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STATE OF THE ART OF THE APPLICATION OF NEW INFORMATION TECHNOLOGIES IN LIBRARIES AND THEIR IMPACT ON LIBRARY FUNCTIONS: A REASSESSMENT

Report

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Libraries programme

State of the art of the application of new information technologies in libraries and their impact on library functions: a reassessment

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Introduction

The Commission of the European Communities (EC): Directorate XIII B published in 1986 a series of studies on the state of the art of library automation in the Member States. An update study has been commissioned in view of the announced Plan of Action for Libraries in the EC. This report covers changes in the library automation scene in Belgium since the previous study. The purpose of this study is to provide factual information on key areas relating to the use of new technologies in libraries in order to distinguish the major changes relating to the penetration and take-up of new technologies and to identify the dominant trends. Elements cited in the 1986 study that remained unchanged will not be repeated in this update report.

Because of the growing impact of library automation in Belgian libraries and taking into account the objectives set by the Commission, this report had to be set up somewhat differently from the first LIB-2 study. The report is divided into six chapters. Chapter one states the objectives and methodology of the survey. Some information on Belgium in general and the Belgian library situation in particular is to be found in chapter two. Machine-readable record resources are treated in chapter three. Chapter four gives a short overview of the networking situation in the libraries. Integrated library systems, installed by the interlibrary networks, the cooperative utilities and the commercial suppliers are dealt with in chapter five. Finally in chapter six an overview is given of the new IT based user services in place or about to be installed in the Belgian libraries. A general conclusion summarizes the findings of the study.

This survey would have been impossible without the help of many. First of all those who have been writing brochures, manuals, periodical articles and all kinds of grey literature about library automation in Belgium. Secondly all the librarians, managers of library networks and cooperative utilities and the commercial suppliers of systems who were kind enough to fill in a rather lengthy questionnaire and to spend time for some extra interviews. Compiling the huge amount of information gathered and putting it all in the report that was the task of the author who could not have achieved it without the assistance of K. Clara, M. Storms and H.D.L. Vervliet nor without the technical help of E. Lambrechts, J. Defossé and E. Sarens to whom he expresses his sincere thanks. The same thanks extend to Mrs. B. Noels who has been proofreading the English text.

1. Objectives and methodology

1.1. Objectives

The Commission of the EC published in 1986 an impressive series of studies about the state of the art of the application of new information technologies in libraries and their impact on library functions in the various member states (EUR 110361). LIB-2/7 was executed by the UIA-library of the University of Antwerpen; it reported on the situation in Belgium. By the end of 1990 the Commission of the EC opted for a selective update study of the 1986-reports. The Commission felt the need to review any changes and progress made since the undertaking of the original LIB-2 studies in order to provide additional startup information for developing projects. Factual information has to be provided on key areas relating to the use of new information technologies in order to distinguish the major changes relating to the penetration and take-up of the new technologies in the Member States and to identify the dominant trends[1].

The objectives of the LIB-2 update study are set by the Commission of the EC (Directorate XIII B). This new study is similar but not identical to the one published in 1986. The update is a selective one, intended to emphasize the areas of greatest relevance under the proposed plan of action for libraries (framework program: Telematics) (ILJON, MANSON). In this context interlibrary lending as such has disappeared. Solely the (further) automation of this sector and its use of new information technologies is part of the study. Moreover, this update study should not repeat elements of the 1986 study which remained unchanged. Four key areas have to be studied:

- Machine-readable record resources
- Network access to machine-readable resources
- Integrated library housekeeping systems
- IT-based user services, excluding CD-ROM since it has been the subject of a Europe-wide EC-funded study in 1990

As in the previous study the libraries of the EC situated in Belgium e.g. in Brussels and Brugge were not to be included. Following the requirements of the EC-study contract more emphasis than in the previous study has been put on the utilities, the networks and the commercial sector.

1.2. Methodology

The data of the 1986-survey could be used for comparison to indicate change and growth. The study started with extensive desk research in order to collect all relevant material (brochures and manuals, articles, reports, manuals etc.) on the library automation in Belgium and the four key areas in particular. This information was supplemented by a questionnaire followed in some cases by interviews among others with the 'Centre de lecture publique de la Communauté française de Belgique' in Liège, the 'Service du livre' and the 'Dienst Openbaar Bibliotheekwerk' in Brussels.

The number of libraries who should receive a questionnaire had to be limited to a sizable amount. Therefore a sample representing all types of libraries had to be made similar to the 1986 study so that comparisons could be easily drawn.

- National libraries
- Higher education libraries, mainly university libraries
- Public libraries
- Important special libraries both public and private

In total 96 questionnaires were sent out to libraries. 71 of them were returned on time, yielding an acceptable response rate of 74%. All of the major libraries in the country are represented. These 71 libraries, however, did not respond to all questions. Therefore the *n* (number of libraries surveyed) may vary slightly from one item to the other.

Published information on the activities in the commercial sector and in the utilities was scarce. So another questionnaire had to be sent out to these partners in the library automation sector. 26 companies and institutions received a questionnaire somewhat different from the libraries' questionnaire. Were selected: Belgian companies and utilities and foreign based companies firmly installed in Belgium or intending to be in the very near future. 25 replies were received; a response rate of 96%.

1.3. Use of tables and figures

Tables are used throughout the report to give accurate, detailed information on numbers and percentages of equipment and modules available or installed. Figures merely give an impressionistic picture of the situation.

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1. Commission of the EC. *State of the art of the application of new information technologies in libraries and their impact on library functions: a reassessment. Study specification*, p. 1.

2. The Belgian library scene: important changes since 1986

2.1. Belgium

To understand the trends in library automation in Belgium anno 1991 one needs to know some of the characteristics of the newly federalised state of Belgium. Up to 1970 Belgium had a highly centralised political and administrative structure, but this is changing very rapidly into a decentralised federal state with three regions (the Dutch-speaking Flanders, the French-speaking Walloon provinces and the bilingual capital of Brussels) and three cultural communities: Dutch, French, and in a small area, German. These new political and indeed also administrative structures have a profound effect upon the libraries. Some libraries, such as the Royal Library in Brussels, depend upon the national authority. Most libraries, however, including the university libraries and the public libraries, depend on the cultural communities.

2.2. The Belgian library scene: 1986-1991

The period 1986-1991 did not see great changes in legislation and administrative structures. Public libraries both in the Dutch-speaking North of the country and the French-speaking South developed further under the 1978 decrees of the cultural communities. However, the full execution of the decrees became impossible due to a continuous shortage of funds at governmental level. This undoubtedly delayed the further automation of public libraries throughout the country (COENEN / SECTEUR / NOUVEL). The transition from the former structures, governed by the "Destrée-"law of 1921, to the new ones went swifter in Flanders than in French-speaking Belgium, where many more public libraries still work under the 1921 legislation.

As a general rule the university libraries, partly automated before 1986, still seem to find the money to go on, but in some cases with reduced acquisition budgets and fewer personnel. Many of the non-university higher education institutions are far too small for maintaining and financing a proper library infrastructure. For them change for the better will have to come from a concentration on shared campuses or by the integration of presently shattered institutions (SELS). New legislation both for university and other higher education institutions is under preparation in Flanders.

Coordination of activities in Belgian university libraries lies with the Conference of University Libraries (°1972). Although having an unofficial status this conference managed to set up and maintain in the past years union catalogues as the CCB on CD-ROM and ANTILOPE, an online union catalogue of periodicals in research libraries (STYVENDAELE). In Flanders a council (VOWB) with a permanent secretariat (2 FTE) has been created in 1989 in order to study and improve interlibrary cooperation between all types of libraries in Flanders. Presently it is being funded by the Flemish government and the university libraries, but the Royal Library, all main public libraries and some representatives of the special libraries are members of this newly founded council. The French-speaking university librarians have constituted a working group within the framework of the CIUF (the Interuniversity Council of Universities of the French-speaking Community in Belgium) and have launched some important study programs.

Some of the national libraries such as the Royal Library in Brussels, seem to move gradually away from the difficult situation in the past 10 to 20 years. The Royal

Library depends now upon one single national ministry which makes management easier. Moreover the ministry responsible for the national research institutions is working on the modernization of the organizational structure of the Royal Library and is about to create a National Council for Research Libraries which will coordinate the activities of all Belgian research libraries, even the ones , such as the university libraries, that depend upon the cultural communities.

The situation of the special libraries varies greatly. Some special libraries are doing well, others are not and complain continuously about a shortage of staff and funds. As a general rule the special libraries and documentation centers in private industry, banking and so on are flourishing, introducing new information technologies, e.g. optical disk stores.

Compared to 1986 there is on the whole some improvement: an expected new impetus for the Royal Library, the creation of the VOWB in Flanders, and the French-speaking university libraries meeting in the framework of the CIUF-Council. One may not forget however, as it has been stated in the previous report, that Belgium has a secular and deeply-rooted tradition of individualism and a profound respect for personal liberty. The central government so far has shown little interest in cultural problems and gladly delegates them to ideological groups, the cultural communities or regional and local authorities. For collaborative initiatives, there is neither a strong backing nor major subsidy without which large scale cooperative library projects seem to be impossible[1]. Therefore some libraries now put their hopes on a European-wide library cooperation. To that, however, should be added the fact that it was not an easy task to set up in Belgium an official National Focal Point for the EC-action plan for libraries. It was finally established by the end of 1990 (BORM, 1990).

2.3. Library profiles (situation 1990)

As much of the information that went into this report comes from the surveyed libraries some general information on these libraries is given here in order to facilitate the understanding of the environment in which they work: acquisition budget 1990 in BEF (1 ECU = ca. 42 BEF), number of volumes, number of current periodicals, number of staff in FTE, number of readers.

2.3.1. National library

Only the Royal Library and the Belgian national bibliography are classified here. Other libraries depending upon the federal (national) authority are classified under the special libraries as they serve a more special clientele.

Table 1. Library profiles: national libraries (1990)

	Acq. budget in BEF	Number of vols.	Current periodicals	Staff/FTE	Readers
Royal Library	80.000.000	4.000.000	10.000	122	11.228
National bibliography	-	-	12.155	17	-

2.3.2. University libraries

University libraries depend upon the local university authorities. They in turn depend upon the cultural communities. Some have a long history: Leuven, Louvain, Gent, Brussels and Liège. Others were founded in the sixties or seventies: Antwerpen, Brussels: UFSAL, Diepenbeek, Kortrijk, Mons and Namur.

Table 2. Library profiles: university libraries (1990)

		Acq. budget in BEF	Number of vols.	Current periodicals	Staff FTE	Readers
1. Dutch-speaking						
Antwerpen	RUCA	13.000.000	133.000	1.500	20	2.600
	UFSIA	21.000.000	625.000	3.823	34	3.129
	UIA	23.000.000	388.000	3.000	24	2.300
Brussels	UFSAL	4.400.000	188.826	953	6	1.657
	VUB	34.140.000	308.686	2.838	34	11.542
Diepenbeek	LUC	6.500.000	40.000	582	6	-
Gent	RUG	30.000.000	3.000.000	3.800	71	9.000
Leuven	KU-L	90.000.000	3.000.000	17.000	174	30.000
Kortrijk	KULCK	7.500.000	307.500	600	7	1.000
2. French-speaking						
Brussels	ULB	34.340.000	1.900.000	4.482	-	19.000
Gembloux		3.355.000	200.000	900	6	1.050
Liège	ULg	-	-	10.000	-	-
Louvain	UCL-C	10.000.000	1.200.000	3.390	31	4.000
	UCL-E	3.600.000	200.000	1.470	8	5.000
	UCL-M	9.700.000	47.000	930	10	3.535
	UCL-S	11.800.000	400.000	1.812	12	-
Mons	FPMs	2.930.000	28.960	721	4	750
	UEMs	10.000.000	700.000	1.560	20	2.700
Namur	FUNDP	23.508.000	850.000	3.000	40	11.000

2.3.3. Other libraries in higher education

Libraries in other institutions of higher education are as a general rule rather small. The exceptions are the academies of music and the colleges of arts. A recent report sheds some light on the situation in Flanders (SELS). None of these libraries has an acquisition budget in line with that of the universities, even not the smaller ones. Some tend to send their readers to other, mainly, university libraries. Only one library of this type is represented in the survey.

Table 3. Library profiles: non-university higher education libraries 1990

		Acq. budget in BEF	Number of vols.	Current periodicals	Staff FTE	Readers
Geel	HIK	1.500.000	26.023	450	6	1.100

2.3.4. Public libraries

19 of the most important public libraries have returned the questionnaire. The response rate of public libraries was higher in Flanders than in French-speaking Belgium. Funding of public libraries is laid down in two different decrees for Flanders and French-speaking Belgium and comes from local and provincial authorities and the cultural communities (TEIRLINCK). Public libraries are governed and administred directly by the local authorities (the municipalities) with some supervision by the cultural (French-, Dutch-, German-speaking) communities.

Table 4. Library profiles: public libraries (1990)

	Acq. budget in BEF	Number of vols.	Current periodicals	Staff FTE	Readers
1. Flanders					
Antwerpen	31.960.000	364.722	831	62	103.000
Brugge	10.475.000	450.000	1.119	55	30.000
Hasselt	8.000.000	500.000	917	62	24.000
Kortrijk	7.600.000	250.000	350	33	25.450
Leuven	9.550.000	275.688	587	36	27.550
Mechelen	6.200.000	400.000	500	48	20.000
Oostende	4.380.000	175.000	790	23	12.496
Ronse	2.750.000	81.396	280	8	6.597
St.-Niklaas	6.190.000	195.118	473	50	21.032
Turnhout	4.500.000	183.949	296	22	18.584
Willebroek	2.500.000	102.798	170	12	6.094
2. French-speaking Belgium					
Bruxelles	1.200.000	130.212	196	18	13.968
Charleroi	2.562.000	120.000	350	13	8.844
Liège	17.500.000	3.000.000	1.418	130	40.139
Marche-en-Famenne	4.500.000	-	100	32	-
Mouscron	1.100.000	90.232	57	10	7.000
Nivelles	3.378.000	120.000	315	34	14.188
Verviers	1.822.000	125.000	169	14	24.531
Waremme	200.000	69.199	193	8	3.536

2.3.5. Special libraries

All other libraries were grouped into one single category of special libraries. This is an amalgam of sometimes quite different libraries e.g. public sector versus private sector, big and small, general libraries versus highly specialised documentation centers. This group has been broken down into two smaller categories: libraries, funded by the public authorities and mostly open to the general public and libraries serving a special clientele in private industry, banking etc. In this survey a special effort has been made to get more information than generally available on the libraries and documentation centers in the private sector.

Table 5. Library profiles: special libraries in the public sector or open to the general public (1990)

	Acq. budget in BEF	Number of vols.	Current periodicals	Staff FTE	Readers
Antwerpen					
ITG	2.400.000	32.000	550	3	400
SBA	4.800.000	1.000.000	2.000	44	12.000
Brussels					
Am. Library	1.800.000	14.000	240	4	4.000
Belg. Army	12.000.000	450.000	1.500	33	12.000
Brit. Council	-	-	-	3	2.200
BRT (images)		400.000		20	
Flem. Education	4.290.000	300.000	700	12	500
KBIN/IRSNB	4.500.000	700.000	3.190	8	500
Nat. Bank	-	120.000	1.250	12	-
Parliament	4.000.000	600.000	800	48	1.000
Quetelet (econ.)	13.000.000	900.000	-	35	-
Mol					
SCK	9.000.000	32.000	500	6	200

Table 6. Library profiles: other special libraries 1990

	Acq. budget in BEF	Number of vols.	Current periodicals	Staff FTE	Readers
Antwerpen					
Agfa-Gevaert	-	-	-	-	-
Beerse					
Janssen Pharma.	20.000.000	-	1.350	12	2.800
Brussels					
BAC	9.232.000	-	280	4	1.000
BBL	-	20.000	1.200	19	12.000
BIDKA	2.000.000	100.000	1.200	12	-
CIBE	2.000.000	8.000	250	4	300
Gem.Krediet/ Créd.Com.	5.100.000	40.000	3.000	11	4.500
IBM	-	10.350	250	-	2.310
IBSR	750.000	60.000	170	3	600
Kredietbank	4.500.000	6.500	750	6	-
Soc.Gén./ Gen.Bank	3.500.000	1.500	1.000	1	500
Solvay & Cie	-	-	-	-	-
Tractebel	-	22.427	986	6	1.200
Denée					
CIB	300.000	4.500	115	-	10
Jumet					
Glaverbel	200.000	2.000	100	2,5	100
Zwevegem					
Bekaert	-	12.000	1.000	7	400

2.3.6. Utilities

Five utilities have been included in the report. These are not exclusively utilities for libraries as e.g. in UK or USA. In fact they are mostly provincial or interprovincial automation centers providing a comprehensive service to the local authorities. Their service extends however to the libraries as these are part of and depend upon the local authorities. COI is the automation center of the Flemish public administration.

Table 7. Utilities

Acronym	City	Services rendered to
AIHM	Mons	Province of Hainaut
CEVI	Gent/Brugge	Province of East and West Flanders
CIPAL	Geel	Province of Antwerpen and Limburg
COI	Leuven	Flemish administration
CTI	Liège	City of Liège
VLABRIC	Leuven	Province of Brabant

1. H.D.L. Vervliet, J. Van Borm. *State of the art ... Belgium*, p. 5.

3. Machine-readable record resources

This chapter is divided into three parts: library catalogues, utilities and corporate library networks and resources available from the commercial sector. The description of the state of the art is followed by a brief commentary, dealing with areas of change and non-change and with perceived trends in policy and technical development.

3.1. Library catalogues

3.1.1. Size

The number of machine-readable records has increased considerably in all types of libraries since 1986. More libraries started up a machine-readable database and most of the research libraries and some other ones are running a reconversion program. Therefore the LIB-2 update survey shows an impressive number of over 7 million machine-readable records. The records held by the utilities are not included in this figure as they most probably duplicate the figures provided by the libraries they serve. As not all Belgian libraries are included in this survey and because some libraries in the survey did not reply to this item in the questionnaire the actual figure of machine-readable records will be higher. For instance, a report on the French-speaking public libraries quotes a figure of 1.234.000 machine-readable records whereas the figure in the survey is only 499.000 (PARENT). French-speaking public libraries are indeed underrepresented in the survey. An educated guess could be a total of 9 to 10 million machine-readable records in Belgian libraries and documentation centers.

Table 8. Number of machine-readable records in libraries and % increase since 1986

	Number of records		Increase in %
	1986	1990	
Royal Library	380.000	513.000	35%
National bibliography	130.000	173.000	33%
University libraries			
Flanders	1.303.000	2.216.000	70%
French-speaking Belgium	407.000	981.000	141%
TOTAL	1.710.000	3.197.000	87%
Non univ. higher educ.	0	24.000	
Public libraries			
Flanders	215.000	775.000	260%
French-speaking Belgium	313.000	499.000	59%
TOTAL	528.000	1.274.000	141%
Special libraries			
Public	68.000	803.000	1.080%
Private	269.000	1.158.000	330%
TOTAL	337.000	1.961.000	482%
Belgium	3.085.000	7.142.000	132%

If the exact figure of machine-readable records remains uncertain, then the speed of change can be determined fairly exactly. The number of machine-readable records in Belgium has more than doubled between 1986 and 1990, an increase of 132 %. The highest rate of change is to be found in the mostly smaller special libraries, followed by the public libraries. The bigger volume of machine-readable records, however, is stored in the computer systems of the university libraries and the national library, which together are keeping 3.883.000 records (54% of all records in this survey, or 43% of the estimated 9 million records in the country).

