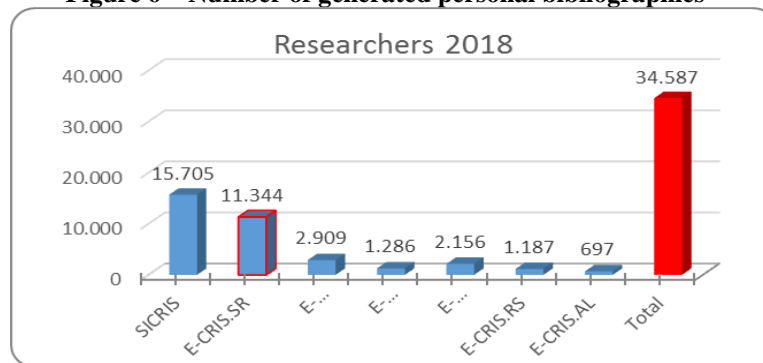


Figure 6 – Number of generated personal bibliographies¹³



¹³ Source of data for graphic representation at <https://e-cris.sr.cobiss.net/public/jqm/cris.aspx?lang=scr&opdescr=home&opt=1>

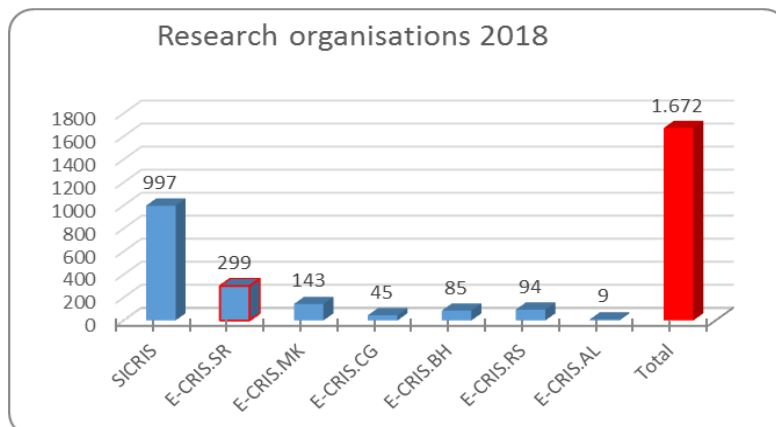


Figure 8 – Overview of the number of researchers and research organizations in regional E-CRIS system¹⁴

2. Growth and development of the VBS network - COBISS.SR statistics and growth indicators¹⁵

At the beginning of each year, a table containing summarized data on the system development since 2014 is updated with new data for the previous year. Separate pages of the portal present detailed reports on the output of libraries in the local and shared catalogues as well as reports on the use of the loan module and the COBISS/OPAC and mCOBISS services in the previous year. Another link leads to the archival pages cod catalogue, as containing annual reports starting from 2006. At the end of each calendar year, all libraries are provided with an e-mail report on the growth and structure of the bibliographic records in their local catalogues, as well as on the individual performance of the cataloguers.

¹⁴ Ibid.

¹⁵ Data taken from the tables on the web pages http://vbshome.vbs.rs/sr/o_cobissu/statistike_pokazateljji-sc.asp and http://vbshome.vbs.rs/sr/o_cobissu/statistike_arhiv-sc.asp were used for all following graphical representations.

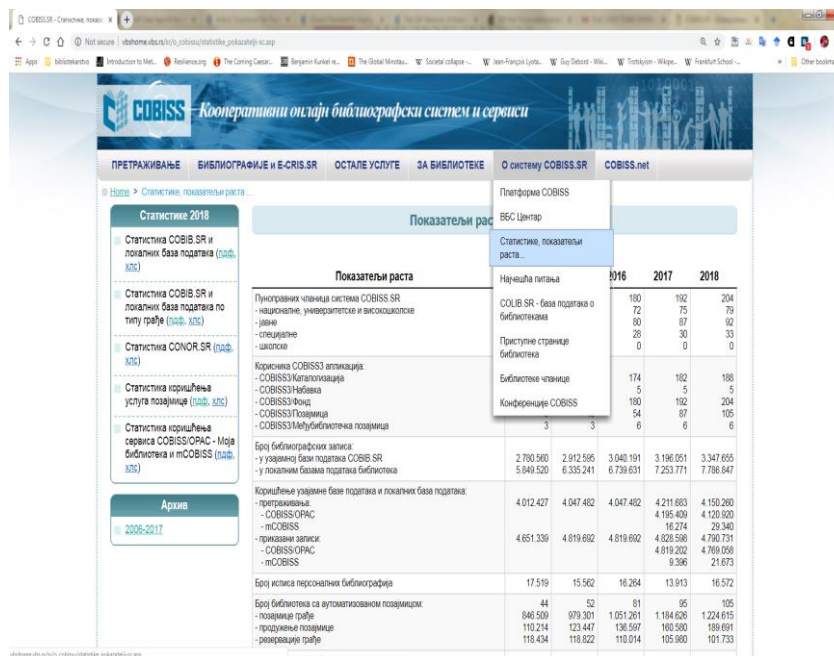


Figure 9 – Statistics and growth indicators for COBISS.SR page on VBS portal

The shared cataloguing network in Serbia is expanding continually. When this system was established in 2003, it included fourteen libraries. At the time of transition to the new generation of COBISS3 software, ten years later, 163 libraries were in the network. Today, in 2019, 210 libraries participate in the system, and eight more libraries are at different stages of joining the network. The largest libraries in Serbia have been in the VBS network from the very beginning – namely, the two national libraries, BMS and NBS, almost all major university libraries (except for the University Library in Novi Sad), and a number of very important academic libraries, such as the libraries of the faculties of philosophy and philology, first in Belgrade and later in Kragujevac and Novi Sad. Many big regional public libraries joined in the first few years, and soon were followed by many smaller municipal libraries. In 2012, the Library of the Serbian Academy of Sciences and Arts also joined the system. Today our network also includes many special libraries of various public, cultural and research institutions.

During the period from 2010 to 2014, some libraries temporarily left the network due to financial and organizational problems. Most of them returned to the VBS network after a few years.

This level of networking provides a precious insight into various library collections through OPAC, and offers public in Serbia an important tool for research and information management.

Library professionals can better organise their work and increase productivity through automation and use of shared cataloguing. In the course of education and training the librarians have a chance to meet, establish and maintain contact with their fellow professionals, which is of great help in their work.

IZUM has been continually improving the COBISS platform in accordance with the needs and requirements of the libraries from all national networks, however, in 2011 a time had come for a major transition in COBISS.SR (and the rest of COBISS.net national networks) to a new generation of the programme platform with graphic interface and new technology.

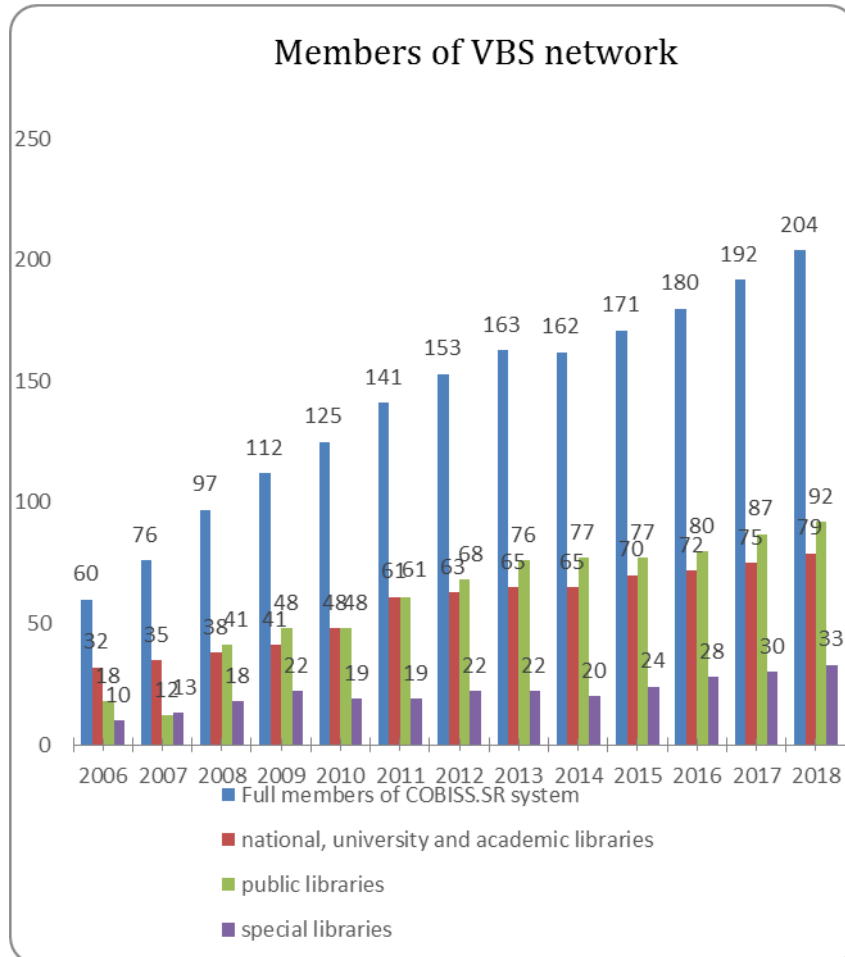


Figure 10 – Development of VBS system 2006-2018, number of libraries in the network