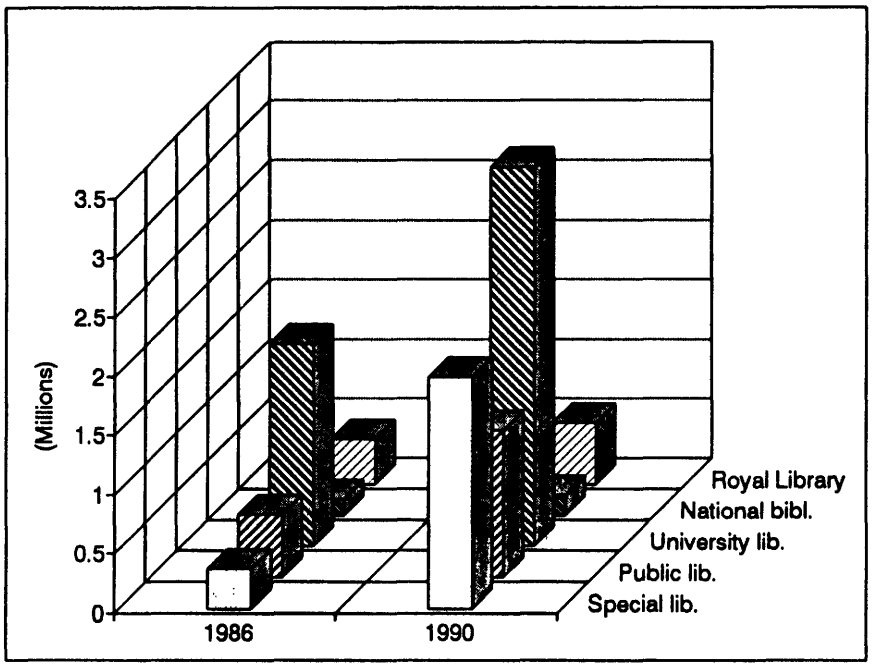

Fig. 1. Number of machine-readable records in libraries

It should be stressed, however, that these 9 million records do not cover all unique titles. There will be quite some overlap especially but not solely among public libraries. The union catalogue of the major public libraries in Flanders shows an overlap of 50%: 300.000 titles versus 450.000 locations (F. HEYMANS, 1990).

3.1.2. Coverage

The part of the collection covered by the machine-readable databases varies greatly in all types of libraries. Some have not yet started library automation whereas others, especially newer libraries, have achieved 100% coverage. Looking at table 9 one must be warned that the figures for the number of records awaiting reconversion are far from complete for the following types of libraries: libraries in non-university higher education, public libraries and special libraries. Important however is the general trend. The libraries present in this survey reported a coverage of only 21% in 1986 but of 39% in 1990[1]. The biggest burden lies upon the Royal Library with only 17% of its 3.000.000 titles in the database. On the other hand the Belgian national bibliography, also housed in the Royal Library, has already achieved a coverage of 68% for the period 1966 to 1990 (80.000 titles of this period still need reconversion). 1966 is

the year of the creation of the legal deposit in Belgium. For the period 1875, the start of the printed version of the Belgian bibliography, to 1965 an estimated number of another 300.000 titles still need to be reconverted. This brings the overall percentage of machine-readable titles in the Belgian bibliography at 31%.

The university libraries have an overall coverage of 40%, coming from 26% in 1986. The minimum is 0% in the State University in Mons just installing automation in 1991 and 100% in some smaller and/or more recently created libraries as VUB and UFSAL in Brussels, UIA in Antwerpen and UCL-Medicine in Brussels. These figures fully correspond with the findings of research on retrospective catalogue conversion in 14 major Belgian libraries done in 1990 by J. Roegiers, librarian of the Catholic University of Leuven. He estimates the overall coverage of the collections by machine-readable records at 40% with an annual growthrate of 335.000 titles. About 50% of these can be considered the result of retrospective conversion; the other half of cataloguing of acquisitions. The ratio acquisitions versus reconversion varies considerably among the 14 libraries.

Table 9. Percentage of titles in the machine-readable databases

	Number of records in the database		Number of records awaiting reconversion	% of titles in machine-readable form	
	1986	1990		1986	1990
Royal Library	380.000	513.000	2.490.000	13%	17%
National bibliography	130.000	173.000	380.000	25%	31%
University libraries					
Flanders	1.303.000	2.216.000	2.935.000	31%	43%
French-speaking Belgium	407.000	981.000	1.886.000	18%	34%
TOTAL	1.710.000	3.197.000	4.821.000	26%	40%
Non-univ. higher educ.	0	24.000			
Public libraries					
Flanders	215.000	775.000	1.296.000	14%	37%
French-speaking Belgium	313.000	499.000	1.071.000	23%	32%
TOTAL	528.000	1.274.000	2.367.000	18%	35%
Special libraries					
Public	68.000	803.000	866.000	7%	48%
Private	269.000	1.158.000	438.000	38%	73%
TOTAL	337.000	1.961.000	1.304.000	21%	60%
Belgium	3.085.000	7.142.000	11.362.000	21%	39%

"The results of these efforts, if related to the complete holdings of the respective libraries, depend mostly on the size of the library and hardly on the year they have started conversion. If all can continue converting at the same rate, all the smaller libraries, with a collection less than half a million volumes, will have completed their conversion within three years; those with a collection between half a million and a million within six or seven years ...; those with collections exceeding the two million volumes not before the year 2040 ... . It appears that

the recon problems of the larger libraries are different from those of the smaller ones" (ROEGIERS).

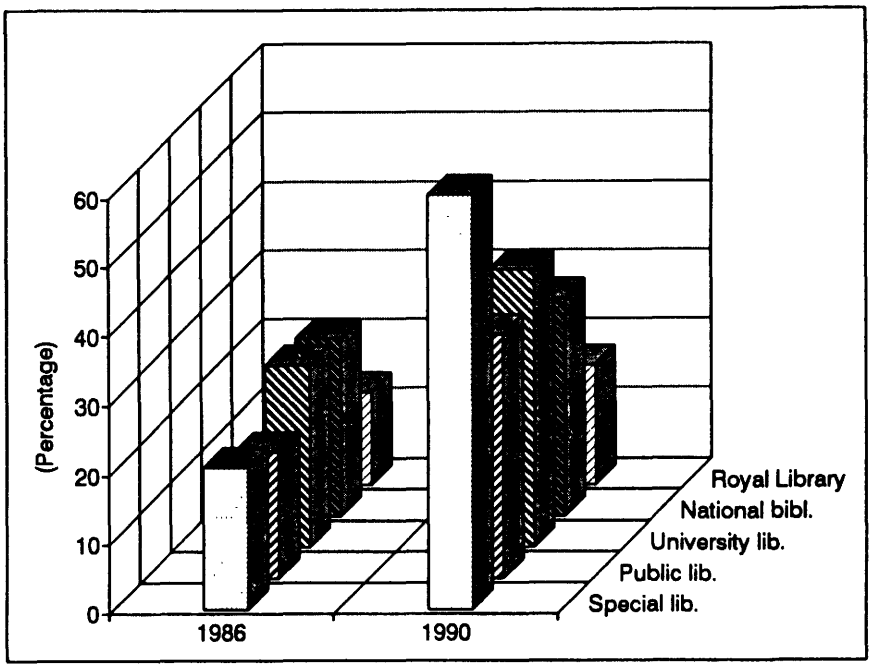

Fig. 2. Percentage of titles in machine-readable databases

Table 10. University libraries: acquisition versus reconversion in the database (ROEGIERS)

		% acquisitions	% reconversion	Full coverage
Flanders				
Antwerpen	RUCA	50	50	
	UFSIA	30	70	
	UIA			x
Brussels	UFSAL			x
	VUB			x
Gent		100	0	
Leuven		60	40	
French-speaking Belgium				
Brussels ULB		12	88	
Liège		65	35	
Louvain		75	25	
Namur		80	20	

However, it is far from certain that the university libraries will be able to continue the reconversion with the same speed as they used to do in the past. During the years of recession the Belgian government took a series of measures in order to reduce the number of unemployed labour force. Many of the libraries could benefit from these measures and have used this (free) temporary staff in order to proceed quickly with the reconversion programs. These special schemes, however, have been stopped a couple of years ago as soon as the recession itself receded. Only two libraries have got a special grant for reconversion from their university. The ULB in Brussels could recover the costs

for a first reconversion plan at 100%. The library of the KU-Leuven could recover 45%. Other libraries rely on conscientious objectors (20 months of civil service). Other reconversion projects are financed within the framework of research projects (ROEGIERS).

It is difficult to say something about the library collections and their coverage by databases in the libraries of the non-university higher education. As a general rule these libraries are small with automation activities speeding up. A recent VOWB-report for the Flemish part of the country shows some positive correlation between the size of the library and the rate of automation[2]. The larger the library, the higher the chances for automation.

Table 11. Library automation in the non-university higher education

	Number of volumes in the library			
	< 500 vols.	500 - 1000 vols.	1001 - 2000 vols.	> 2000 vols.
automated	29%	50%	60%	50%
non-automated	70%	50%	40%	50%

The same coverage problems as in the university libraries also exist in the ones of the non-university higher education: the bigger the collection the smaller the coverage in the automated database. Indeed these libraries suffer from a continuous lack of staff. Some libraries, however, as e.g. the library of the HIK in Geel have achieved a 100% coverage (24.000 titles in the database). Some of these libraries are part of a network and can derive many of their records from the available database, speeding up in this way the reconversion of the existing stock. This is the case in the AIHM-utility of the Province of Hainaut totalling 7 institutions of higher education besides 3 secondary schools and in the VUBIS-Antwerpen network with 1 library of a non-university higher education institution.

The coverage of the library collections held in public libraries (an average of 35% in machine-readable databases) seems to be lower than in the surveyed university libraries. The overall average for the public libraries will undoubtedly be far lower because many public libraries, which are not represented in the survey, have not yet started automation. Only 20% of public libraries in Flanders have automated so far and the figure for French-speaking Belgium doesn't seem to be higher. Certain is however, that the coverage in the surveyed public libraries has increased from 18% in 1986 to 35% in 1990.

The special libraries in the survey are an amalgam of libraries: small as well as large, housing sometimes many hundreds of thousands of books. The special libraries serving the general public were slow in adopting new technology: 7% of their titles in a machine-readable database by 1986, but improving very quickly and achieving a 48% coverage in 1990. The generally smaller libraries and documentation centers in the private sector had already achieved in 1986 a 38%

coverage and a surprising 73% in 1990. Their task seems to be easier: generally spoken they are smaller and they discard less used material often so that reconversion poses a lesser problem than for the other libraries. The figures in table 9 do not, however, provide a representative picture of all special libraries. A few but sometimes large libraries in ministries and research institutions still have zero coverage in machine-readable databases but were not represented in the survey.

3.1.3. Contents of machine-readable databases

The Belgian bibliography includes CIP-titles. Other databases as a general rule include, monographs, serials and all kind of grey literature. University libraries and libraries in the non-university higher education spend quite a lot of time in cataloguing and indexing their dissertations. Audiovisual material is included in the databases of the BRT (Belgian Radio and Television) and in the catalogues of some university libraries, e.g. the databases of the Catholic University of Leuven and the University of Antwerpen. When doing retrospective cataloguing university libraries tend to use non-content related selection criteria as e.g. converting the card catalogue from A to Z, selecting the most frequently used items or the most recent acquisitions (ROEGIERS). None of the university libraries so far has added periodical articles to the database except perhaps for a few periodicals which are abstracted locally.

Libraries in the non-university higher education do quite some local indexing of periodical articles. The reason behind this is threefold: firstly, their readers need more local information e.g. social science schools; secondly, there is a great need for information in the mother tongue; thirdly, their acquisition budget is very low, so librarians try to squeeze the maximum amount of information out of their limited budget. Some nursing schools and polytechnical institutions have set up a scheme for abstracting a series of journals so that duplication of this costly work can be avoided. However, these projects have not yet resulted in the set up of a generally available database (SELS / LOOSTERMANS).

The database of the public libraries contains very much the same type of materials as the ones of the university and the non-university higher education libraries. More than the previous types, the public libraries do index periodical articles. The VLACC, the union catalogue of the main public libraries in Flanders, contains already 20.000 periodical articles, 10.000 braillebooks and 10.000 spoken books on cassettes. Discussions are underway in order to link it with the Dutch TACO-database produced by the NBLC in The Hague (F. HEYMANS, 1990). Priorities for conversion in public libraries differ but one often encounters priorities for the children's collection, the open shelf collection, special (often local) collections, e.g. local history. The audiovisual departments of the Belgian public libraries have earned an international reputation. The coverage of AVM, however in the databases is poor.

The special libraries and documentation centers, both in the public and the private sector, give a very high priority to the indexing and indeed also the abstracting of periodical articles. This is particularly true in the banking sector where in some cases over 95% of the database consists of periodical articles.

3.1.4. Cataloguing standards and level

Descriptive catalogue standards vary according to the region and the type of libraries (F. HEYMANS, 1988). The Royal Library and the Belgian bibliography use AACR II as their cataloguing standard at the full level. The Flemish university libraries and most of the university libraries in French-speaking Belgium use adapted versions of the AACR II at a medium level. The ULB-library of Brussels and the UCL-M library (University of Louvain) use these rules at the full level. The university of Liège reports the use of the French AFNOR-rules in an adapted version. One of the libraries of the UCL (UCL-S) still has local cataloguing rules but hopes to migrate soon to the LIBIS-Net, using the AACR II medium version in a slightly adapted form.

As a general rule public libraries in Flanders and most of the libraries in non-university higher education follow the Dutch FOBID rules, which are an adaptation of the AACR II medium level rules. The use of ISBD, UDC and the RAMEAU-thesaurus became compulsory for the French-speaking public libraries after the promulgation of a new decree (regional law) regulating the activities of public libraries in this region (decree d.d. 6.11.1987) (NOUVEL). A circular letter by the administration governing the public libraries in French-speaking Belgium (d.d. 20 April 1989) recommends the French AFNOR Z 44.073 norm: medium level for cataloguing (PARENT).

Table 12. Cataloguing standards and levels

	Standard	Level	Original/adapted
Royal Library	AACR II	full	orig.
National bibliography	AACR II	full	orig.
University libraries			
Flanders	9 x AACR II	medium	adapted
French-speaking Belgium	4 x AACR II	medium	mostly adapted
	2 x AACR II	full	orig.
	1 x AFNOR		adapted
	1 x AGRIS		adapted
	1 x local		
Public libraries			
Flanders	9 x FOBID		mostly adapted
	1 x local		sometimes adapted
French-speaking Belgium	4 x AFNOR		
Special libraries			
Public	mostly AACR II	medium	adapted
Private	various rules		

The special libraries open to the general public have in most cases accepted either the AACR II rules, medium level in an adapted version or FOBID rules. Some of them, however, still keep a local format. The situation is quite different for the private documentation centres, where a variety of cataloguing standards is in use.

The application of descriptive cataloguing standards has improved in the past five years, mainly in the large libraries. Many (smaller) libraries still keep their local rules and traditions. This general feeling is supported by the findings of the survey with the suppliers of the commercial systems and the utilities who quite frequently state that their system is capable of handling a variety of cataloguing standards. Anyhow nearly all libraries report adaptations of the rules. As stated in the original 1986 LIB-2/7 report "more research is needed to evaluate the extent and the impact of the adaptations. The impact on European exchangeability of the linguistic context of the headings, collation and annotations, and also the free choice allowed by AACR as to the level of description and its other optional rules have to be investigated" [3].

New acquisitions as a general rule do not generate short entry catalogues. The same cannot be said for reconversion. Namur and Liège based their entire reconversion work upon the publication itself (autopsy cataloguing), UFSAL for 80% and KU-Leuven for 30%. The other data come either from the network database, from external databases or from copying the card catalogue. In the latter case it is generally hoped that this kind of short entry catalogue one day will be replaced by a full entry catalogue. In this respect some libraries having added short title data replace these descriptions by full data whenever this publication proves to be in demand (e.g. University of Antwerpen). Only one library (ULB-Brussels) has downloaded data for reconversion purposes from data provided by OCLC (ROEGIERS).

Table 13. Reconversion: depth and source of reconversion

	Depth of reconversion		Source		
	Short title	Full title	Cards	Orig. publ.	Other
Royal Library					
Belgian bibliography		1			
University libraries					
Flanders	3	4	3	6	8
French-speaking Belgium	1	5	3	5	4
Non-univ. higher education		1		1	
Public libraries					
Flanders	2	6	3	5	3
French-speaking Belgium		4	2	2	1
Special libraries					
Public	1	7	4	5	1
Private		5	3	4	

Subject description gives raise to a greater variety of rules and standards than descriptive cataloguing. As in 1986 about half of the libraries surveyed use a version or adaptation of UDC (including SISO). The number of libraries using LCSH or its French version RAMEAU is growing. They are in use in 8 libraries. This is not surprising as the use of RAMEAU has been largely promoted among the public libraries in French-speaking Belgium and became compulsory after

the promulgation of the decree (regional law) d.d. 6.11.1987 (PARENT). Flemish public libraries use generally an adapted SISO, a decimal classification derived from the UDC for use in Dutch and Flemish public libraries. Flemish public libraries are encouraged to use the newly authorized VLACC keyword thesaurus totalling 29.000 index terms for the adults collection and 4.000 specific index terms for the childrens' collection (F. HEYMANS, 1990). As one could expect the variety of subject description systems is far greater in the special libraries which often try to find ways to organize their documentation along the lines of the activities in their organizations. Utilities generally offer UDC and SISO and often declare themselves apt to support any other system of subject cataloguing.

Quality control of the records is a main concern as well in stand alone systems as in the library networks and utilities. It is feared that some of the databases contain records that are not up to the standard that the libraries have declared to adhere to (DEWEZ).

Table 14. Standards for subject description

	LCSH	RAMEAU	MeSH	UDC	DEWEY	SISO	Other standards	Local system
Royal Library	1							
Belgian bibliography								1
University libraries								
Flanders			3	9				
French-speaking Belgium	3		2	1	1			1
Public libraries								
Flanders				1		10		
French-speaking Belgium		4		4				
Special libraries								
Public				4	1		2	
Private				4	1		2	7
Utilities				4		4		

3.1.5. Format

The Royal Library uses an adapted INTERMARC for the databases of the Royal Library and the Belgian bibliography. Research libraries, part of the LIBIS-net, use LC-MARC as their input format. Some other libraries using the IBM DOBIS-LIBIS software adopted OCLC-MARC (ULB-Brussels) or D-MARC (HIK in Geel). The VUBIS-libraries rely on the VUBIS-format which is upwards compatible with UNIMARC.

Table 15. Most frequently used formats

	Local input of data	Exchange formats	
		Input	Output
Royal Library	1 x INTERMARC	1 x LC-MARC 1 x UNIMARC	1 x UNIMARC
Belgian bibliography	1 x INTERMARC	1 x LC-MARC 1 x UNIMARC	1 x UNIMARC
University libraries			
Flanders	5 x VUBIS 4 x LC-MARC	5 x UNIMARC 4 x LC-MARC 4 x OCLC-MARC 5 x D-MARC	5 x UNIMARC[1] 4 x LC-MARC 5 x D-MARC
French-speaking Belgium	4 x LC-MARC 1 x OCLC-MARC 1 x SGBD (PICK)	2 x UNIMARC 1 x OCLC-MARC 1 x LC-MARC	4 x LC-MARC 1 x UNIMARC 1 x TEXTO 1 x CDS-ISIS
Public libraries			
Flanders	3 x D-MARC 1 x UNIMARC 2 x VUBIS	1 x D-MARC 1 x UNIMARC	1 x D-MARC 1 x UNIMARC
French-speaking Belgium	2 x UNIMARC 1 x INTERMARC	2 x UNIMARC	2 x UNIMARC
Special libraries			
Public	2 x LC-MARC 1 x D-MARC 1 x VUBIS	1 x UNIMARC 1 x US-MARC 1 x D-MARC	2 x UNIMARC 1 x LC-MARC 1 x D-MARC
Private	1 x UNIMARC 1 x INTERMARC 1 x LC-MARC 1 x D-MARC		1 x LC-MARC
Utilities	3 x D-MARC 1 x VUBIS	4 x D-MARC	3 x D-MARC 1 x UNIMARC

[1] Under development

The input format in public libraries may be a VUBIS format or one of the MARC formats (D-MARC, UNIMARC, INTERMARC). The same is true for the special libraries. However documentation centers rely mostly on other or local formats. Utilities have chosen for either the VUBIS-format, D-MARC or other formats requested by their clients.