Transition to the new generation of COBISS3 software started in 2011 and lasted until the end of 2018. The COBISS3 software is the third generation of IZUM's software (COBISS2 replaced the first generation of ATLASS software in 1992) and is based on object-oriented technology (IZUM, 2019). The new version introduced special modules for automation of acquisitions and interlibrary loan, which did not exist in the COBISS2 environment. Thereby the application was finalized and a complete automation of the library operation was made possible. The transition process was very demanding and carefully planned. At the VBS Centre it was conducted in three phases. A large number of

librarians had to undergo training over a short period of time in order to be able to use new software.

The first phase of transition was completed in the period from 2011 to 2013. In this phase, personnel in all 163 libraries in the system completed training courses and COBISS3 software was installed for the segments for download of bibliographic records from shared catalogue and collection management. Cataloguing (creating of new bibliographic records in the shared catalogue) and automated loans were still performed using COBISS2 platform.

In the second phase, from 2013 to 2014, all libraries in the system received the new cataloguing module and the librarians received necessary training. At the end of 2014, almost all libraries in system were able to create new bibliographic records in new COBISS3 module. A great deal of effort was invested in training and re-licensing the cataloguers to work on new software, so during that period the speed of inclusion of new libraries in the system decreased.

Finally, in the third phase, in the period from 2014 to 2018, all libraries switched to loan module on COBISS3 platform.

New software package, developed in Java, allows use of computer equipment running different operating systems (Windows, Linux, MacOS).

For VBS network and VBS Center important milestone was April 2019, when the VBS finalized transition to cataloguing using authority control. The process of implementation was launched in 2008 and has passed through several developmental phases. The initial step was determination of the volume of the initial base, definition of the cataloguing rules and referral sources and language and alphabet of authority records. After that we went through a phase of establishment of criteria for initial linking in the initial database, and then the software equipment was tested. Finally, all cataloguers licenced to work in the shared catalogue completed training in cataloguing with authority control in 2018, so we were ready to start cataloguing with authority control for personal names. Library experts from UBSM, BMS and NBS played a very important role in all of these phases.

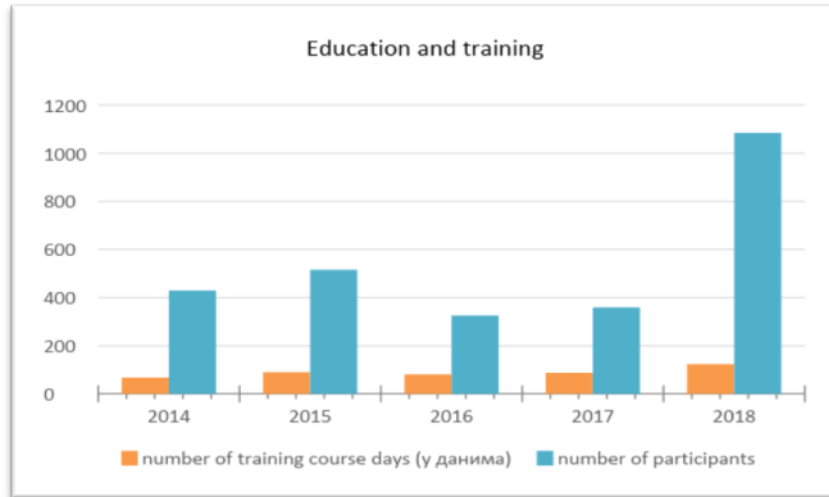


Figure 11– Overview of the training process in the period of transitioning to new COBISS3 software package and inclusion of normative control in COBISS.SR

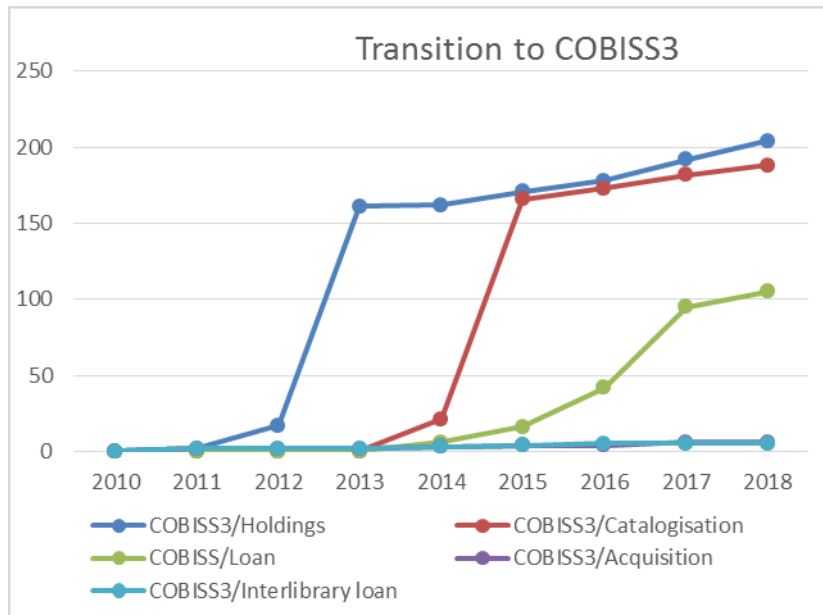


Figure 12 – Transition from COBISS2 to COBISS3

In VBS network there are 210 libraries that use Module for download of records from shared catalogue and holdings management. Shared cataloguing module is used in 189 libraries, and 113 libraries use the Loan software module. Acquisitions module and Interlibrary loan module are for the time being used in a smaller number of libraries (acquisitions in 6 and interlibrary loan in 5).

Central shared catalogue currently has about 3.5 million records (the third millionth record was created on 14.09.2016), and total number bibliographic records in local databases is around 8 million.

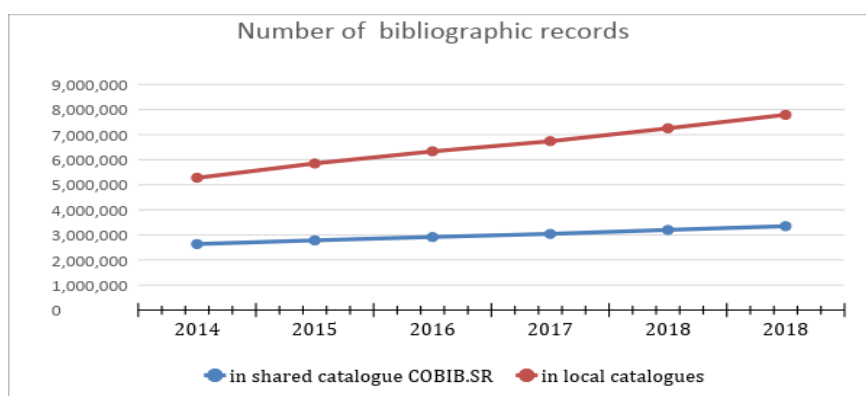


Figure 13 - Number of bibliographic records in the shared and local catalogues

On the basis of tables with data on expansion of the shared catalogue and local catalogues from page Statistics and COBISS.SR system growth indicators, it is possible to analyse contributions of individual libraries in any calendar year to the overall collection in the shared catalogue. Also, it is possible to create a graphic presentation of the structure of increase in a specific period of time (Figures 14 and 15 are for 2018),¹⁶

¹⁶ Based on table: http://vbshome.vbs.rs/sr/o_cobissu/dokumenti/STAT_PRIRAST_2018_SR_1_cir.pdf