Some of the libraries report adapted formats. It should be further investigated to what extent these local changes will be hindering the exchange of machine-readable records. Nothing has been said about the use of the extended character sets. As a general rule Belgian libraries tend to settle for what is locally available, affordable or desirable[4]. The VUBIS users of Antwerpen and Brussels have recently laid down an extended character set with conversions to de facto industry standards as the PC-character set and the character definitions of the VENTURA-publisher software.

The exchange formats in use are much the same as the input formats. There is a wide spread of accepted import formats such as UNIMARC, LC-MARC,

OCLC-MARC and D-MARC. The same applies to export formats. A circular letter by the administration for the public libraries in French-speaking Belgium (d.d. 5.1.1989) prescribes UNIMARC as the exchange format for public libraries in this region. Varied as it is, the situation might well stay so for a rather long period of time unless the (European) library community would come up with one winning standard. UNIMARC perhaps? The universities of Leuven and Gent, project leaders for the production of the 1991 CCB CD-ROM union catalogue have started work on a uniform Belgian exchange format based on SGML. Some libraries and some suppliers have built up a strong reputation for the conversion from one format to another. This is particularly true for ODIS who managed to pick up the DOBIS-LIBIS data of the COI (D-MARC) and translated them in a couple of weeks time into the VUBIS-format, producing in this form the VLACC union catalogue (300.000 records).

3.1.6. Downloading

Most downloading is done within the library networks and between members of utilities. This is so common that many libraries have forgotten to mention it when being asked for the origin of their reconversion records.

Only one university library so far (ULB-Brussels) relies on data provided by OCLC. Other libraries have considered this in the past but could either not find the resources for doing so or considered it as too expensive in relation to the awaited hit rate in the OCLC-database (ROEGIERS) The Royal Library has installed a bibliographic pool of 700.000 LC-records. The LIBIS-Net projects the implementation of a bibliographic pool of some 2.000.000 descriptions from LC-MARC tapes. ULB, a new DOBIS-LIBIS library, will be downloading some 200.000 titles from the LIBIS-Net in Leuven over the next four years.

Some university libraries expect the new CCB union catalogue of monographs to come out with some downloading facilities. It remains to be seen whether this can be achieved. Then the copyright of the data remains in the hands of the libraries that have supplied the original data. The Royal Library is considering a reconversion project for the Belgian national bibliography: optical scanning after the printed edition from 1900 onwards (VANDERPIJPEN). The main research libraries generously have offered their help in completing the national bibliography with data from their local or network catalogues. General availability of these Belgian data could be of some help for the libraries that still have to do some substantial reconversion work.

Supplying data to libraries outside the network to which a library belongs is not common. One can sense that when looking at the questionnaires. The answers are incomplete, hesitant almost, especially in regard to the charging policy. Only for members of a network or utility does there seem to be a set policy. In all other cases special arrangements have to be made going from marginal costs to recovering part of the total costs. The biggest deal so far between Belgian libraries is the one between the LIBIS-Net and the University Library of Brussels (ULB) for a total of 200.000 records. Table 16 shows all libraries in the survey applying a downloading policy for use of their records by other libraries.

Table 16. Downloading

	Price of record		Mechanism		Micro-fiche	Paper
	Insiders	Outsiders	Record by record	File transfer		
Royal Library		1 BEF per printed record	x			x
Belgian bibliography		1 BEF per printed record	x			x
University libraries						
LIBIS-Net	0,5 BEF	contract	x			
VUBIS-Antwerpen	free	5 BEF per record	x	x		x
VUB	free	marginal costs	x			x
UCL-S						x
Public libraries						
Brugge		free				
Leuven		free	x			
Mouscron		free				x
Nivelles		marginal costs				x
Waremme		4 BEF per record		x		x
Special libraries						
Public Quetelet		contract	x			
Private Glaverbel		contract	x			
Utilities					x	x
AIHM			x	x		
CEVI	special arrangement		x			
CIPAL	special arrangement		x	x		
COI/VLABRIC	2,2/3,3 BEF		x	x		

Some of these downloading schemes are only valid for prints (listings, cards) or COM-microfiches and are not relevant for this part of the study on downloading mechanisms. Most of the prices are either unknown (contractual agreement) or extremely low. In the latter case this could express adherence to the ideal of free flow of information and free help to the colleagues. The price set by two of the utilities CEVI and CIPAL is in fact the price libraries will have to pay to the Flemish administration for use of records derived from the VLACC union catalogue. The price setting of the VLACC is special in this way that it is in relation to the number of inhabitants of a municipality and not in relation to the number of records derived (a flat fee varying between 4.000 and 10.000 BEF per year, plus 1 BEF per year per inhabitant of the municipality). Special pilot projects for reconversion, using the VLACC-data, were set up for public libraries in Knokke (CEVI-CEBAP software), Mechelen (Datapoint-Tobias software), St.-Niklaas (WANG-software) and Turnhout (VUBIS-software).

In most cases the downloaded records can be transmitted by tape or floppies. Downloading via telecom still seems to be premature as no institution has mentioned this way of transmission in the questionnaire. The best known product in downloading records is undoubtedly the VLACC CD-ROM of the Flemish public libraries (F. HEYMANS, 1990). Produced by ODIS it is the product of the ingenuity of the late R. Moucheron (†1990), director of the Public Libraries Administration in Flanders. He wanted to create a simple, cost effective way of downloading which could be used easily in all public libraries in Flanders.

300.000 records produced by the central public libraries in Flanders via the COI-utility were put onto CD-ROM. ODIS added to that database a downloading mechanism. It is hoped by some libraries that the new CCB - CD-ROM union catalogue of the research libraries will have some of the options provided in the VLACC-catalogue. The "Bibliothèque Chiroux-Croisiers", the public library of Liège, retrieves half of the current acquisitions from the CD-ROM of the "Bibliothèque nationale" in Paris but cannot yet download the descriptions and is forced to key in the data in the local database.

3.2. Utilities and cooperative library networks

3.2.1. Utilities

The term "utility" will be used throughout this report in a non-standard way. Specific library utilities as the ones in UK or USA do not exist in Belgium. One Belgian city and some of the provinces, however, have established cooperative offices for the automation of the local and provincial authorities. As public libraries are an integrated part of the local authorities, the service of these utilities also comprises library automation. This is the case with CTI in Liège, AIHM for the French-speaking province of Hainaut, CEVI covering the provinces of East and West Flanders, CIPAL covering the provinces of Antwerpen and Limburg and VLABRIC doing the same for the Dutch part of the province of Brabant. The sister organization of VLABRIC, called COI, looks after the automation needs of the Flemish central administration. Other provincial utilities as AIM in Liège and CIGER in Namur seem to have abandoned the sector of library automation (CLOTUCHE, 1991).

Table 17. General picture of the utilities

	Library system	Date of start	Number of libraries served	Type of central computer
Hainaut (AIHM)	BIBLIO	1981	21	IBM 4381-PO3
East & West Flanders (CEVI)	VUBIS	1982[1]	22	decentralised
Antwerpen & Limburg (CIPAL)	DOBIS-LIBIS	1985	11	IBM mainframe
	CIBIS	1990	4	decentralised
Flemish admin. (COI)	DOBIS-LIBIS	1982	7	IBM 3090
Liège (CTI)	SIGAL	1974	14	BULL DPS 8.011/82 T
Brabant (VLABRIC)	DOBIS-LIBIS	1982		IBM 3090
	DOBILUS	1988	1	decentralised

[1] VUBIS since 1.6.1990
From 1982 to 1990 CEBAP

1. AIHM (province of Hainaut)

AIHM has a central database of 550.000 records which are kept on an IBM mainframe 4381-PO3 in the computer center of the AIHM in Mons. 21 libraries (public, smaller research and school libraries) of the Hainaut province are linked into a system, called BIBLIO, which was set up in 1981. The number of records has risen from 150.000 in 1986 to 550.000 by the end of 1990 (books, periodical titles, articles). Both the input and output formats are locally made (DELANNAY). Most of the output is still on paper (listings and catalogue cards) and on COM. Transfer of records can be done either via record by record transfer or by file transfer on tapes or floppies. A mastercopy of a COM-microfiche is charged at 150 BEF, copies of it at 50 BEF each. The use of existing records by other members of this utility seems to be free of charge. AIHM has moved the database from the older IBM 3031 to the new 4381-PO3 computer and has installed LANs (IBM Token-ring with 3270 gateway) and a WAN, using SNA 3270 or X.25 via the public telephone network. It is a star shaped network that links all sites to the central IBM mainframe in Mons. AIHM intends to put the system onto videotex in the next couple of years and is hoping to add some extra facilities to the system. Moreover it wants to decentralize certain activities on local PC's (e.g. circulation).

2. CEVI (provinces of East and West Flanders)

CEVI started its library activities in 1982 with a locally made system called CEBAP. Since 1.6.1990 it has relied on local VUBIS systems, for which it has made a special deal with ODIS, the commercial supplier of the VUBIS-software. From then onwards CEVI is the sole distributor of the VUBIS-software for all public libraries in the provinces of East and West Flanders and for the libraries depending on the public authorities of these provinces. CEVI has no centralised database. 11 libraries still use the old CEBAP system (in total 154 terminals). 11 other more recently automated libraries are already using the VUBIS library software (in total 41 terminals).

The VUBIS-software is mounted on mini's (max. 124 terminals per installation, up to 2 Gigabyte of store) and on powerful PC's. Library standards used are the FOBID-rules for descriptive cataloguing. SISO and UDC for subject cataloguing and the MARC-compatible VUBIS-format for data storage. Import of data can be done via D-MARC online or via tape, CD-ROM (VLACC) and floppy using record by record transfer. Libraries using the services of CEVI can rely upon them for installation, training and maintenance but are supposed to run the system themselves with, if necessary, the assistance of CEVI. The VLACC union catalogue on CD-ROM in the VUBIS-format is often used by these libraries as a source for database construction. The CD-ROM of the PCC in North Brabant (the Netherlands) is equally available as a second source.

CEVI has made its biggest change ever in moving in 1990 from the old CEBAP to the VUBIS software. The former users of CEBAP will all be migrating from the old system to the new in 1991 and 1992. It is expected that

the number of libraries using the CEVI-VUBIS system will grow in the next three years with some 40 libraries.

3. CIPAL (provinces of Antwerpen and Limburg)

CIPAL uses since 1985 the DOBIS-LIBIS software on its central IBM facilities in Geel and has just started offering CIBIS, a software for local systems. 11 provincial institutions use the CIPAL DOBIS-LIBIS software, among them two public libraries (Hasselt: 13 terminals, Geel: 3 terminals); the other 10 being smaller documentation centers. The central database contains 300.000 records. Standards used are: FOBID rules for descriptive cataloguing, UDC and SISO for subject cataloguing; D-MARC is used as input and output format. Downloading for reconversion and cataloguing is done via the VLACC union catalogue. Record by record transfer and file transfer are available online or via tape. Local systems use a Token-ring network. The local libraries are linked up with the central mainframe via point to point links. Moreover there is a link with COI (VLACC) and the LIBIS-Net in Leuven.

By the end of 1990 CIPAL introduced a new local library automation system, called CIBIS with so far limited capabilities: cataloguing, OPAC and circulation. More modules will be added to the new CIBIS software as e.g. acquisition and periodicals control. It can be mounted on mini's (UNIX-machines) and micro's, using standard NOVELL software for local networks. 4 libraries are in the process of starting up the CIBIS-system. The same standards are in use as for the CIPAL DOBIS-LIBIS system. Data can also be downloaded on floppies.

4. CTI (City of Liège)

The "Centre de traitement de l'information de la ville de Liège" (CTI) is responsible for the entire automation activity of the city of Liège. For this purpose a BULL DPS 8.011/82 T with ten processors has been hired. The SIGAL library software ("Système intégré de gestion automatisée du livre") has been produced locally but is now also commercially available via SATI. CTI and the public library of Liège have a longstanding experience with library automation going back to 1974. The present SIGAL-software has been developed since 1979 and became operational in 1981. It covers all fields of library activity, including an OPAC, but the OPAC has not yet been installed for use by the general public. The CTI-services are used by the public library of Liège "Bibliothèque Chiroux-Croisiers" and by the museums of the city of Liège; in total 14 institutions sharing a common database of 490.000 titles, among them the public library of Liège with 14 branch libraries. Worth mentioning is the fact that the database integrates the descriptions of books and periodicals and the descriptions of (art) objects in the various museums of the city. A local format is used for the data entry, but a full conversion to UNIMARC has been established. The various libraries are linked into the system via leased telephone lines (JASPERS, 1990).

5. VLABRIC and COI (province of Brabant and Flemish central administration)

COI and VLABRIC use the same premises in Leuven. The DOBIS-LIBIS software has been used since 1982 for the VLACC, the union catalogue of the main public libraries in Flanders. The VLACC is housed on the IBM 3090 mainframe. DOBIS-LIBIS is used by the Flemish central administration (26 terminals), by the main Flemish public libraries and by the central administration of public libraries for the creation and consultation of the VLACC (17 terminals). Standards in use are the same as for CIPAL: FOBID-rules, UDC, SISO, D-MARC. The central VLACC database contains 350.000 records; the database of the Flemish administration: 50.000. Downloading of records costs 2,20 BEF per title in D-MARC format and 3,30 BEF per title in a simplified local format. The local libraries are linked point to point with the mainframe in Leuven.

DOBILUS has been added to the software library in 1988 in order to create a local library system which is cheaper to run and gives a better response time than the IBM mainframe, used for several other applications. VLABRIC has chosen for PC's as workstations, linked with a Token-ring network. A PC serves as gateway and offers a connection with the mainframe, running DOBIS-LIBIS. All information registered on the DOBILUS system during the day is sent overnight via file transfer to the mainframe at VLABRIC where it is processed via the DOBIS-LIBIS programs. In essence the local system takes care of the circulation, the local management functions (e.g. reports, printed labels, stickers) and all sorts of prints. DOBILUS is expected to interface intelligently with DOBIS-LIBIS on the central mainframe of VLABRIC-COI. Presently this new system is in use in the Public Library of Leuven (17 terminals).

3.2.2. Cooperative library networks

This chapter of the report does not deal with library networks within a single organization. That information is to be found sub. 5 in the report. Cooperative library networks as such are limited to the utilities mentioned above and to two networks of research libraries: LIBIS-Net in Leuven and VUBIS-Antwerpen.

1. LIBIS-Net

LIBIS-Net, using the DOBIS-LIBIS software, is believed to be the second biggest library network in Europe. The LIBIS-Net groups the libraries of the following universities into one single network: the Catholic University of Leuven, where DOBIS-LIBIS originated in 1977, the University of Gent, the Catholic University of Louvain and the libraries of two other university institutions in Brussels (UFSAL) and Namur (FUNDP). Some special libraries and documentation centers are also part of the LIBIS-Net: ABB (Belgian Farmers' Union), IBM (International Education Center in Brussels and European Headquarters in Paris), IHE, KADOC and the libraries of the Belgian Parliament and the Flemish Council. All together 11 institutions spread over nearly 100 locations. DOBIS-LIBIS is fully implemented in the LIBIS-Net (BOECKX & REGENT, 1990).

Each of the affiliated libraries can maintain local files within the central system. The union catalogue contains over 1.700.000 bibliographic records which may be searched by ca. 250 dedicated terminals and numerous other terminals and PC's that can be linked into the LIBIS-Net via local university networks in Leuven and Gent. The LIBIS-Net is planning to mount a bibliographic pool with an esimated 2.000.000 records from the LC-MARC backfile for books. Moreover, the system carries also online the CCB union catalogue of monographs and the Antilope union catalogue of periodicals.

Configuration summary:
IBM 4381-R92E/32MB
IBM 3380 disks
IBM 3820 Laser printer
35 leased lines linked point to point with the central mainframe
250 dedicated terminals / local printers

Telecom links exist with other DOBIS-LIBIS installations at the HIK in Geel, COI in Leuven and soon with ULB in Brussels. The organization is embedded in the structure of the Catholic University of Leuven. However, both the direction committee and the advisory board have representatives of the affiliated institutions among their members. A technical commission, reporting to the advisory board should protect the integrated character of the system. Working groups have been set up to coordinate the various activities of the LIBIS-Net (e.g. cataloguing, acquisitions, OPAC).

7,5 FTE equivalent staff are at work in the LIBIS-Net. This number is expected to raise to 12,5 FTE in the next couple of years.

The standards in use are: AACR II adapted at medium level for descriptive cataloguing; LC-MARC for input and D-MARC for downloading of data.

Use of the records in the database is part of the overall contract of the network libraries. Non-members of LIBIS-Net have to get into contractual negotiations before they may download records for use in their own databases.

2. VUBIS-Antwerpen

The second biggest research library network has been created in 1986 at the University of Antwerpen using the VUBIS 2 software developed at the University Library of Brussels (VUB) and the Library of the Technological University of Eindhoven in the Netherlands. Six libraries take part in the VUBIS-Antwerpen network: the three libraries of the University of Antwerpen, the University library of Limburg, the City Library of Antwerpen and a smaller college library in Antwerpen, all together 6 institutions spread over 20 locations. VUBIS is not yet fully implemented. The modules: acquisition and periodicals control are sheduled for 1991 (BOECKX & REGENT, 1990). The union catalogue contains over 600.000 bibliographic records which can be searched from 170 dedicated terminals. The system also carries the Antilope union catalogue of periodicals and plans to install the new CCB union catalogue of monographs. The system is linked into the LAN's of the

University of Antwerpen and Limburg so that a lot more readers have a direct access to the library database and the infokiosk, the latter giving general information on research activities, campus life, public transport etc.

The UIA-library of the University of Antwerpen does also the input for and maintains the ANTILOPE union catalogue of current periodicals in Belgian research libraries.

Configuration summary:
4 PDP 11/73 interlinked with Ethernet
Early 1991 a Compaq SystemPro (32 MB internal memory and 1.68 GB storage) has been added to the configuration (running under UNIX)
2,5 GB storage on PDP 11/73; 1,5 GB storage on SystemPro
12 leased lines
X.25 connection (local PAD)
170 dedicated terminals / local printers

VUBIS-Antwerpen is governed by the board of the University of Antwerpen. However, a steering committee of librarians and computer scientists on which the affiliated institutions are represented controls the operations of VUBIS-Antwerpen and makes proposals to the board of the university. Working groups meeting on a regular basis, are set up to steer and control activities such as cataloguing, indexing, circulation, interlending etc.

3 FTE equivalent staff are at work for VUBIS-Antwerpen. The standards in use are: AACR II adapted at medium level for descriptive cataloguing and adapted UDC for subject cataloguing. The VUBIS-input format is upwards compatible with the various MARC-formats but some work still has to be carried out in order to develop a complete conversion format most probably to the UNIMARC-standard (BORM, 1991).

3.2.3. Union catalogues

Belgium has three major automated union catalogues: ANTILOPE, CCB and VLACC. Moreover French-speaking Belgian libraries are taking part in an international union catalogue project (BIEF).