ПУНОСРАВНИ ЧЛАНОВИ СИСТЕМА COBIB.SR И ЊИХОВО УЧЕШЋЕ У СИСТЕМУ УЗАЈМНЕ КАТАЛОГИЗАЦИЈЕ											
Библиографске базе података и подаци о фонду											
Број записа на дан 31. децембра 2018.											
№	Назив институције/библиотеке	Укључена	Укупно	Допринос записа у COBIB.SR у 2018.					Број кратора у 2018.	Испрavlених записа у 2018.	
				OCLC	ISSN	LC	NET	Повезани			Креирани
Од тога											
2	Народна библиотека Србије, Београд	02/1989	60.592	4.271	32	1.201	7.912	511	46.663	109	25.339
1	Библиотека Матице српске, Нови Сад	03/1989	26.299	1.040	245	324	956	3	23.917	56	13.932
75	Филозофски факултет, Београд	02/2003	6.190	15	2	30	224	90	5.829	16	2.095
74	Филозофски факултет, Нови Сад	02/2007	6.974	131	0	12	420	0	5.311	17	7.865
50	Универзитетска библиотека С. Марковић, Београд	03/1989	4.614	337	0	206	387	10	3.674	27	9.905
71	Филозофски факултет, Београд	02/2003	4.006	945	6	300	139	0	2.616	17	1.688
28	Српска академија наука и уметности, Београд	11/2012	3.936	632	17	234	412	0	2.621	16	5.381
31	Правни факултет, Београд	03/2005	2.195	544	1	27	84	0	1.539	6	2.122
48	Универзитетска библиотека, Крагујевац	02/2003	1.868	13	0	7	21	0	1.827	6	4.334
62	Факултет педагошких наука, Јагодина	07/2006	1.624	0	0	0	3	0	1.621	3	44
44	Народна библиотека Вук Караџић, Крагујевац	08/2006	1.616	10	0	2	32	0	1.572	5	3.383
4	Библиотека Вук Караџић, Нови Сад	02/2013	1.403	24	362	11	216	7	783	78	5.005
35	Правни факултет Универзитета Унион, Београд	04/2006	1.260	57	1	30	35	0	1.137	2	1.263
27	Медицински факултет, Ниш	06/2011	1.246	169	0	42	123	0	912	6	1.073
82	Општинска библиотека, Кравајца	06/2012	1.230	19	0	0	3	0	1.208	4	549
34	Правни факултет, Ниш	02/2009	1.222	22	10	2	169	0	1.019	3	5.470
80	Народна библиотека Умиче	05/2004	1.166	0	0	0	11	0	1.155	7	3.212
63	Факултет политичких наука, Београд	05/2006	998	296	1	65	104	0	532	5	156
27	Савеза слепих Србије Др Милан Будимир, Београд	05/2015	962	0	0	0	15	0	947	1	5
52	Факултет безбедности, Београд	05/2006	907	16	0	3	23	0	863	2	391
24	Грчка библиотека Суботица-Варош Конујтар Сзабадка	04/2006	902	107	0	3	200	0	592	2	118
60	Факултет музичке уметности, Београд	02/2006	900	62	0	62	37	0	739	4	414
77	Шумарски факултет, Београд	11/2003	899	1	1	0	84	0	813	3	454
65	Факултет за пословне студије и право, Београд	07/2011	854	3	0	0	11	0	840	2	142
39	Природно-математички факултет, Ниш	02/2011	770	0	0	8	26	0	737	4	153
2	Академија уметности, Нови Сад	11/2011	749	42	12	2	79	0	614	3	250
65	Народна библиотека Радоје Домановић, Лесковац	04/2007	743	195	0	2	127	0	419	9	1.953
7	Арме Југославије, Београд	03/2008	709	113	0	252	184	0	160	1	1.536
57	Факултет заштите на раду, Ниш	05/2015	667	0	0	4	0	0	663	1	1
12	Географски факултет, Београд	02/2015	623	0	0	0	0	0	623	1	117
28	Медицински факултет, Нови Сад	06/2011	588	0	0	0	3	0	585	4	54
17	Економски факултет, Крагујевац	08/2006	579	61	151	131	45	0	300	11	701

Figure 14 – Overview of libraries contributions to the shared catalogue in 2018

Number of records in the shared catalogue taken over from foreign COBISS.net, OCLC and LC databases over the last few years has more than doubled. This confirms that broader networking of libraries into regional networks with access to global databases is more than justified.

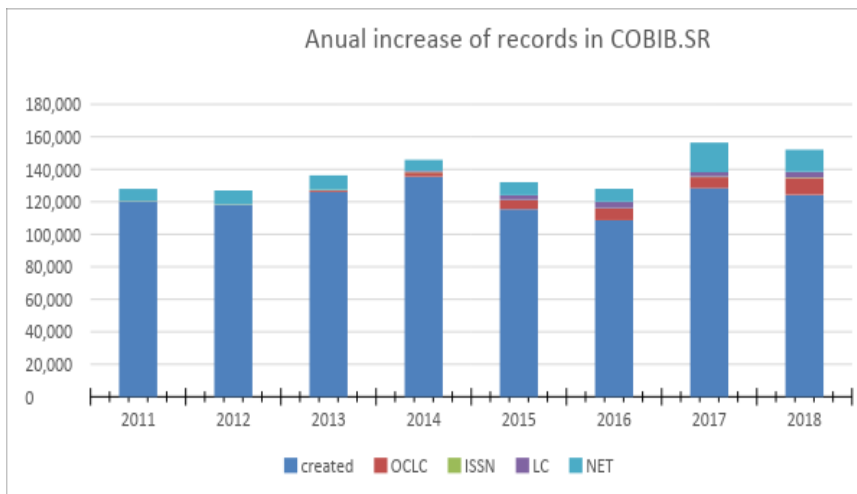


Figure 15 – Structure of the annual increase of the records taken from foreign databases to the shared catalogue COBIB.SR in the period 2011-2018

Automated loan module is usually activated once a library has included into their local catalogue bibliographic record for most used part of their fond. In this way the process of automation of library operation is completed, and the users can easily access the collection. Until 2009 we had only 9 libraries with fully formed electronic catalogues for their own collections and installed COBISS2 Loan module. At the time of commencing the transition to COBISS3 in 2014, total of 44 libraries used the older version of loan software package, but today we have 113 libraries that use COBISS3 Loan module. Most libraries allow their members to order, reserve or extend loan through COBISS/OPAC service My library.

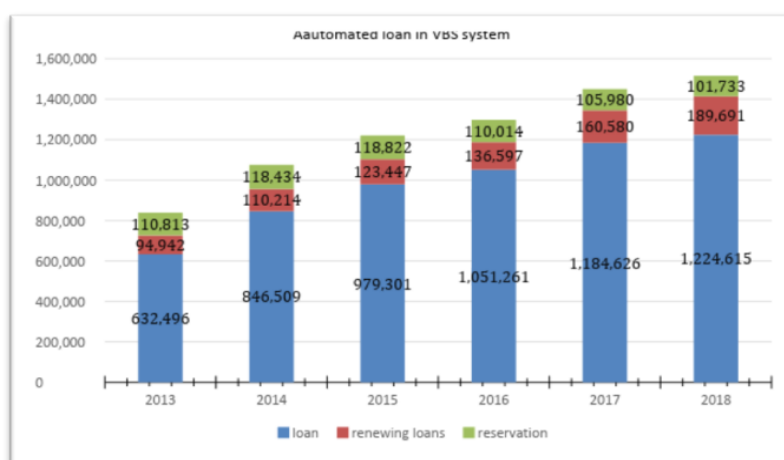


Figure 16 – Use of automated loan in the libraries included in VBS system

On the basis of annual reports collected in the archive on web page Statistics and COBISS.SR system growth indicators it is possible to analyse the total number of active members in the libraries and their use of specific services.

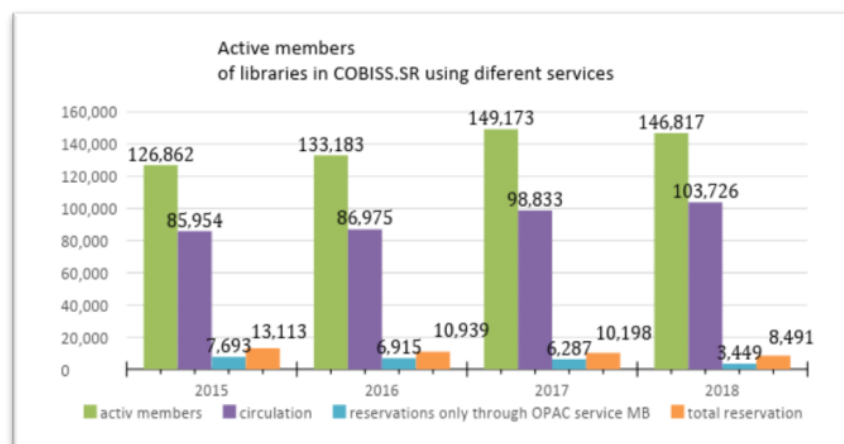


Figure 17 – Overview of the total number of active members in the system using the loan module and different reservation services

Out of 113 libraries that use library loan segment 93 allow their users to order or reserve materials online and 98 allows extension of the loan online. Three largest libraries¹⁷ in the system have decided to organize ordering of all of materials from the collections for loan in that manner and thus automate the loan process as much as possible. Also, in the last year, more than a half of the active members of BMS, and about one third in NBS and UBMS use the online reservation service.

БРОЈ ЧЛАНОВА КОЈИ СУ У ИЗАБРАНОМ ПЕРИОДУ КОРИСТИЛИ УСЛУГЕ:								
Име и седиште установе	Акроним	Укупан број свих чланова	Укупан број активних чланова	Резервација ОПАС Моја библиотека позајмљене или слободне грађе	Резервација на било који изглед позајмљене или слободне грађе	Позајмице ван библиотеке	Позајмице за читавицу	Позајмице ван библиотеке или за читавицу
1 Народна библиотека Србије, Београд	NBS	59.432	10.494	3.420	3.450	587	2.897	3.411
2 Библиотека Матице српске, Нови Сад	BMSNS	35.017	3.508	2.194	2.394	634	2.016	2.404
3 Универзитетска библиотека "С. Марковић", Београд	UBSM	47.675	4.965	1.299	1.321	2.714	348	2.848
4 Универзитетска библиотека "Никола Тесла", Ниш	UBNI	5.076	946	122	640	633	188	649
5 Народна библиотека Бор	NBB	4.090	2.850	98	288	2.297	68	2.306
6 Народна библиотека "Радоје Домановић", Лесковац	NBLE	8.490	4.277	93	389	2.966	221	3.016
7 Народна библиотека "Вук Караџић", Крагујевац	NBKG	18.164	6.850	39	374	5.916	1	5.916
8 Градска библиотека "Карло Бијелићки", Сомбор	GBSO	17.526	5.224	38	925	3.781	1	3.781
9 Народна библиотека "Др. Ђорђе Натопшевић", Инђуја	NBIN	8.447	2.812	29	300	2.215	1	2.215
10 Матична библиотека "Љубомир Ненадовић", Ваљево	MBVA	3.951	2.761	19	402	2.406	38	2.411
Филозофски факултет, Београд								