ANTILOPE

ANTILOPE is a union catalogue of mainly current periodicals in 62 research libraries (36.000 periodical titles, 85.000 holdings). The catalogue is produced and updated at the University of Antwerpen on behalf of the Conference of University Librarians. The software used is the Antwerp version of VUBIS 2 with some important extra features a.o. to cope with the multilingual situation in Belgium. It was last printed in 1987 and is available online through VUBIS-Antwerpen, the LIBIS-Net and the Belgian host BELINDIS. A subset has been printed in 1991: BIOMED: union catalogue of biomedical periodicals in Belgium. Besides this a CD-ROM edition has been planned, probably together with the CCB, the union catalogue of monographs in the Belgian research libraries. The University of Antwerpen has developed a prototype of a document

ordering system for ANTILOPE, which is expected to become operational on a national scale later in 1991 (BORM, 1991: 1 and 2).

CCB

The CCB is a CD-ROM catalogue of monographs in the Belgian research libraries. It was first published by ORDA-B Leuven in 1989 under the auspices of the Conference of University Librarians as a short title catalogue and contains on two disks 2.700.000 not all unique titles. Project leaders are: the Catholic University of Leuven and the University of Gent (both partners in the LIBIS-Net). Research is underway in order to find out how this project can be carried on and enhanced into a full catalogue with a regular publication schedule (SOMPEL, 1990). LC-MARC had been proposed as a common input format, but since some libraries were unable to supply their data in a strict LC-MARC format an agreement has been reached upon an SGML document type definition to handle the data. An impressive number of 3.200.000 titles from the various automated databases has been announced. Some merging of data will be necessary in order to avoid unnecessary successive titles. This undoubtedly is one of the more difficult items of the project taskforce together with the provision of subject access (LCSH ?). It has been suggested that this new CCB should perform three tasks: union catalogue, local OPAC, and database for downloading records. Decisions will have to be made mid 1991 taking into account the financial implications.

VLACC

The six main public libraries in Flanders and the VBC (a library cooperative based in Antwerpen) use the DOBIS-LIBIS software to produce an online union catalogue of their acquisitions since 1975 (304.000 monograph titles, 20.000 articles from 172 indexed journals, 10.000 braille-books). Therefore the six central public libraries are networked into the COI (the Leuven-based cooperative for the Flemish administration). The database is available online, via record selection on tape and on CD-ROM, using the VUBIS-OPAC and -downloading facilities. A second edition of this CD-ROM has been announced for 1991. Negociations have started in order to link the VLACC-database of periodical articles to DOTA, a similar database produced by the NBCL in the Netherlands (VANSANTVOET / HEYMANS / MOUCHERON / DEBRAEKELEER).

BIEF

Libraries in French-speaking Belgium participate in the creation of an international union catalogue called BIEF (Banque internationale d'information sur les états francophones). This international union catalogue of French-speaking countries counts over 300.000 records. It stems from one of the recommendations of the first summit of French-speaking countries in Paris (1986). French-speaking libraries and the Belgian Royal Library have been sending so far 84.000 records to the "Secretariat d'état du Canada" (28% of the database). This union catalogue is available on microform, cards or magnetic tapes (PARENT).

3.3. Resources available from the commercial sector

Few Belgian commercial organizations have yet started the systematic distribution of machine-readable records in Belgium. The University Library of Brussels (ULB) has bought a considerable amount of records from OCLC. The American Library is relying on data provided by OCLC and LC. The LIBIS-Net is planning the implementation of a catalographic pool of 2.000.000 records from the LC-MARC backfile for books. Vendors of library automation systems often supply records along with the installation of their system in libraries. This is the case with Datapoint, Gemic, IBM, ODIS, SATI, SQUARE and WANG.

Table 18. Resources available from the commercial sector

	Origin of the records	Format	Remarks
DATAPOINT	TOBIAS-libraries VLACC	UNIMARC	
GEMIC	VLACC	MARC	
IBM	DOBIS-LIBIS libraries	MARC	To be arranged with other DOBIS-LIBIS libraries
ODIS	VLACC Other sources	UNIMARC	
SATI	Library Chiroux-Croisiers Liège	UNIMARC TEXTO	To be arranged with the Library Chiroux-Croisiers (Liège)
SQUARE	VLACC PICA		
WANG	VLACC	D-MARC	

A brief description of these commercial organizations will be given in appendix 1. As a general rule these commercial suppliers offer either the data of other libraries using the same library software or publicly available data as e.g. the VLACC union catalogue of public libraries in Flanders. Some go further and offer copyrighted data (e.g. ODIS and SQUARE) for which special contracts have to be made with the copyrightholders. ODIS is offering data from NBLC, Electre, Biblio, Bibliothèque nationale and PICA. The most used database, the VLACC union catalogue, contains 304.000 records. The cataloguing standards have been described in chapter three of this report. All these commercial organizations use a MARC-format for data interchange, mostly UNIMARC.

Hardly any information could be collected about charging policy and costs. Costs seem to be in most cases part of the total bill for the installation of a (new) library automation system. Only WANG mentions 200.000 BEF conversion costs for data from the VLACC union catalogue. The transfer of data is done via record by record transfer or via file transfer. Tape, floppy, online transfer and in the case of the VLACC also CD-ROM are used for this purpose. The OSIRIS bibliographical databank produced jointly by the "Cercle français de la librairie" in Paris and the "Administration de la lecture publique, de la promotion des lettres et de la langue française" in Brussels contains 300.000 books in print (PARENT).

3.4. Changes and trends

The number of machine-readable records has more than doubled (+132%) in the past 5 years (1986 - 1990). 9 to 10 million machine-readable records are now available in the country. The Royal Library and the university libraries dispose of 43% of these records. Together with the number of records the coverage has also increased. The coverage in the surveyed libraries went up from 21% in 1986 to 39% in 1990. However, the overall coverage of the country will be lower as smaller and less automated libraries are not well represented in the survey.

The contents of the machine-readable databases did not change much in the past 5 years. It is expected, however, that in the coming years more periodical articles, abstracts and even full texts will be downloaded into the local databases. The use of standards and rules has improved. AACR II and AFNOR are generally used as descriptive cataloguing rules. It should be further investigated to what extent the adapted formats will really be hindering the exchange of machine-readable records. The standards used for subject cataloguing vary more substantially. Some of the Belgian research libraries are thinking of a generalized use of LCSH/RAMEAU for subject cataloguing. As a general rule one of the MARC-formats is used. VUBIS uses its own internal format which is upwards compatible with UNIMARC. Some automation teams closely follow not only the evolution of format-standardization within the library world but also in other sectors of automation activity and have asked to investigate the use of SGML next to or on top of the existing MARC standards.

The most important change in the past five years for many libraries is either the start of the automation in the library or the decision to enter one of the networks. That decision has opened the door to the creation or downloading of machine-readable records and to further use of IT.

Trends for the next three years will be:
- maintenance of the growing databases
- reconversion (including OCR)
- import of records (including technical, legal and financial aspects)
- export of records
- application of uniform standards
- links with other databases (OSI ?)
- optical disk storage

One of the basic preoccupations of most libraries remains the reconversion of the card catalogues; a minor problem in smaller libraries but, without special projects and technology virtually beyond the scope of the libraries totalling over 1 million titles. Ways to improve the use of European or worldwide available records have to be found. Administrations, utilities and suppliers of library systems may have a role to play in providing database access for newly automated libraries so that the reconversion activities can be speeded up. Technically there seems to be no problem: networks, utilities and commercial suppliers use either record by record transfer or file transfer or both for downloading records. Hence, the reason for non-use lies not so much in the technological field but in the librarians' way of thinking and probably also in the copyright issues and the pricing for downloading. Can the union catalogues be of any help? The VLACC union catalogue of the Flemish public library has shown an example for downloading of records into local systems via CD-ROM. This example

can be followed by other libraries provided that the downloading mechanism is easy and quick to use. But first the problem of merging of data from various databases with different formats and often adapted cataloguing rules has to be solved. That is also the challenge for the next edition of the CCB, the union catalogue of research libraries. By mid 1991 the Belgian research libraries will know the outcome of this rather ambitious program. Then come other problems of legal and financial nature before this database of an expected 2 to 2,5 million unique records may also be used for downloading purposes.

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1. The questionnaire did not explicitly ask for the number of records awaiting reconversion in 1986. Therefore the number of records awaiting reconversion in 1990 had to be used in order to compute the percentage of titles in the 1986 machine-readable databases. However, taking into account the reconversion activity since 1986, the actual percentage of titles in machine-readable form by 1986 in many cases might have been lower than the 21% shown in table 9.

2. H. Sels, p.108

3. H.D.L. Vervliet, J. Van Borm. *State of the art .... Belgium*, p. 19.

4. H.D.L. Vervliet, J. Van Borm. *State of the art .... Belgium*, p. 19.

4. Network access to machine-readable databases

Networks are increasingly gaining importance. Many of them have been installed in the past five years especially in the larger institutions and their libraries. A genuine Belgian research network, however, is still under development.

4.1. Belgian research network

At present the only generally available research networks in Belgium are the EARN-network and the UNIX EU net. EARN may not be used for interactive applications. Hence it is not very attractive for libraries. They put their hopes in the realization of the future 64 kbit/s Belgian research network that is presently under study by the English division of the SEMA group. The funding of it has been secured by the Ministry of Science Policy. Once realised in 1991-1992 it will be the Belgian counterweight of such other research networks as SURFNET in the Netherlands, JANET in UK and DFN in Germany. It then will be connected to the European IXI 64 kbit/s X.25 backbone between European research networks. The libraries are represented in the Planning Committee of the Belgian research network via the university representatives.

4.2. PTT

Libraries may use the general dial up facilities provided by the Belgian PTT (RTT) at 1.200 tot 2.400 BAUD or the Belgian X.25 network, called DCS with speeds on standard lines up to 9.600 BAUD. However 48, 56 and 64 kbit/s links can also be hired. The networks e.g. LIBIS-Net and VUBIS-Antwerpen mostly rely on leased lines with speeds varying from 2.400 to 64 Kbits (BORM, 1991: 4).

4.3. Access to the larger machine-readable catalogue files

The database of the Royal Library is only accessible via leased lines. LIBIS-Net in Leuven can be reached via dial-up. Before being able to do so one signs a contract and then gets a password. External users pay to the LIBIS-Net 2,33 BEF per enter with a minimum of 10.000 BEF per year. The second biggest network in Belgium, VUBIS-Antwerpen, can be reached either via X.25 or dial-up. Contract and password are mandatory. The price is 5 BEF per connect minute to be paid by the end of the year. The other university libraries with a substantial machine-readable database cannot yet easily be reached online. The database of the VLACC union catalogue of Flemish public libraries can in principle only be reached online by the main public libraries in Flanders. Rather few special libraries can be accessed online e.g. Janssen Pharmaceutica (use restricted to certain partners).

BELINDIS, the Belgian host organization, offers online the following library databases: QLIB (Quetelet Library of the Ministry of Economic Affairs), AFLI (African Library), FALI (Foreign Affairs Library), the CCB and the ANTILOPE union catalogues and the SGBD-database produced by the Banque Société Générale/Generale Bankmaatschappij. A contract should be signed and a password is given to every user. The price for the connection to the CCB is 3.000 BEF per connect hour; for Antilope this is 1.500 BEF per connect hour.

4.4. Integration of library systems into local area networks

During the past 2 to 3 years library systems have been integrated into the growing number of LANs. This is particularly true for university libraries. Nearly all universities have achieved this or are about to do so. In the University of Antwerpen RUCA and UIA have realised this integration in the course of 1989. UFSIA is planning it for 1991-1992. VUB, LUC and KUL have reached this integration. The University of Gent introduced the first LAN in 1987 in the Central Library and continues this effort in the other faculty libraries (BIBNET, 1991-1993). As soon as a library LAN is installed it is linked with other existing library LANs using the University X.25 WAN (GROESSENS, DESOMER). The university libraries in French-speaking Belgium, with the exception of Liège, some of the UCL-libraries, UEMs at Mons and Namur have installed links with the LANs in their university. Others are planning this connection in the coming year(s). It must be said that public libraries and most of the other research libraries are not (yet) linked up to LANs. Many of them expect, however, to install or to gain access soon to the LAN of their organization. The public libraries of French-speaking Belgium would like to organize a network in such a way that the local libraries of a given region are linked into the main library "bibliothèque centrale". All main libraries should then be interlinked via a WAN. This project, however, has not yet been agreed upon nor is there a budget for so far. Surprisingly, only 4 of the surveyed special libraries are linked into the LAN of their organization.

4.5. Interconnection of library networks and systems

Links exist between most of the DOBIS-LIBIS installations in Belgium or are going to be set up very soon. The LIBIS-Net of Leuven is interlinked with the installations at COI and HIK and will soon have a link with the new DOBIS-LIBIS system in place at the ULB in Brussels. A link between the two main VUBIS installations in the university libraries of Antwerpen and Brussels is foreseen. This link could be extended to VUBIS at the Technological University of Eindhoven (the Netherlands). Presently a link between the LIBIS-Net and VUBIS-Antwerpen is being tested. Readers at the University of Antwerpen would be using the DOBIS-LIBIS dialogues on the screen while readers at the University of Leuven would get the typical VUBIS-menus on theirs. Dial up and X.25 links with PICA are quite common in libraries in Flanders (PICA).

Many more libraries are thinking of interconnecting with more libraries than they used to do so far (permanent line, X.25 or dial up). The establishing of a Belgian research network could be extremely helpful in achieving this goal. Meanwhile dial up lines and X.25 connections will be the common carriers of information between networks and their external users. Some of the project proposals in the framework of the EC-action plan for libraries extend these ideas to international connections. This is the case with the DOBIS-LIBIS OSI project and the Euregio project (Aachen, Maastricht, Diepenbeek, Liège). The Faculty of Agronomy of Gembloux, the Belgian Focal Point for AGLINET, is already internationally linked up for active collaboration with other agricultural libraries in order to produce AGLINET.

5. Integrated library systems

This chapter on integrated library systems is divided in three parts: an overview of the installations in the various types of libraries, an assessment of the offer from the suppliers and utilities and an analysis of the data, trends and changes.

5.1. Overview of the integrated library systems installed in libraries

Compared to the situation in 1986 there are numerous changes: the number of online integrated library systems installed in all types of libraries has markedly increased. So has the number of modules. Batch processing systems nearly totally disappeared. They only played an intermediate role mainly as replacements for the card catalogue. Networks have grown considerably in number of users and facilities offered. Locally made systems have often been replaced by commercial systems in many libraries albeit sometimes with (necessary) extra developments to suit local needs. The international DOBIS-LIBIS and VUBIS softwares, both of partial Belgian origin, have achieved a high level of presence in all types of libraries but especially in the university and public libraries.

5.1.1. Royal Library

The Royal Library has further developed the local NEWWAVE system. An OPAC has been added to the system with browsing and navigating facilities (relational database using DBMS: Sesam). Other added modules are: acquisitions and serials control. A permanent shortage of staff made it impossible to keep up with the planning of further developments (GOOSSENS, 1988). The running costs went up to 23.000.000 BEF per year (hire of the mainframe: 15 million, personnel: 6 million, other costs: 2 million BEF). The whole project is presently under discussion. It is not clear yet what decision will be taken: the continuation of the efforts engaged so far in NEWWAVE or the adoption of one of the commercially available integrated systems.

5.1.2. Networks

Two networks of research libraries have a big impact on library automation in Belgian research libraries: LIBIS-Net in Leuven running the DOBIS-LIBIS software and VUBIS-Antwerpen using the VUBIS software. Both use commercially available software but supplemented with in-house built software. Not all of the affiliated libraries use all modules (cataloguing, OPAC, acquisitions, serials control, circulation, interlending, e-mail, report generator, management information system, extended print facilitites, community information, downloading facilities).

Table 19. Penetration of LIBIS-Net and VUBIS-Antwerpen

	University libraries	Other libraries	Number of locations	Number of dedicated terminals
LIBIS-Net	5	6	100	250
VUBIS-Antwerpen	4	2	20	170

5.1.3. University libraries

All 19 university libraries surveyed had by the end of 1990 an integrated library system. Some of them had already migrated from an earlier automation system to a more advanced integrated library system.

Table 20. Migration by university libraries to a more advanced integrated library system

	From	To	Year of change
Antwerpen	local system	VUBIS	1986
Brussels (ULB)	ADLIB	DOBIS-LIBIS	1990
Brussels (VUB)	VUBIS I	VUBIS II	1983
Liège	local system STIMULI STAIRS	LIBER	1989-1990
Louvain	local systems	DOBIS-LIBIS	1989-1991

Two software systems (DOBIS-LIBIS: 8 libraries, and VUBIS: 7 libraries) are widely used by Belgian university libraries. Liège opted in 1989 for the French LIBER software and started the implementation early 1990 with the conversion of the database (DEWEZ). The agricultural library of Gembloux built up a smaller installation using the TEXTO-package on PC. Two university libraries use in-house built software. One of them, UCL-S, will soon migrate to the LIBIS-Net.

All university libraries have automated their catalogue. Some still miss an OPAC (Gembloux, UCL-M, UCL-S). On the list of other priorities are in descending order: circulation, electronic mail, acquisitions and serial registration.

5.1.4. Non university higher education libraries

In 1986 less than 11% of the libraries in the Flemish non-university higher education had been automated. By the end of 1989 this figure was as high as 38% (SELS). The libraries in the non-university higher education mostly rely on dBASE- like softwares for their automation. The library of the HIK in Geel is one of the notable exceptions. In collaboration with the Flemish Ministry of Education it has implemented the DOBIS-LIBIS software on the mainframe of the HIK, a conglomerate of non-university higher education colleges in Geel. In early 1991 an important business school of Antwerpen "Handelshogeschool" joined the VUBIS-Antwerpen network. Eight of this type of libraries are member of the AIHM-utility of the province of Hainaut.

5.1.5. Public libraries

Public libraries in Belgium are not getting a special government grant for the automation of their library activities. Nevertheless according to a survey by "De Hoge Raad voor Openbare Bibliotheken", published by the end of 1990, 19,4 % of the public libraries in Flanders have already automated at least some library functions. This 19,4% is not equally spread over the Flemish provinces. Brussels and East-Flanders are above average; the provinces of Limburg and West-

Flanders are below average. 71% (10 out of 14) of the libraries in the municipalities of over 50.000 inhabitants are automated against only 15% (30 out of 200) in the smaller municipalities. 82 of the 175 not yet automated libraries expect to start automation before the end of 1993. If these prospects become reality, 57% of all public libraries in Flanders will be automated by 1993 (HOGE RAAD). Taking into account that 78% of all public libraries in Flanders serve small municipalities with a population of less than 20.000, this figure of 57% would mean a very high penetration of automation in public libraries. This is particularly true because of the fact that the cost for library automation has to be borne by the local authorities, where library needs might come in competition with the automation needs of the local administration.

Table 21. Automation in Flemish public libraries

	Number of autom. libraries	Number of libraries	% automated
Province of Antwerp	10	57	18 %
Province of Brabant	7	36	19 %
Brussels	2	5	40 %
Province of Limburg	5	36	14 %
Province of East-Flanders	10	43	23 %
Province of West-Flanders	6	37	16 %
Special public libraries	2	3	67 %
TOTAL	42	217	19,4 %

The 42 installations in Flanders are spread over 15 different systems.

- CEVI (changing to VUBIS software) 9
- ODIS (commerical supplier of VUBIS) 7
- GEMIC 5
- CIPAL 4
- IN2 (supplier of LIBER) 3
- WANG 2
- BIDOC 2
- dBASE III 2
- DATAPOINT 2
- others (1 installation) 6

However, public libraries in Flanders seem to rely more and more on a rather small number of integrated library systems, offered by utilities and commercial suppliers. DOBIS-LIBIS and VUBIS take the lead. DOBIS-LIBIS is offered via CIPAL, a cooperative utility for local authorities in the Provinces of Antwerpen and Limburg; whereas CEVI, a similar cooperative utility for two other provinces, is offering VUBIS. Moreover ODIS, a private company selling VUBIS in the Netherlands, Belgium, France and Luxembourg, made some important stand alone installations in a wide range of public libraries in Flanders.