¹⁷ The National Library of Serbia-NBS, Library of Matica Srpska-BMS i University Library Svetozar Marković-UBSM

Figure18 – List of libraries according to number of members who used online reservation in 2018

3. Data accessible through the web service Local database statistics¹⁸

For each library included in the system it is possible to produce three types of statistical reports, namely:

- loan usage (number of loans, reservations and extensions) in libraries
- number of records searched and displayed using local electronic catalogues through COBISS/OPAC-a
- number of records searched and displayed using local electronic catalogues through mCOBISS.

On the basis of these statistics it is possible to produce a graphic presentation of collections utilization in individual libraries and monitor the trends of their growth and development. All data can be exported to excel format.

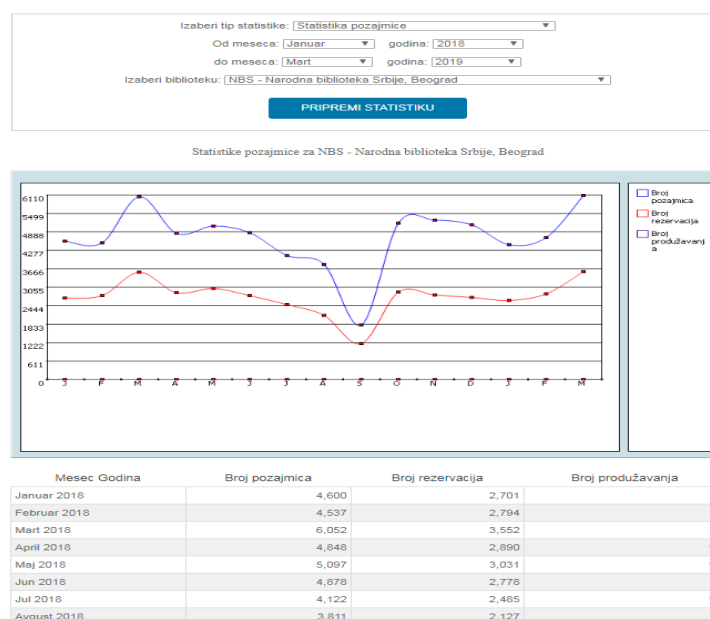


Figure 19 – Statistics of loan use in NBS, period January 2018 - March 2019

Presence of this service allows transparent monitoring of libraries in the system.

¹⁸ <http://vbshome.vbs.rs/opacstat/>

The statistical data may help the libraries to adjust their organization and operation to the general trends in daily use of the collections, and on the other hand allow the founders and financiers of the libraries develop better methods for improvement of library operation. Insight into current trends in library operation is important for distribution of financial and human resources.

4. Network of Serbian Libraries Database and gathering data from VBS network – COBISS3/Reports and Tool for export of data

Serbian Library Network (MBS) is a database that has been collecting and processing and statistical data on all libraries in Serbia since 1997. This software package is aimed at libraries that act as regional hubs in their territories and collect data about libraries in their region in accordance with the Law on Libraries and Information Services („Official Gazette of RS“, No. 52/11) and relevant international standards.¹⁹ This allows more efficient monitoring and assessment of the current situation, needs and work conditions in libraries.

Each library located in certain territory is obliged to send to the central regional library data on the area, composition of collections, library equipment, automation, computer and communication equipment, human resources, users and use of collections, types of inventories and catalogues, financing, etc. Regional libraries collect data for the libraries in their territories, process the data and forward them to the National Library of Serbia, which hosts the central MBS database (Mitrić, 2002).