Detailed information on the penetration of automation in smaller public libraries in French-speaking Belgium was not readily available. According to a recent preliminary report on some aspects of library automation in French-speaking Belgium only 9,4% of the public libraries in that part of Belgium seem to be automated (CLOTUCHE, 1991). French-speaking public libraries tend to use various software systems. In the province of Hainaut the provincial utility AIHM has provided a great impetus for library automation. Six public libraries have automated using the services of this utility on an IBM-mainframe totalling 550.000 records. On the other side of the country one finds Liège, where the Bibliothèque Chiroux-Croisiers has been pioneering library automation for many years (JASPERS / DELANNAY). 14 cultural institutions use a union database of 490.000 records; among them the "Bibliothèque Chiroux-Croisiers", the public library of Liège, governed jointly by the city and the province of Liège. The same software (SIGAL) is used since December 1990 by the "Bibliothèque centrale du Luxembourg" in Marche-en-Famenne, but this time it has been installed by the commercial supplier SATI. VUBIS runs in the public library of Jette (Brussels), TOBIAS in Blaton-Bernissart, Profile/Byblos in Genappe. Another important center of automation activity is Nivelles with an ADLIB system run on a PRIME 2850 computer totalling 75.000 records. In-house-made softwares on mini- or microcomputers run at La Hesbaye-Waremme with 72.000 records in Mouscron with 100.000 records in Andenne and in the "Centre multimedia" in Liège (PARENT).

Table 22. Automation in public libraries in French-speaking Belgium

	Software	Hardware	Number of records
Mainframes			
Hainaut (AIHM)	local + STAIRS	IBM 4381	550.000
Liège (Chiroux-Croisiers)	SIGAL	Bull DPS 8011/82 T	490.000
Mini computer			
Blaton-Bernissart	TOBIAS	Datapoint 8.600	15.000
Marche-en-Famenne	SIGAL/SATI	VAX-server 3.100	10.000
Nivelles	ADLIB	Prime 2850	75.000
Hesbaye-Waremme	local	IBM 38	72.000
Micro computers			
Andenne	local	PC	-
Jette	VUBIS	IBM	30.000
Mouscron	local	IBM	100.000
Liège: Centre multimedia	local	IBM	75.000
Genappe	PROFILE/BYBLOS	TANDY	22.000

Some of the installations in public libraries rely on locally developed software using dBASE III. However, more suppliers of commercially available software are entering into this segment of the market. This could in the coming years lead to a greater diversity of library automation systems in the public libraries.

Cataloguing, OPAC and circulation are the three most commonly used modules in the public libraries.

5.1.6. Special libraries

The group of surveyed special libraries is so hybrid in size and type of automation that is difficult to give a general assessment of the state of the art of library automation in these libraries. Some larger libraries, over half a million volumes, are still awaiting automation. But these are the exception; most of the libraries have started automation. Some are members of the two library networks:

- members of LIBIS-net:
  - Belgian Parliament
  - Flemish Council
  - ABB
  - IBM
  - KADOC
- members of VUBIS-Antwerpen:
  - City Library of Antwerpen

Others have opted for the installation of commercially available software on the local computer. So the BRT (Belgian Radio and Television) has installed the BASIS/Battelle software. The National Bank of Belgium uses the ADLIB-software but is about to replace hard- and software. Other libraries as BBL, BIDKA and SOLVAY use BRS. DOBIS-LIBIS is used by the Crédit communal / Gemeentekrediet. Smaller libraries use software such as: Bib/Search and Data Trek.

Mainframes are often shared with other departments of the organization. Increasingly mini's and powerful micro's are used, sometimes interlinked with the LAN of the local organization. The number of workstations varies from 1 to 25. The automated functions in decreasing order are: cataloguing, OPAC, e-mail, acquisitions, serials registration, circulation and interlending.

5.2. Commercial suppliers and utilities

This chapter of the report deals with the commercial suppliers and the utilities. However, some facts and figures regarding the utilities have been treated in other parts of this report and will not be repeated here.

The 1986 LIB-2/7-report stated that most automation systems in Belgian libraries were locally made[1]. Today commercial suppliers and utilities together with the two library networks LIBIS-Net and VUBIS-Antwerpen play an important and ever increasing role in library automation. Two library softwares partly developed in Belgium earned international recognition (DOBIS-LIBIS and VUBIS). Moreover the University of Leuven houses the international DOBIS-LIBIS secretariat.

5.2.1. Commercial suppliers

Great care has been taken in order to locate Belgian companies active in the field of library automation. This was a rather easy task for commercial suppliers active in university libraries; it was less easy for those working in smaller public libraries and it proved to be a very difficult one for the ones in the special libraries and documentation centers. Some companies and softwares might therefore have been overlooked.

Table 23. Profiles of Belgian companies active in the field of library automation in Belgium

Name company	Profile	Entrance on the Belgian libr. market	Name software	Orientation	Number of install. in Belgium	Small/ bigger systems installed
ATBiB	Belg.comp. Libr.autom.	1990	ATBiB	school/ special libr.	7	small/ medium
CeFIS	Univ.inst.	1990	GIBUS	school/ spec. libr.	9	small
DATAPOINT	Europ.comp. Networks	1986	TOBIAS	public libr.	3	medium
DDE	Danish comp.	1991	SUPERMAX	—	0	—
FORREZ	Belg.comp. Libr.autom.	1989	BIDOC	school publ. & spec. libr.	9	small
GEMIC	Belg.comp. Autom.public authorities	1981	BIBBOSS	mainly publ. libr.	7	small/ medium
HAS	Benelux comp. Sales DEC, SUN	1988	FILEMASTER	archives	0	—
IBM	Intern.comp. Automation	1978	DOBIS-LIBIS	univ./publ./ special lib.	11	big
IN2	Part of Siemens Automation	1989	LIBER	univ/publ. libr.	9	medium/ big
DE LANNOY	Belg.comp. Bookseller	1990	CARDBOX	school/ spec. libr.	>50	small
ODIS	Benelux comp. Libr. & admin. aut.	1987	VUBIS	univ./publ./ special lib.	40	small/med. big
SATI	Belg.comp. Turnkey solutions	1988	SIGAL-SATI	publ./spec. libraries	5	small/med. big
TITE-LIVE	Belg. comp. Publishing industry	1990	BIBULUS DEBORA-DOC	publ./spec. libraries	4	small medium
WANG	Intern.comp. Automation	1980	WANGLIB	public.libr.	2	medium

Commercial suppliers have become quite numerous in Belgium. They are either Belgian companies or international companies having branches in Belgium (14 companies) or companies serving the Belgian market from abroad, mainly from the Netherlands (6 companies). Surprising is the fact that there are no GEAC installations to be found in Belgian libraries as this is frequently the case in the neighbouring countries as France, the Netherlands and the UK. The well known Bureau Marcel Van Dijck in Brussels is mainly an advice-bureau for starting off or migrating to new systems especially in the documentation world. As such, its influence is not negligible. However, it is not a direct seller of integrated library automation systems. Tables 23 and 24 give an overview of the companies surveyed with a short profile description of their activities in Belgium. Addresses and more information can be found in appendix 1.

Only one company entered this market segment before 1980, three more between 1980 and 1985. All the others (12 or 70%) have started their (library) activities since 1986. 1986 seems to be a turning point as no less than 3 systems were marketed beginning that year.

Table 24. Profiles of Dutch companies active in the field of library automation in Belgium

Name company	Profile	Entrance on the Belgian libr.market	Name software	Orientation	Number of install. in Belgium	Small/ bigger systems installed
ADIA	Aut.libr. & arch.	1986	OCELOT	spec.libr.	1	medium
Bureau IMC	Autom. Consultants	1988	TINLIB	spec.libr.	1	small
CLSI	Autom.	—	LIBS 100	—	0	—
DATABASIX	Autom.	1980	ADLIB	publ./spec. libr.	3	medium
ID-Systems	Protection	1988	ID	—	0	—
SQUARE	Various activ.	1986	BIBIS	spec.libr.	3	small/ medium

The 20 commercial suppliers surveyed report no less than 162 installations in Belgian libraries, an average of 8 installations per supplier (minimum 0, maximum 50). Taking into account the number and size of installations ODIS, commercialising the VUBIS-software by far takes the lead: 40 installations in university, public and special libraries in Belgium; 37 installations in the Netherlands. IBM comes second with 11 DOBIS-LIBIS installations but all in larger libraries of which the LIBIS-Net.

According to their sales, suppliers can be divided into three categories: those installing systems in smaller libraries (less than 50.000 vols.), those installing systems in medium sized libraries (50.000 - 500.000 vols.) and the ones installing systems in the bigger libraries (>500.000 vols.) Some cannot yet be classified as they are only now entering the Belgian library market. Only 4 companies so far

have been able to introduce systems in the bigger Belgian libraries of over half a million volumes: IBM, IN2, ODIS and SATI. Some others, however, have proven abroad that they can easily install systems in bigger environments (e.g. CLSI).

Short product descriptions are listed in appendix 1. This information has been provided by the suppliers. Prices are given without VAT. Companies that do not really offer integrated library automation systems are eliminated. This is the case with HAS, offering a system for archival storage of documents onto optical disks and ID-Systems linking circulation and library security. To avoid lengthy enumerations in the product descriptions use has been made of references to a standard list of items which was used in the questionnaire and is listed here.

. Modules operational in an integrated system.

cataloguing	e-mail
opac	report generation
acquisition	management information
online ordering	community information
serials recording	bulletin boards
online claiming	gateways to other systems
circulation	videotex module
interlibrary lending	

. Types of subject description

UDC	BLISS
Dewey	LCSH
LC	MeSH
SISO	

. Entries and facilities in the OPAC

. Entries

author	language of the work
corporate author	subject
title	keyword
series title	date of publication
word from title	place of publication
shelfnumber	

. Facilities

truncation
boolean searching

5.2.2. Cooperative utilities: an overview

The cooperative, mostly provincial utilities are described sub 3.2.1 of this report. They also have taken up an important share of the market for library automation. They tend to make comprehensive deals with provincial and local authorities for a variety of automation tasks, including the local libraries, school libraries and (smaller) research libraries who are governed and/or funded by the local or provincial authority. Short product descriptions are listed in appendix 2

in the same format as for the commercial suppliers. From the data supplied it is obvious that also here DOBIS-LIBIS and VUBIS are leading. The DOBIS-LIBIS software is used by CIPAL and COI/VLABRIC. Both COI/VLABRIC and CIPAL have introduced in the past two years local systems: DOBILUS and CIBIS. DOBILUS is intelligently linked up with the DOBIS/LIBIS system on the central mainframe. CEVI has opted in 1990 for VUBIS. CTI in Liège in collaboration with the local public library set up the SIGAL software that will be further developed by the commercial supplier SATI. AIHM is the only utility going on with locally produced software.

All together a rather impressive picture of 75 libraries automated via the cooperative utilities. But, of course the importance of the utilities cannot be judged solely from the number of systems installed.

Table 25. Profiles of cooperative utilities active in library automation in Belgium

Name	Profile	Entrance on Belgian libr. market	Name of software	Orientation	Number of install. in Belgium	Small bigger systems installed
AIHM	utility for local authorities	1981	BIBLIO	public libr. school libr. spec. libr.	21	small medium
CEVI	utility for local authorities	1982	VUBIS	public libr.	22	small medium big
CIPAL	utility for local authorities	1985	DOBIS-LIBIS	public libr. school libr. spec. libr.	11	small medium big
		1990	CIBIS	public libr. spec. libr.	4	small medium
COI	utility for Flemish administr.	1982	DOBIS-LIBIS	VLACC spec. libr. public libr.	2	medium big
CTI	utility for city of Liège	1981	SIGAL	public libr.	14	small medium big
VLABRIC	utility for local authorities	1988	DOBILUS	public libr.	1	medium big

5.3. Analysis of the data, trends and changes

Although not all libraries and documentation centers could be surveyed some general conclusions can be drawn from the data provided in chapter 5. This conclusion is based on solid data for the following types of libraries: Royal Library, university libraries and larger public libraries. The data for the other types of libraries are not complete and should be used with some caution[2].

5.3.1. Numbers of integrated library systems in Belgium

The exact number of installed automation systems for libraries is not known. Information on some types of libraries was not readily available. But this report shows undoubtedly that the number of integrated library systems in Belgium has grown considerably in the past 5 years (1986-1990). The original LIB-2/7 report (1986) located 1 automated national library and 12 automated university libraries, but could only find 6 public libraries and 6 special libraries that had started automation. In total: 25 automated libraries[3]. The situation 5 years later by the turn of the decade has changed dramatically. A minimum of 315 libraries have started automating library activities. A figure more than 12 times higher than in 1986. However, these figures have to be treated with some caution. Much more information on libraries and documentation centers is available these days compared to 1986. So it is likely that more installations already existed in 1986 than the ones listed in the previous LIB-2/7 study. Anno 1990 the biggest number of installations is to be found in the (often smaller) special libraries (157 installations or 50% of all installations), followed by the public libraries (78 installations or 25%) and the libraries in the non-university higher education (60 installations or 19%). University libraries close the ranks with 19 installations (6%). The above figures, of course, do not tell anything about the number of terminals installed, the size of the database and the number of transactions.

Table 26. Number of integrated library systems in Belgium

	Royal Library	Univ. libr.	Non-Univ. higer educ.	Public libr.	Special libr.	TOTAL
Networks	0	11	1	0	7	19
Utilities	0	0	10	33	32	75
Comm. suppl.	0	6	10	40	60	116
Local systems	1	2	39	5	58	105
TOTAL	1(0,5%)	19(6%)	60(19%)	78(25%)	157(50%)	315(100%)

It is believed - and there is indeed some evidence for - that the annual rate of take-up of integrated library systems was still rather slow in 1986 and 1987, but jumped up from 1988 onwards. Indeed, the first "Informaticamarkt" in Antwerpen in September 1987, a two days congress organised by the Flemish Library Association (VVBAD), was for many librarians in the country an eye-opener to IT in general and library automation in particular. It was set up as a real marketplace for suppliers and librarians and followed shortly after the launch of 3 library automation systems in 1986[4].

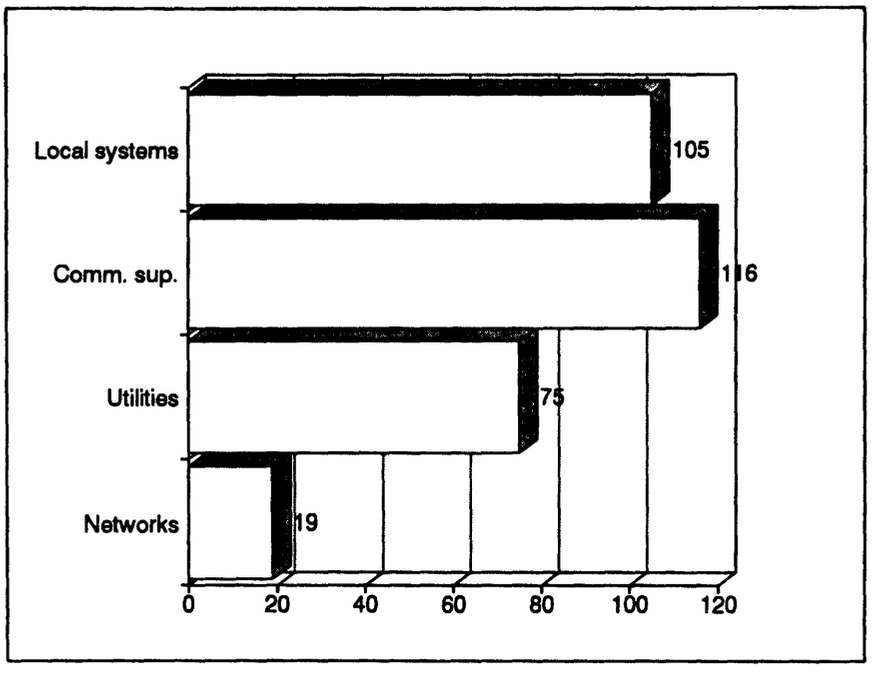

Fig. 3. Number of integrated library systems by origin/supplier

This report did not attempt to locate all library automating systems in the country. 315 were identified[5]. So an estimated 400 library automation systems (large and small) will be in place in Belgian libraries anno 1990.

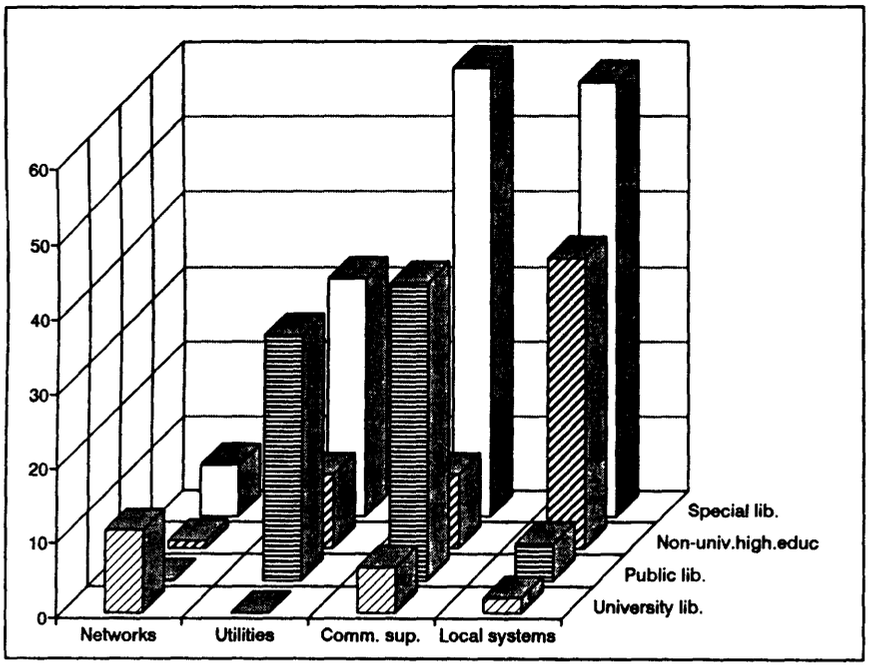

Fig. 4. Number of integrated library systems by type of library and supplier

Who is automating what type of library? The two networks seem to concentrate mainly on university libraries (58% of their installations) and special libraries (37%). On the other hand public libraries (44%) are the main target of the utilities together with the group of special libraries (43%). 52% of the commercial systems are to be found in the category of special libraries. Most of these installations, however, are supposed to be small. Another 34% of the commercial systems is to be found in the public libraries. As a general rule these installations are more powerful than the ones in the special libraries.

Locally made systems, often on the basis of dBASE III, dBASE IV, Foxbase, Symphony or similar softwares are to be found in the special libraries (55% of all local systems) and the libraries in the non-university higher education (37% of all local systems).

Table 27. Who is automating what type of library?

	Royal Libr.	Univ.libr.	Non-univ. higher ed.	Public libr.	Special libr.	TOTAL
Networks	0 %	58%	5%	0%	37%	100%
Utilities	0%	0%	13%	44%	43%	100%
Comm.suppl.	0%	5%	9%	34%	52%	100%
Local syst.	1%	2%	37%	5%	55%	100%

5.3.2. Applications implemented

Commercial suppliers, utilities and the two bigger library networks offer an almost complete set of applications for standard library activities such as acquisitions, cataloguing, OPAC, circulation, serials control and interlending. Missing in the network of VUBIS-Antwerpen so far are acquisitions and serials control. These modules, however, exist within the VUBIS-software and are going to be implemented in 1991.

Table 28. Availability of standard library applications (in %)

		Cat. %	OPAC %	Acq. %	Ser. %	Circul. %	ILL %
Comm. suppl.	(n = 17)	100	94	100	100	100	76
Utilities[1]	(n = 5)	100	100	100	60	100	80
Networks	(n = 2)	100	100	50	50	100	100
TOTAL	(n = 24)	100	96	96	88	100	79

[1] The utilities COI and VLABRIC have been combined

However, availability does not equal implementation in the various libraries in the survey. Cataloguing is implemented in all automated libraries (only IBSR reporting apparently about a dial up link with ESA is missing). The OPAC is available in 66% of the automated libraries next comes circulation (61% of all

libraries surveyed). The figures for acquisition (52%), interlending (39%) and serials control (34%) are far lower. In a few cases the information provided by the libraries reflects the situation that will be in place when the projected planning will be completed, probably by the end of 1991.

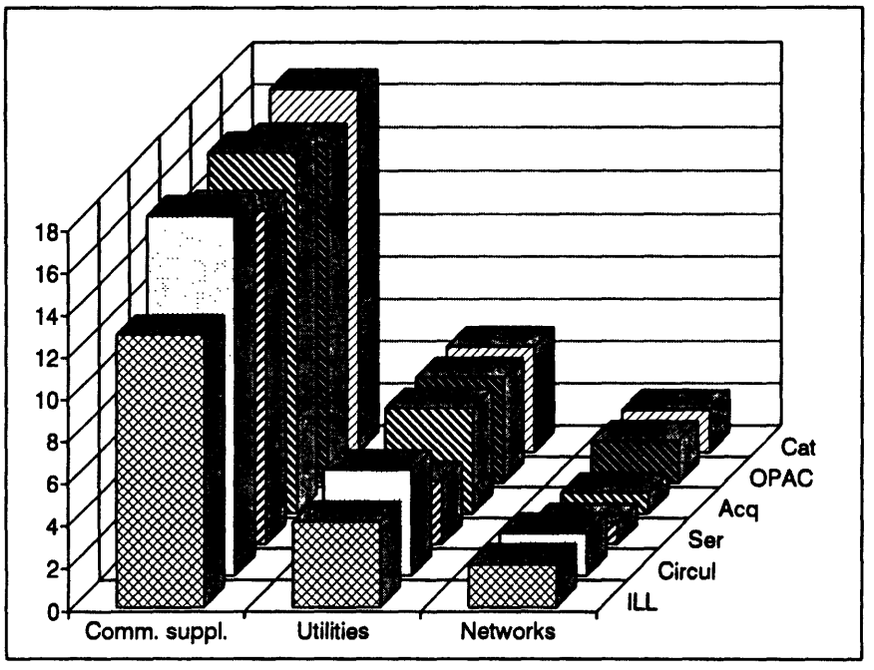

Fig. 5. Number of available standard library applications

Table 29. Implementation of standard library modules

		Cat. %	OPAC %	Acq %	Ser. %	Circul. %	ILL %
Royal libr.	(n = 1)	100	100	100	100	0	0
University libr.	(n = 20)[1]	100	85	50	45	75	65
Public libr.	(n = 16)	100	69	63	13	94	44
Special libr.	(n = 25)	96	48	44	36	32	16
TOTAL	(n = 62)	98	66	52	34	61	39

[1] One library in the non-university higher education included. UCL-C and UCL-D counted as separate libraries, so also KU-L and KULCK

The order in which functions are automated in libraries in the non-university higher education differs a little bit from that of the other libraries[6]. Reader oriented functions as the OPAC and circulation get less attention in the libraries of the non-university higher education. 23% of all installations have one function automated, another 29% two functions. 17% goes for three functions and a surprising 31% for four and more functions. (SELS)

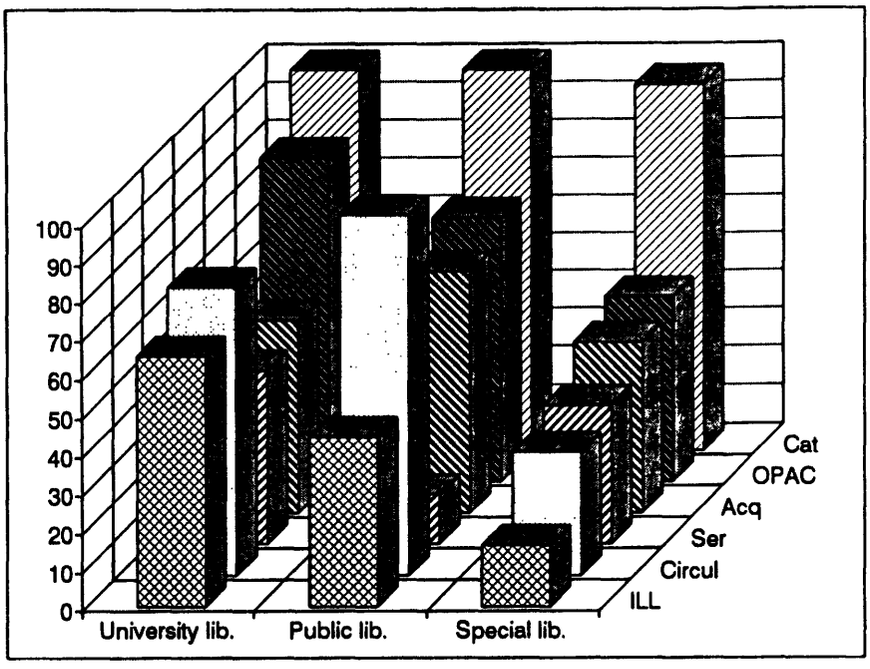

Fig. 6. Implementation of standard library modules by type of library (in %)

Table 30. Library applications in the Flemish non-university higher education (n = 48)

Cat. %	OPAC %	Acq. %	Ser. %	Circul. %	Others %
65	46	31	25	27	25

Other than standard functions are gradually added to some of the more important systems. Already well present in the softwares offered by suppliers, utilities and networks are: management information and report generation facilities (in 79% of all library softwares), electronic mail (in 67% of all systems) and gateways to other systems (in 63% of all softwares). New and less often offered functions are: community information and bulletin boards available in less than half of the softwares (46%) and a videotex access (only present in 25% of the softwares).

Table 31. Availability of new modules (in %)

		Manag. Info %	Report %	E-mail %	Gateways %	Comm. Info %	Bull. boards %	Videotex %
Comm. suppl.	(n = 17)	82	94	65	59	47	53	29
Utilities[1]	(n = 5)	60	20	60	60	20	0	20
Networks	(n = 2)	100	100	100	100	100	100	0
TOTAL	(n = 24)	79	79	67	63	46	46	25

[1] The utilities COI and VLABRIC have been combined

But here also and more than for the standard library applications there seems to be a rather big discrepancy between availability and actual implementation. Electronic mail available in 67% of the systems is only used by 52% of the surveyed libraries. Facilities for report writing and management information processing are used in respectively 40 and 35% of the installed library softwares in the survey. The figures for the other facilities as community information, bulletin boards, gateways and videotex outlets have to be considered with some care. The libraries' questionnaire did not explicitly state them. So the libraries had to add them on their own initiative and in some cases may have forgotten to mention them. Clearly, these modules are new and will only gradually be taken up by the various types of libraries.

Table 32. Implementation of new modules (in %)

		Manag. info %	Report %	E. mail %	Gateways %	Comm. info %	Bull boards %	Videotex %
Royal libr.	(n = 1)	0	100	0	0	0	0	0
Univ. library	(n = 20)[1]	60	70	85	60	20	45	15
Public libr.	(n = 16)	31	25	19	19	0	0	0
Special libr.	(n = 25)	20	24	48	28	0	32	16
TOTAL	(n = 62)	35	40	52	35	6	27	11

[1] One library in the non-university higher education included. UCL-C and UCL-D counted as separate libraries, so also KU-L and KULCK.

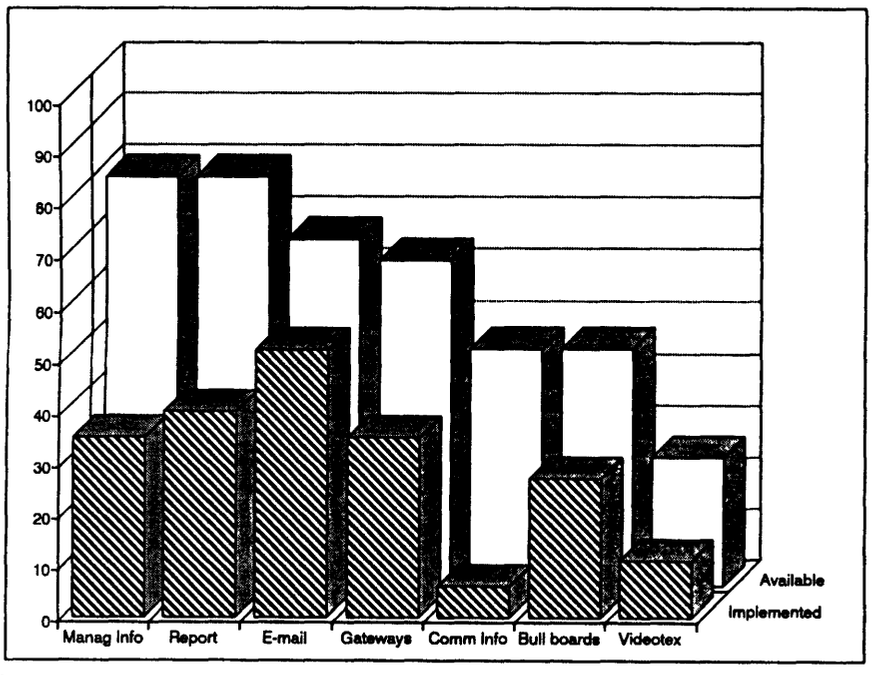

Fig. 7. Available versus implemented modules (in %)

It is believed that the sample of libraries surveyed gives a good coverage of what is really happening in Belgian libraries. This does however not exclude some realizations in libraries that did not return the questionnaire or in libraries that did not receive one.

Some other extra facilities are mentioned: expert search (LIBIS-Net), graphics for report writing and management information system (VUBIS-Antwerpen), accounting facilities (in many places), staff planning (Public library Nivelles, VUBIS-Antwerpen).

5.3.3. Size of configuration installed

Information on the size of the machine-readable databases has been supplied in chapter 3.1.1. An estimated 9 million machine-readable records are available. However, there is a serious overlap between the various databases (as high as 50% in public libraries). The number of installations (an estimated 400) has been reported sub. 5.3.1. Figures of the actual size of the various installations were not always given in the questionnaire and are sometimes difficult to interpret. So there is a change in terminology between mainframe, mini and micro. However, an attempt has been made to summarize the findings of the survey. Not all libraries reported the number of terminals and PC's and the type of central computer.

Table 33. Configurations installed according to survey

	Central computer				Number of terminals and PC's installed (end user workstations)			
	Main-frame	Mini	Micro	Network Utility	TOTAL	Average	Range min	Range max
Royal Library	1				70			
Networks	1	1			410	205	170	240
Utilities	4							
Libraries								
Univ. libr.[1]	3	4	2	11	463	30	1	100
Publ. libr.	0	10	1	5	211	16	1	29
Spec. libr.	7	7	6	3	156	10	1	25
TOTAL	16	22	9	19	900[2]	20[2]	1[2]	100[2]

[1] One library in the non-univ. higher education included
[2] Not counted: terminals reported by the 2 networks because of duplication

Mainframes exclusively for library automation are installed in the Royal library, the LIBIS-Net and ULB. All other libraries reporting the use of mainframes are sharing this computer with other applications (13 sites). Mini's (a.o. SEQUENT and VAX) and even the high-end micro's (e.g. Compaq SystemPro) will be increasingly used for library applications (22 sites), though powerful micro's, capable of handling 10-15 terminals, will also be installed in medium sized libraries. Special libraries most often rely on standard PC's with 8086, 80286 and 80386 processors (STANESCU).

The surveyed libraries report the installation of 900 dedicated end user workstations (terminals and PC's). This is definitely not the total figure of all terminals installed. Not all surveyed libraries mentioned the number of terminals installed and only 71 libraries were included in the survey out of the estimated number of 400 automated libraries. An extrapolation is difficult to make. However, the most important libraries are included in the survey. It seems therefore not too audacious to assume a figure of ca. 1.500 end user workstations installed in Belgian libraries. The average size of the installation in the surveyed libraries is 20 dedicated terminals per library, with a range of minimum 1 to maximum 100 (Catholic University of Leuven). The average size of the installations in Belgian libraries may be lower as the non-surveyed libraries are smaller than the ones in the survey. The estimation of 1.500 terminals in Belgian libraries is based on this assumption.

The above figures only indicate dedicated end user workstations. As stated in chapter four many library automation systems are already linked up to the LANs of the institutions served by these libraries. The number of LAN-users is going to increase in the next 2 to 3 years. Moreover some of the bigger installations allow for dial up and X.25 access over the standard PTT-lines.

5.3.4. Costs

The first LIB-2 report stated for Belgium that it proved to be difficult to collect facts and figures on costing[7]. Only the figures of costing in a tender for the Antwerp network, later to become VUBIS-Antwerpen, were included. In 1991 it still is not easy to collect coherent and complete costing information, but the situation is improving. Costs and information thereabout seem no longer to be a taboo in the library world. Though many problems remain to be solved before being able to compare accurately and correctly the given costing figures. Indeed, purchase and maintenance costs cannot easily be compared as contracts vary considerably; to mention but one difference: library networks may ask their members to pay a share of the costs whenever new central equipment has to be installed or may spread the cost of new central equipment equally over some years. Anyhow, libraries depending upon commercial suppliers seem to have less difficulties in providing accurate figures than others, relying on the institutional computer center of which they are but a part.

Some information can be given about the installations in the various types of libraries. The figures for the VUBIS-Antwerpen network are quite comprehensive. From 1986 to 1990 32.800.000 BEF has been invested in hard- and software for the entire network (central computers, telecommunications system, 170 terminals and PC's, barcode readers, printers, laserprinters). ULB in Brussels is spending 27.200.000 BEF for the new DOBIS-LIBIS installation, including the conversion of the database, the installation of the central hard- and software, training of staff and maintenance for a period of five years (1990-1994) but excluding the 90 workstations. Of course smaller installations in universities cost less: between 1 and 6 million BEF.

Running costs in university libraries tend to vary considerably and also here a straight forward comparison is impossible without analysing the various elements

of the running costs. Smaller libraries, just starting automation, pay 500.000 to 1.000.000 BEF per year (FPMs, LUC, Gembloux). The medium sized Antwerp libraries pay ca. 1.600.000 BEF. The others pay more: 4.500.000 to 7.600.000 BEF for the Catholic University of Louvain. The Royal Library has the highest running costs: 23.000.000 BEF per year.

Table 34. Costs for automation in university libraries (in 000 BEF)

		Purchase costs	Yearly running costs	Size of data-base: records	Number of term./PC's
Royal Library		—	23.000	513.000	70
VUBIS-Antwerpen		32.800	6.924	600.000	170
Antwerpen	RUCA	6.632	1.573	60.000	30
	UFSIA	11.001	1.613	306.000	48
	UIA	9.200	1.593	164.000	44
Brussels	VUB	4.500	4.500	221.000	40
Diepenbeek	LUC	3.164	900	22.000	12
Gent	RUG	3.800	5.100	197.000	28
Leuven	KUL	—	6.400	1.100.000	100
Brussels	ULB	27.200	—	265.000	90
Gembloux		650	545	9.000	1
Louvain	UCL	6.000	7.600	—	15
Mons	FPMs	1.152	413	16.000	9
	UEMs	2.000	—	0	8
Namur	FUNDP	2.500	3.460	159.000	32

No costing figures were given for the LIBIS-Net nor for LIBER in Liège. Hence, a true comparison between the costs of the four main university installations cannot be made (LIBIS-Net, VUBIS-Antwerpen, ULB, ULG). Moreover ULB (DOBIS-LIBIS) is still in the starting period. Straightforward comparisons of the figures in table 34 may not be made as there are so many variables which are not known. Where available, some extra information on the size of the database and the number of end user workstations has been included in the table.

The public libraries having installed an integrated library system are smaller than the larger special libraries, but some of them are larger than the medium-sized or small university libraries. Purchase costs and maintenance costs vary according to the type of the system, the number of modules chosen and the number of workstations. The surveyed public libraries have spent 4 to 20.000.000 BEF for their automation. However, the same warning applies to the purchase and to the running costs in the university libraries: a straight comparison between prices is impossible as the composing elements of the prices may change from one library to another. Running costs also vary here considerably from 200.000 over 3.500.000 BEF in Leuven and Nivelles to 10 million BEF in Liège.

Table 35. Costs for automation in public libraries (in 000 BEF)

	Purchase costs	Running cost	Size of database records	Number of term. or PC's
Brugge	—	1.880	75.000	17
Kortrijk	20.000	1.000	20.000	11[1]
Leuven	7.627	3.790	180.000	15
Liège	—	10.000	327.000	27
Mechelen	—	1.000	29.000	18
Nivelles	—	3.631	75.000	29
St.-Niklaas	9.000	200	120.000	14
Turnhout	5.587	1.186	61.000	22
Willebroek	3.772	555	0	13

[1] Planned: 38

There is very little financial information available for the group of special libraries. Many of these libraries share the local mainframe so that actual costs may be hidden. The known purchase costs range from the costs of a PC, over 4.500.000 BEF for the BBL-bank installing SUN-workstations and BRS-software to 20.000.000 BEF in the BRT using the BASIS Battelle software on a VAX 8.200 machine.

Further investigation is required, probably over a longer period of time to find out about the real costs of the installations taking into account the costs for acquiring and migrating to new systems (writing-off time). The EC could help in developing a standard financial survey plan so that automation costs in the Member States could be followed closely and accurately.

5.3.5. Staff for library automation.

Not included in the previous LIB-2/7 report was the analysis of staff-time used for developing and indeed running the installed integrated library systems. In 1991 some information could be gathered but it is obvious that more staff time goes into library automation than the one declared by the respondents of the questionnaire. Moreover question 4.5 of the libraries' questionnaire explicitly asked for computing staff, whereas other staff may also work in the library automation (e.g. managers of networks, heads of departments and indeed also heads of libraries). However some information could be collected which is given in table 36.

Table 36. Staff time and costs for library automation

	Number of FTE Computing staff	Staff-costs (in 000 BEF) Running costs
Royal Library	3	6.000
Networks		
VUBIS-Antwerpen	2	3.265
LIBIS-Net	4	-
Universities		
VUB (Brussels)	2	3.000
RUG (Gent)	1	1.500
ULB (Brussels)	3	-
UCL-E (Louvain)	1	-
Public libraries		
Liège	1	1.773
Nivelles	1	-
Special libraries		
BRT	2	-
Nat. Bank	2	-

Libraries served by networks and utilities almost all seem to rely on the staff centrally provided by the networks and the utilities. There are however notable exceptions. The University of Gent, although member of the LIBIS-Net, has appointed 1 FTE computer manager to look actively after the LIBIS-Net set up for Gent and to put in place LANs in the Central Library and from 1991 onwards also in the various faculties. Another exception is the UCL-E library.

Staff in most of these institutions seems to be few (1 to 4). The LIBIS-Net, however, is willing to expand from 7,5 FTE equivalent staff (4 of them being computer staff) to 12,5 FTE in the next couple of years. Utilities have appointed 3 to 4 members of staff for their library systems. They, of course, can rely on the rest of the organization which can be quite large (e.g. CIPAL: over 100 members of staff in the headquarters in Geel). From the answers received it is not clear what part of the responsability is carried out by the utilities in the case of local computer installations and what is left over to the individual libraries.