¹⁹ ISO 2789:2013 Information and documentation -- International library statistics

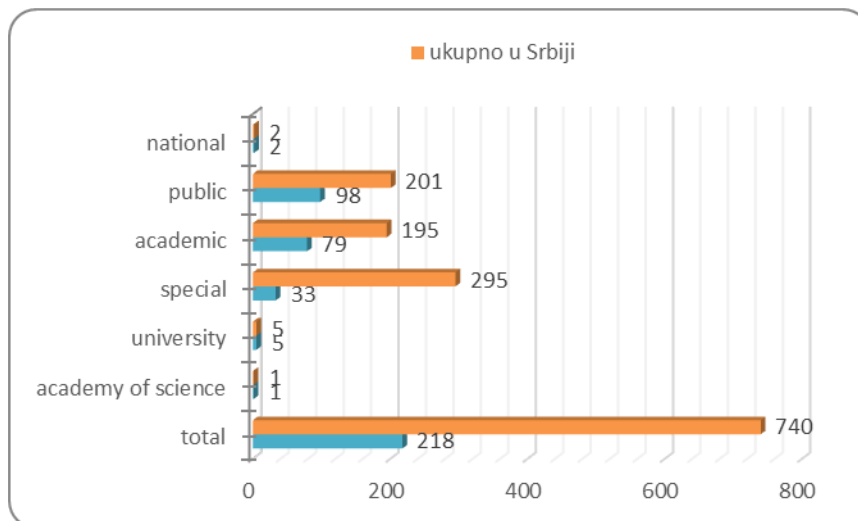


Figure 20– Number of libraries in VBS network compared to total number of libraries in Serbia

According to data from the MBS²⁰ database regarding the total number of national, public, university and special libraries in Serbia, it appears that almost one third of the total number of libraries in Serbia is included in the shared cataloguing system of COBISS.SR.

Most libraries in Serbia produce the data for annual reports by filling out daily surveys. These data are processed at the end of the year in local libraries, forwarded to their regional central libraries, which use local installation of MBS database to collect, process and send data for their regions to the central MBS database.

The libraries included in VBS have electronic catalogues and automated management of collections and loans, and thus can easily generate reports on increase and structure of collections, the number and structure of users and use of library collections. These libraries can prepare these reports using their local COBISS databases and the module for preparation of standardized reports and statistics in PDF format. Good selection and structuring of input data is crucial for preparation of reports and statistics. Use of coded data defined through local code lists and input of a wider range of data than the programmed minimum results in easier selection and better presentation in reports and statistics

²⁰ <https://www.nb.rs/pages/article.php?id=1284>

Another option is use of the COBISS data export tool, which allows selection and export of much broader set of data in formats adjusted for processing in any of the data processing tools (such as MS Excel) and much wider choice in production of all types of reports.

For years the VBScentre has been using the export tool to generate an annual report on publishing activity in Serbia²¹ on the basis of data from the shared catalogue. The same method is used to produce a number of other reports required by various institutions in Serbia, based on the data from the COBIB.SR catalogue.

5. Conclusion

The network Virtual Library of Serbia (or COBISS.SR, as it is designated in the regional network of COBISS.net) has branched out visibly over the last fifteen years. The VBS Center has contributed significantly to expansion and development of the system through inclusion of new libraries into the system and it keeps working towards continued expansion and advancement of functioning of this network as its primary goal.

Continual improvement of the tools and services used in processing of data and generation of statistical reports allow for quality analysis of growth and development of the COBIB.SR system and better planning for the future. Also, member libraries can use the reporting module and data export and processing tools to improve their operation and produce better reports. Plans for the new version of MBS software that are currently being considered include modifications that would allow direct access to data prepared using COBISS software equipment.

Future development of the COBISS.SR system shall focus on inclusion of other types of normative controls (authority control of corporate names and subject heading), that is, transition from bibliographic databases to knowledge databases. Presence of the shared catalogue and its functionalities should be used to secure higher levels of autonomy for the library centres across Serbia and delegate to them well established procedures that are currently being performed only by national and university libraries. In this manner the libraries that established VBS (NBS, BMS and UBSM) and major academic libraries would have more time and space for more complex assignments such as design, development and revision of normative databases and preparation of more diverse, more adequate and higher quality education programmes necessary for maintenance of the system.

Work on integration of our library-information system COBISS.SR and the information system for scientific research activities needs to be continued and

²¹ <https://www.nb.rs/pages/article.php?id=17526>

expanded through networking of the existing services E-CRIS.SR and Kobson²² with WoS and Scopus services in new web service SciMet. This would allow the researchers in Serbia to produce all kinds of reports, quotation statistics and other metrics.

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²² Consortium of the Libraries of Serbia for Centralized Acquisition of Electronic Magazines and Access Portals