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1. H.D.L. Vervliet, J. Van Borm. *State of the art ... Belgium*, p. 18.

2. Nearly full coverage has been achieved for:
   - Royal Library
   - University libraries
   - Non-university higher education libraries in Flanders (using the 1991 VOWB-report by H. Sels and the *Vlaamse bibliotheek- en documentatiegids*, published in 1990)
   - Public libraries
   - Other research libraries in Flanders (using the *Vlaamse bibliotheek- en documentatiegids*)

Not well covered in the survey are:
- libraries in the French-speaking non-university higher education
- libraries in (smaller) French-speaking special libraries
- smaller public libraries in French-speaking Belgium, possibly relying on small PC-oriented software.

3. Liège is regarded as one single university library.

4. A second edition of this Informaticamarkt - Forum de l'information took place in September, 1990. This time it was organized by the Flemish Library Association in collaboration with the Association belge de documentation. It united suppliers and librarians in a two day open style meeting with 40 exhibitors and 42 speakers.

5. The figures are combined ones: data from the survey, data from the VOWB-study on library automation in the Flemish non-university higher education libraries, data from the study by the "Hoge Raad" for public libraries in Flanders, data from the study by E. Clotuche on library automation in Frenchspeaking Belgium. The *Vlaamse bibliotheek- en documentatiegids* was screened to find out about automation in special libraries in Flanders. An effort has been made to eliminate duplicates. Indeed, in some cases there is an overlap between commercial suppliers, networks and utilities, suppliers selling their software to networks and utilities who in turn automate individual libraries. In this case the sale by the supplier has been ignored.

6. H. Sels, p.49

7. H.D.L. Vervliet, J. Van Borm. *State of the art ... Belgium*, p.20.

6. IT-based user services in Belgian libraries

6.1. 1986-1991

The original LIB2/7 report did not contain much information on the introduction of new information technology[1]. Difficulties and constraints encountered together with the forecasted benefits could be listed in 1986. Some of the expected problems proved to be real: high costs and staffing problems; other fears turned out to be less realistic: opposition from the personnel, too much technology in the library world, limitation of local autonomy. Especially the latter one, which is true, is counterweighted by the then expected benefits: better service for the readers, enhanced management and fostering of the long awaited library cooperation.

As already shown in the previous chapter of this report the situation in 1991 has changed substantially. Today the general feeling in the country is that a library, especially the medium- sized and the larger ones cannot survive nor serve the readers if it has not automated the most important library activities. There are, of course, exceptions to this general feeling but they are a very small minority. Many more libraries would like to use library automation and IT in general but cannot afford it because of lack of funding.

6.2. IT in Belgian libraries

As seen in the previous chapter standard library applications have grown considerably and are already well represented in all types of libraries. The same cannot be said for the newer facilities that only have become available in the past few years.

Table 37. IT based user services (survey)

		External databases on local system		Non-biblio-graphical data on local system		Gateways via local system		Videotex access via local system		Bulletin boards on local system	
Royal Library	(n = 1)	0	0%	0	0%	0	0%	0	0%	0	0%
Networks	(n = 2)	2	100%	2	100%	1	50%	1	50%	2	100%
Univ. libraries	(n = 20)[1]	13	65%	9	45%	12	60%	3	15%	9	45%
Public libraries	(n = 16)	1	6%	0	0%	3	19%	0	0%	0	0%
Special libraries											
Public	(n = 10)	3	30%	3	30%	2	20%	1	10%	2	20%
Private	(n = 15)	2	13%	4	27%	5	33%	3	20%	6	40%
TOTAL	(n = 62)[2]	19[2]	31%	16[2]	26%	22[2]	35%	7[2]	11%	17[2]	27%

[1] One library in the non-univ. higher education included
[2] Total without counting the networks

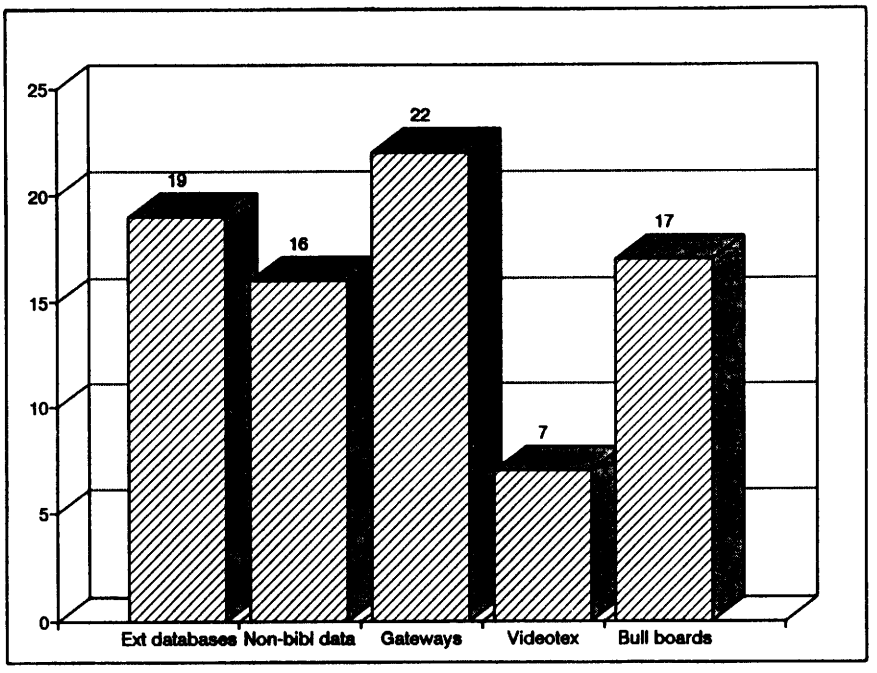

Fig. 8. Number of IT based user services

6.2.1. Electronic mail

Electronic mail is present in 67% of the available automation softwares. However it is only used by 52% of the automated libraries in the survey. Where it has been implemented it has quickly become one of the cornerstones of communication and management.

6.2.2. Management information and report writing

All systems have some kind of management information system, sometimes combined with report writing facilities. Less than half of the surveyed libraries use these facilities (report writing: 40%, management information: 35%). It is obvious that good management requires the availability and use of a management information system. Most of the present day systems still need some improvement. Graphical display is already available in some library systems (e.g. VUBIS-Antwerpen) and offers facilities that also can be found in spread sheets as LOTUS 123. More libraries will be using these facilities in the coming years.

6.2.3. Bulletin boards

Bulletin boards are present in 46% of the library automation systems installed by the surveyed libraries, but only 27% of all libraries in the survey report use of it.

6.2.4. Community information

Community information already used by some libraries in the USA, the United Kingdom and the Netherlands has not found a true place in the Belgian libraries

(SMET, 1989). The two research library networks offer some facilities which are used to convey information to the university readers (staff and students). But only small test sites have been set up for community information for the general public via the public libraries and this, mostly without any extra financial help (SMET, 1991). 46% of all available software offers some kind of community information system, but only 6% of the libraries have implemented this module. None of the public libraries in the survey are using it so far. Organizing, structuring and keying in the information asks indeed for quite some staff time which is not readily available in Belgian libraries.

6.2.5. Videotex

Although Videotex is present in some softwares supplied by commercial suppliers and utilities, this facility is not offered on the local library system nor by the two research networks or the utilities. Few libraries provide access to videotex via the library system (11% of all surveyed libraries). There are few indications that this is going to change soon. This will most probably happen first in French-speaking Belgium because of the relationship with France and the there omnipresent French Minitel system. One library in a Belgian multinational reports access to Minitel, Viditel, Prestel and BTX.

6.2.6. External databases mounted on local systems

University libraries quite commonly install externally produced databases on the local system or network (65% of all installations in the survey). The LIBIS-Net carries two Belgian union catalogues online (ANTILOPE and CCB), VUBIS-Antwerpen only offers ANTILOPE but is expected to mount the CCB database on the new computer infrastructure as soon as the newly merged CCB database becomes available. For the years to come libraries await a tremendous growth of external (often commercial) databases on the local systems (bibliographies, abstracts of articles and also full text). The latter is already the case in the "Centre informatique et bible" in the abbey of Maredsous (Denée) where the whole bible in various languages is available online and in the library of the Faculty of Agronomy in Gembloux with the full text database ACID RAIN.

By installing BIBNET the University of Gent has opted for a combination of remote links to the LIBIS-Net (catalogues) and to external databases (bibliographies, catalogues), and local links to servers in the faculty library LANs to which CD-ROM databases (bibliographies, catalogues) are coupled (GROESSENS, DESOMER). The whole installation of BIBNET has costed 3.800.000 BEF. The Law Library of the University of Leuven has installed a similar system. Public libraries have not yet really started loading external databases on the local system (only 6%). Special libraries are starting this service to their readers (20%).

6.2.7. Non- bibliographical files on the local system.

Only libraries in the universities (45%) and special libraries (28%) offer non bibliographic files on the local system. This can be anything from electronic mail over bulletin boards and community information to full text.

6.2.8. Use of online databases

The use of online databases seems to recede where CD-ROM databases are installed (SMET, 1989:1). Nevertheless online use of databases is still part of the service in many libraries: online searches as well as SDI (selective dissemination of information). 35% of all library systems have gateways to databases. In many other cases this service is offered via dedicated PC's. As a general rule this service is offered in a mediated way. The main hosts are BELINDIS, DATASTAR, DIALOG, ECHO, ESA, QUESTEL. But there are numerous others used by Belgian libraries. Generally spoken, this kind of service has not yet been introduced by the public libraries.

6.2.9. CD-ROM

Since a Europe-wide survey had just been completed before the launch of the LIB-2 update study no emphasis had to be put on the increasing use of CD-ROM in our libraries. Table 38 gives some indications about the penetration of CD-ROMs in the various types of Belgian libraries and the way CD-ROMs are used.

Table 38. Use of CD-ROM (survey)

		Bibliographic search				ILL	
		self-service		mediated			
Royal Library	(n = 1)	0	0%	1	100%	1	100%
Univ. libraries	(n = 20)[1]	11	55%	13	65%	16	80%
Public libraries	(n = 16)	1	6%	2	13%	1	6%
Special libraries							
Public	(n = 10)	0	0%	5	50%	2	20%
Private	(n = 15)	3	20%	3	20%	2	13%
TOTAL	(n = 62)	15	24%	24	39%	22	35%

[1] One library in the non-university education included

The Royal Library and all university libraries but one have CD-ROMs in their collections. The ideas about non-mediated use versus mediated use diverge. Some offer both: mediated use for beginners and non-mediated use for "experts". The use of CD-ROM has not yet been really introduced in the Belgian public libraries. The *'Vlaamse bibliotheek- en documentatiegids'*, published in 1990 lists only 9 public libraries out of a total of 264 offering CD-ROM facilities (3%). The survey, limited to the more important public libraries, gives a figure of 2 installations. However, some of them hope to be able to buy a CD-ROM player in the coming years (1991 - 1992). CD-ROMs are not widely spread in the libraries of the non university higher education. Only 3 libraries of this type with a CD-ROM installation (2%) could be located in the *'Vlaamse bibliotheek- en documentatiegids'*. The special libraries too report a lesser installation rate of CD-ROMs than the university libraries. According to the *'Vlaamse bibliotheek- en documentatiegids'* only 5% (26 out of 549) had a CD-ROM installation in 1990. Clearly the figures in the survey are biased by the selection of the bigger libraries (BOECKX, 1988 / NIEUWENHUYSEN, 1990:1).

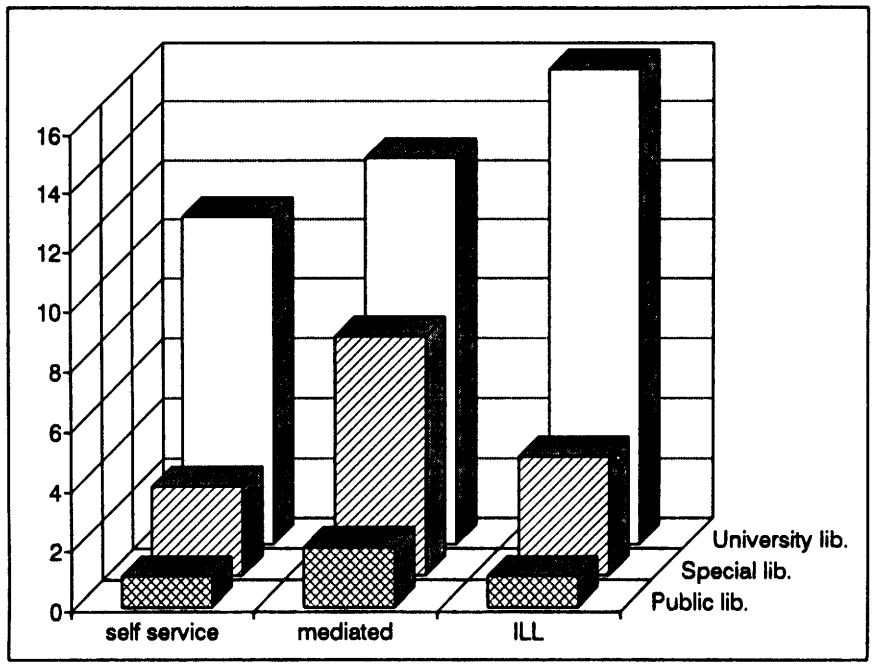

Fig. 9. Use of CD-ROM for document retrieval and ILL

6.2.10. IT in interlibrary lending

35% of all surveyed libraries, but 80% of all university libraries and the Royal Library use CD-ROM for document locating purposes (CCB and VLACC union catalogues). Surprisingly few public and special libraries use these modern tools for effective interlending.

Table 39. IT in interlibrary lending (survey)

		CD-ROM		Other IT	
Royal Library	(n = 1)	1	100%	0	0%
Univ. library	(n = 20)[1]	16	80%	12	60%
Public libraries	(n = 16)	1	6%	4	25%
Special libraries					
Public	(n = 10)	2	20%	3	30%
Private	(n = 15)	2	13%	0	0%
TOTAL	(n = 62)	22	35%	19	31%

[1] One library in the non-university higher education included

Other IT in interlending is used by only 31% of all libraries, but by 60% of all university libraries in the survey. Libraries using IT for this purpose have installed interlending systems. This is the case in the Library of the Medical Faculty of the UCL where an interlending PC-oriented software module called TELEDOC has been written. It incorporates the BIOMED-database, a subset of

biomedical titles from ANTILOPE (WALCKIERS). Most of the utilities and the two library networks (LIBIS-Net and VUBIS-Antwerpen) have also developed an interlending module; so have the utilities and AIHM, CEVI, CIPAL, COI/VLABRIC (via the e-mail module), CTI and the American Library, the Quetelet-library, IBSR and Bekaert. Besides these Belgian installations, libraries report about the use of electronic document ordering systems such as ARTTEL, DIALOG, ESA, INIST and PICA. Telefaxes are sometimes used for interlibrary loan requests by public libraries and indeed also by the research libraries. VUBIS-Antwerpen has offered to open a document ordering service on the ANTILOPE-database in the latter half of 1991. The start-up costs will be paid for by the university libraries (500.000 BEF). Running costs will be recovered with a supplement of 14 BEF (the equivalent of the postal costs of a letter) on every successful interlibrary lending transaction. It is hoped to achieve a number of 20.000 transactions in the first year (the estimate of the total ILL requests in Belgium being 200.000 per year) (BORM, PHILIPS, 1991).

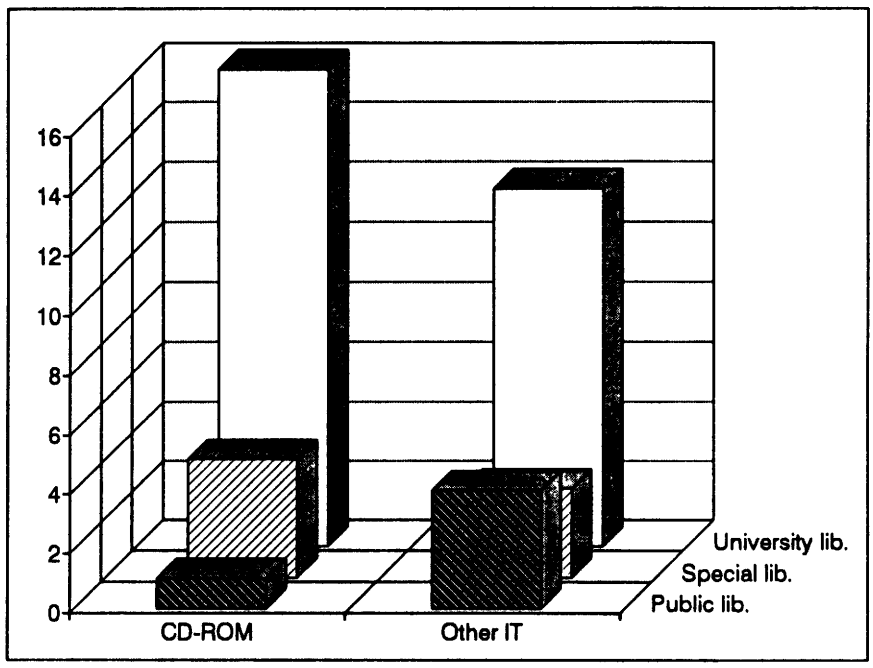

Fig. 10. IT used in ILL

6.2.11. Extended printing facilities.

Along with the growing influence of online use of library databases one observes an increased demand for extended printing facilities. The arrival on the market of powerful and rather cheap laser printers with numerous fonts have pushed up the demand for quality prints in all library systems where they have been installed. This has led the Royal Library, some of the bigger research libraries, the research networks VUBIS-Antwerpen and the LIBIS-Net to develop rather sophisticated print programs. VUBIS-Antwerpen has developed a conversion format from the VUBIS characterset to the PC characterset and the characterset of the VENTURA-publisher software. These tools are used for printing e.g. monthly acquisition lists and subsets of the database.

6.2.12. Online ordering and claiming.

Few systems report the existence of online ordering and claiming. No doubt this will improve in the coming years. Some of the Belgian research libraries make use of dedicated software for serials ordering, check in and issue claiming. The University of Antwerpen uses the database of Swets Subscription Service in Lisse (the Netherlands) for sending reminders for missing issues. MicroLinx Check-in is Faxon's microcomputer based software system for serials control, ordering and issue claiming. It has been in use since 1987 at the Medical Faculty Library of the UCL. It is sold at a price of $ 6.000, but clients of FAXON's subscription service may get a discount.

6.2.13. PC's in library automation systems.

Because they became so powerful, PC's are going to gradually replace many of the terminals in the integrated library systems. Indeed, many of the systems report the introduction of PC's for housekeeping functions which hitherto were performed by the central computer. PC's will be increasingly used for quickly downloading parts of the database in order to minimize the pressure on the telecommunications system. The networks LIBIS-Net and VUBIS-Antwerpen and some other systems report the use of PC's as back-up systems for circulation, for preparing printing files, for printing spine labels and address labels, for accounting. PC's will be incorporated increasingly as servers in library systems (e.g. University of Gent). They are rather cheap, quick, and can handle lots of data without interfering with the central system. Colour screens for various reasons might well become the standard on the PC's.

6.3. Trends for the future

Trends for the future will be: a growing volume of electronic information stored either in the local computer systems or in the networks and utilities (mainly abstracts of articles but also full text), or on CD-ROM's, or also in databases accessible via the host computers. This electronic information, however, is likely going to compete for the same money and thus might become (or is already) a competitor for the older media: books and journals.

Electronic document ordering systems are already in place and will soon become generally available in the country with the introduction in 1991 of the document ordering module on ANTILOPE. Document supply, however, will for a while remain unchanged unless telefax could be used for article-supply. This requires more complex and thus more expensive fax machines than the usual ones. In the longer run scanning (cf. INIST) looks more attractive. The University of Antwerpen, spread over 3 campuses, is likely to do some tests in electronic document transmission in 1991-1992. Others will undoubtedly follow.

Networks will be gradually interlinked, starting with X.25 and TCP/IP protocols as this will be the case in the test link between LIBIS-Net and VUBIS-Antwerpen. Later on, when they become readily available, OSI-links could be installed nationally and internationally. One may be on the verge of the "virtual library" where the reader has

access to various kinds of electronic data without having to go personally to the library. That "library" will be open 24 hours a day.

A main concern for many respondents in the survey is the problem of training staff and readers in the use of new IT. Some hope that this problem might be solved by installing intelligent interfaces so that the user no longer will be confronted with a variety of different and hence chaotic menu-screens and command languages. Others (VUBIS-Antwerpen) have plans to use hypertext solutions to this steadily growing problem. Many count upon improved computer literacy by the end user. Anyhow, introduction and courses on automation in general and library automation in particular always attract many librarians also coming from libraries which are not yet automated.

1.H.D.L. Vervliet, J. Van Borm. *State of the art ... Belgium*, p. 21.

Conclusions

This report provides as much factual information as possible on key areas relating to the use of new information technologies in Belgian libraries. Major changes relating to the penetration and take-up of the new technologies could be identified as well as dominant trends.

METHODOLOGY

Some published studies on library automation could be used, especially for public libraries and the libraries of the non-university higher education in Flanders. An inquiry via a questionnaire to libraries and suppliers of integrated library systems was essential in order to be able to respect the EC-study specification. A sample of libraries was made and 71 questionnaires (74% of all questionnaires sent out) were received. 26 commercial suppliers and utilities got another questionnaire, yielding a response rate of 96%).

BELGIAN LIBRARY SCENE

The Belgian library scene did not change much since 1986. It is a rather complex structure mirroring some of the characteristics of the country in transition from a highly centralized state into a new federal structure.

SIZE AND CONTENTS OF MACHINE-READABLE DATABASES

The size of machine-readable records in the country's libraries has more than doubled since 1986. An estimated 9.000.000 titles are presently in machine-readable databases (+132% compared to 1986). In 1986 21% of the titles were machine-readable; nowadays this figure has gone up to 39%. However, a substantial amount of reconversion still has to be carried out. It is expected that smaller libraries with collections of less than half a million volumes will have completed their conversion within the next three years, but those with collections exceeding two million volumes will not at the present rate have finished this task before the year 2040. The contents of the machine-readable databases so far is mainly limited to books, periodicals and grey literature. Some library databases in special libraries have an already large amount of abstracts of periodical articles and a few systems carry full text databases.

STANDARDS

The application of cataloguing standards has improved in the past five years mainly it is believed through the introduction of library automation and possibly a growing international pressure for the use of standards. AACR II medium level (mostly adapted) and the French AFNOR rules are the most commonly applied descriptive cataloguing rules. There is, as one could expect, a greater diversity in the field of subject description. Some libraries expect for the coming years a greater use of LCSH/RAMEAU. Public libraries in Flanders are going to keep the adapted Dutch SISO scheme and will foster the use of the newly authorized VLACC keyword thesaurus. Many variations on the MARC-format are in use. Most of the bigger libraries who still use a local format can convert their data to one of the MARC-formats. The absence of a generally accepted European exchange standard is regretted by many of the Belgian libraries.

DOWNLOADING

Techniques for downloading exist (record by record, file transfer online or via tape or floppy). The VLACC CD-ROM union catalogue of the main public libraries has a unique feature that allows libraries to download records into their local databases at a low cost.

COOPERATIVE UTILITIES

Utilities such as the ones in USA or UK do not exist in Belgium. The Belgian cooperative utilities provide a general automated administrative and logistic support to provinces and local authorities. This overall service often includes library automation. As such these utilities have a great impact on automation in public libraries and in some cases also on smaller libraries in the non-university higher education.

COOPERATIVE LIBRARY NETWORKS

Two networks dominate the research library scene. LIBIS-Net using the DOBIS-LIBIS software is believed to be the second biggest library network in Europe (250 dedicated terminals). Next comes VUBIS-Antwerpen using another partly Belgian made software: VUBIS (170 dedicated terminals).

UNION CATALOGUES

Belgium has three major automated union catalogues: the online ANTILOPE (current periodicals in research and special libraries), the CCB on CD-ROM (monographs mainly in research libraries) and the VLACC union catalogue of the Flemish public libraries (online and on CD-ROM). The libraries in French-speaking Belgium are actively participating in the international BIEF union catalogue of French-speaking countries.

RESOURCES FROM THE COMMERCIAL SECTOR

Few Belgian commercial organizations have as yet started the systematic distribution of machine-readable records. However, the library of the University of Brussels (ULB) and the Royal Library use either OCLC or LC-MARC tapes. LIBIS-Net is also considering the use of the LC-MARC backfile for books for its bibliographical pool.

MACHINE-READABLE DATABASES: CHANGES AND TRENDS

The most important changes in the past five years are the growing number of automated libraries creating machine-readable databases of a much bigger size than prior to 1986. It is believed that an estimated 9.000.000 not all unique titles are today present in Belgian libraries. The use of standards and rules has improved but still some regulating work will be necessary in order to achieve full compatibility (if this can ever be reached!). Trends and indeed also concerns for the next years are the maintenance of the growing databases, further reconversion of the older book stock and the exchange of data. Some librarians expect the union catalogues to be used for exchange of data and quicker reconversion of the old book stock.

NETWORKS

The Belgian research network to be connected to the IXI European backbone between research networks, will not be available prior to 1991-1992. This forces some libraries and networks to use other means of data communication relying mainly on the services offered by the PTT. Some of the main machine-readable databases are available for dial-up or X.25

access. Many library systems are linked up to the institutional LANs. The future will give way to much more interconnections, national and international, probably along the lines of OSI as soon as this becomes available at an acceptable price.

INTEGRATED LIBRARY SYSTEMS

The number of integrated library systems installed has increased considerably since 1986. The 1986 LIB-2/7 survey could locate only 25 automated systems. Only five years later 315 installations were located in all types of libraries. 400 is the estimated number of library automation systems installed in Belgium anno 1991. The Royal Library and all university libraries in the survey have automated their libraries (two just starting in 1990-1991). The biggest number of installations is to be found in the category of (often small) special libraries (157 or 50% of all installations), followed by the public libraries (78 or 25%), libraries in the non-university higher education (60 or 19%). University libraries follow with 19 installations (6%). These figures are purely related to the number of installations and give no information on the size of the installation nor on the library's database(s). It just gives information on the penetration of library automation in the country's libraries. The study located 900 terminals and PC's in the surveyed libraries. By extrapolating this figure one estimates the total number of end-user workstations in the Belgian libraries at 1.500 not counting the occasional dial-in calls via networks and PTT.

STANDARD LIBRARY MODULES

Cataloguing is present in 100% of all automated libraries. An OPAC is available in 66% of the installations. Apparently, many smaller special libraries manage to do without it. But also 31% of the public libraries still miss an OPAC. Circulation comes third and is present in 61% of all installations. Acquisitions and serials control still have to grow (52 and 34% of all installations).

NEW LIBRARY MODULES

Most of the new library modules are generally offered by suppliers, utilities and networks: report writing facilities, electronic mail and gateways. Others are not well represented in the shopping list of the suppliers: community information, bulletin boards and videotex. However, the implementation of all these new modules lags far behind the availability. Only the university libraries and some of the special libraries are presently taking up these new facilities.

COSTS

Costs for the acquisition of an integrated library system are rather high and vary considerably from library to library according to the volume of the database, the number of users and the modules chosen. This is also true for the running costs. No figures could be obtained for the biggest library installation, the LIBIS-Net, but figures are quoted in the report for the DOBIS-LIBIS installation at the ULB in Brussels which is presently being installed (27.200.000 BEF or ca. 650.000 ECU for an installation with 90 workstations) and VUBIS-Antwerpen that invested 32.800.000 BEF or 781.000 ECU from 1986 to 1990 for an installation with 170 workstations. Some figures for mostly smaller installations (e.g. in public libraries) are quoted in the report. However, these figures cannot be compared easily. Further investigation is required, probably over a longer period of time to find out about the real costs of the installations taking into account the costs for acquiring and changing to new systems (writing-off time).

STAFF

Staff for library automation seems to be scarce, (1 to 4) computer staff per installation, whereas the libraries served by the utilities and the networks nearly entirely rely on the centrally provided staff. The LIBIS-Net plans to grow from 7,5 FTE (computer staff, clerical staff and management) to 12,5 FTE over the next couple of years. Other networks and utilities will have to follow that example.

BULLETIN BOARDS AND COMMUNITY INFORMATION

Bulletin boards and community information are not yet well developed. The research library networks make use of it to a certain extent. Public libraries as a general rule don't and this in spite of the evolution in some neighbouring countries. Videotex is hardly used, but its use could increase especially in French-speaking Belgium under the influence of the French MINITEL.

EXTERNAL DATABASES

Most searching of external databases is done via hosts or CD-ROM use. Increasingly, larger libraries or highly specialized ones are going to mount externally produced databases on their local computer systems. The reduced cost of mass stores will make this possible. Both, bibliographical and full texts databases will be installed.

CD-ROM USE

CD-ROM use is growing rapidly in university and special libraries. All but one of the university libraries have installed CD-ROM. In the Universities of Gent (Central Library) and Leuven (Law Library) servers and LANs are used to give easy and safe access to the CD-ROM databases. More of these combinations of CD-ROMs in LANs are going to be installed in the next few years. These years, hopefully, will also see the introduction of CD-ROMs in public libraries and in the non-university higher education.

IT AND INTERLENDING

IT plays a growing role in interlending. Often CD-ROMs are used for locating requested books or periodical articles. More and more electronic document ordering systems will be installed for the transmission of the requests. Ultimately the same electronic way of transmission may be used for the document supply. In the meantime the main public libraries in Flanders and the libraries on the two research networks make use of an ILL-module. A generally available document ordering system on the ANTILOPE union catalogue of periodicals will be available from September, 1991 onwards via VUBIS-Antwerpen.

PRINTING FACILITIES

Along with the growing influence of online use of library databases one observes an increasing demand for more and better quality prints.

PC

PC's are expected to replace in the coming years some of today's terminals especially for downloading parts of the database, for minimizing the load on telecommunications system and as back up for online circulation systems.

A growing volume of electronic information might become a competitor for the older media. Electronic document ordering systems will soon become generally available and might be supplemented in a few years time by electronic document delivery. LANs and WANs are going to be interlinked nationally and internationally, probably creating the "virtual library" open to the general public 24 hours a day.

MAN

Finally all these new information technologies have to be used by readers and library staff. Computer literacy is growing, especially among younger people and students but this basic training is not far reaching enough and probably never will be to use and exploit fully the always growing possibilities and complexities of the new information technologies. Schooling and training on the one hand, intelligent interfaces, probably using hypertext solutions on the other hand, are a growing necessity in tomorrow's library world.

Appendices

1. Commercially available integrated library systems
2. Integrated library systems offered by the cooperative utilities
3. List of libraries part of the survey
4. List of acronyms and abbreviations
5. Bibliography
6. Dutch and French versions of the questionnaires

Appendix 1

Commercially available integrated library systems

ADIA

Software:	OCELOT
Number of installations in Belgium:	1
Max. size of Belg. install.:	-
Company:	Dutch with international product
Entrance on Belgian market:	1986
Modules available:	Cf. standard list at p. 42 except: online ordering, online claiming, interlending, e-mail, community information, bulletin boards, gateways, videotex
Modules generally used:	Catalogisation, OPAC, circulation
Computer:	PC
Terminal capacity:	Depends on PC & network
Typical installation, number of terminals:	2-3
Max. number of records:	No max. (max. realization so far: 70.000 records)
Catalographic rules:	Free
Subject classification:	-
Input format:	LC MARC
Import of external records:	MARC records
Supply of records:	No
OPAC:	Cf. standard list at p. 42, plus words from annotations
LAN:	Free
Prices:	
Purchase costs:	Software 230.000 BEF
Maintenance:	10 % of purchase costs

Address:	ADIA Hoge der A 31 NL 9212 AE GRONINGEN The Netherlands
Telephone:	050/12.46.18
Fax:	050/12.05.92

ATBiB

Software:	ATBiB
Number of installations in Belgium:	7
Max. size of Belg. install.:	4 terminals
Company:	Belgian
Entrance on Belgian market:	1990
Modules available:	Cf. standard list at p. 42 except: online ordering, online claiming, interlending, e-mail, report gen., MIS, comm.info, bull.boards, gateways, videotex. Extra module: conversion of VLACC-records.
Modules generally used:	---
Computer:	PC
Terminal capacity:	Depends on PC and network.
Typical installation, number of terminals:	2-4
Max. number of records:	---
Catalographic rules:	Free
Subject classification:	UDC, SISO
Input format:	Local
Import of external records:	Yes
Supply of records:	No
OPAC:	Cf. standard list at p.42; missing: corp.author, language of work. Extra: ISBN
LAN:	Free
Prices:	
Purchase costs:	Software 30.000 BEF for single user 16.000 BEF supl.for network use.
Maintenance:	10% of purchase costs

Address:	ATBiB c.v. Hollandsestraat 2 B 2300 TURNHOUT Belgium
Telephone:	014/41.77.75
Fax:	-

BUREAU IMC

Software:	TINLIB
Number of installations in Belgium:	1
Max. size of Belg. install.:	2 terminals
Company:	Dutch advising bureau, marketing an internationally well known British product
Entrance on Belgian market:	1988
Modules available:	Cf. standard list at p. 42 except: e-mail, comm.info, bulletin boards, videotex. Extra: SDI, thesaurus construction.
Modules generally used:	All.
Computer:	PC type 386
Terminal capacity:	16
Typical installation, number of terminals:	3
Max. number of records:	Depending upon disk capacity
Catalographic rules:	Free
Subject classification:	Cf. standard list at p. 42
Input format:	UKMARC
Import of external records:	Conversion formats available
Supply of records:	Conversion formats available
OPAC:	Cf. standard list at p. 42 Extra: query by form, navigation
LAN:	
Prices:	
Purchase costs:	TINLib software: 22.875 HFL Network version suppl.: 7.875 HFL
Maintenance:	From first year 12-15% of purchase costs

Address:	Bureau IMC Mathenesserlaan 294 NL 3021 HB ROTTERDAM The Netherlands
Telephone:	010/478.02.04
Fax:	010/478.08.72

CeFIS

Software:	GIBUS
Number of installations in Belgium:	9
Max. size of Belg. install.:	1 terminal
Company:	Department of the University Faculties of Namur
Entrance on Belgian market:	1990
Modules available:	Cataloguing, OPAC, acquisition, simplified serials recording, circulation, report generation and management information
Modules generally used:	Cataloguing, OPAC, acquisition, circulation
Computer:	PC XT with hard disc
Terminal capacity:	1
Typical installation, number of terminals:	1
Max. number of records:	100.000
Catalographic rules:	Free (fixed length fields of 68 characters)
Subject classification:	Thesaurus with navigation facilities
Input format:	Local format
Import of external records:	No
Supply of records:	No
OPAC:	Cf. standard list at p. 42 except shelfnumber, language, subject classification and place of publication
LAN:	
Prices:	
Purchase costs:	Software: 20.000 BEF
Maintenance:	One year software maintenance included in purchase price

Address:	Facultés universitaires Notre Dame de la Paix CeFIS (Centre pour la formation à l'informatique dans le secondaire) Rue de Bruxelles 61 B-5000 Namur Belgium
Telephone:	081/72.50.60
Fax:	081/23.03.91

CLSI

Software:	LIBS 100
Number of installations in Belgium:	0
Max. size of Belg. install.:	---
Company:	Dutch subsidiary of an international company
Entrance on Belgian market:	---
Modules available:	Cf. standard list at p. 42 except: online ordering, online claiming, bulletin boards
Modules generally used:	---
Computer:	SEQUENT S3/S27/S81 UNIX-environment
Terminal capacity:	500
Typical installation, number of terminals:	16-160, an average of 64
Max. number of records:	Unlimited
Catalographic rules:	AACR II (with authority control)
Subject classification:	Cf. standard list at p. 42 except BLISS, LCSH, MeSH
Input format:	LC MARC, AUSMARC, UKMARC
Import of external records:	MARC via tape
Supply of records:	No
OPAC:	Cf. standard list at p. 42
LAN:	Commercially available systems RS-232/Ethernet
Prices:	
Purchase costs:	- Software
	5 terminals 150.000 HFL
	10 terminals 160.000 HFL
	20 terminals 180.000 HFL
	40 terminals 400.000 HFL
	96 terminals 670.000 HFL
Maintenance:	- Software
	5 terminals 25.000 HFL
	10 terminals 27.000 HFL
	20 terminals 30.500 HFL
	48 terminals 48.600 HFL
	96 terminals 80.400 HFL

Address:	CLSI-Nederland BV Startbaan 5 NL 1185 XP AMSTELVEEN The Netherlands
Telephone:	020/647.30.10
Fax:	020/643.51.64

DATABASIX

Software:	ADLIB
Number of installations in Belgium:	3
Max. size of Belg. install.:	29 terminals (Nivelles)
Company:	Dutch company selling an international software
Entrance on Belgian market:	1980
Modules available:	Cf. standard list at p. 42 except: online ordering, online claiming, MIS, community information, bulletin boards, gateways, videotex. Extra: conversion module.
Modules generally used:	Acquisition, catal., OPAC, circulation, conversion module
Computer:	Prime 50 series, moving to a Novell, UNIX and VMS environment
Terminal capacity:	Unlimited
Typical installation, number of terminals:	15
Max. number of records:	Per database 999.999; number of databases unlimited
Catalographic rules:	Free
Subject classification:	Cf. standard list at p. 42
Input format:	ADLIB format
Import of external records:	MARC-format, PICA-format, ASCII
Supply of records:	No
OPAC:	Cf. standard list at p. 42
LAN:	Ethernet, the Prime computer acts as a server
Prices:	
Purchase costs:	- Software
	4 terminals 429.660 BEF
	8 terminals 716.100 BEF
	16 terminals 1.432.200 BEF
	32 terminals 2.148.300 BEF
Maintenance:	- Software
	4 terminals 64.449 BEF
	8 terminals 107.415 BEF
	16 terminals 214.830 BEF
	32 terminals 322.245 BEF

Address:	Databasix Information Systems BV Rijnzathe 8 NL 3454 PV DE MEERN The Netherlands
Telephone:	034/066.24.55
Fax:	034/066.50.33

DATAPOINT BELGIUM

Software:	TOBIAS
Number of installations in Belgium:	3
Max. size of Belg. install.:	15 terminals
Company:	Belgian company selling an international product
Entrance on Belgian market:	1986
Modules available:	Cf. standard list at p. 42 except: videotex-module
Modules generally used:	---
Computer:	Mini: Datapoint 7860/7900; Micro: Datapoint 7700
Terminal capacity:	2.047
Typical installation, number of terminals:	6-15
Max. number of records:	---
Catalographic rules:	VOGIN (AACR II adapted)
Subject classification:	Cf. standard list at p. 42
Input format:	UNIMARC-compatible
Import of external records:	From other TOBIAS-installations
Supply of records:	UNIMARC
OPAC:	Cf. standard list at p. 42, some entries are reserved for the staff e.g. word from title, date and place of publication. Extra: key-search
LAN:	ARCNET PLUS and DATALAN
Prices:	
Purchase costs:	From 1.500.000 BEF onwards
Maintenance:	From 100.000 BEF onwards

Address:	Datapoint Belgium NV Mercure Centre Raketstraat/Rue de la fusée 100, B. 13 B 1130 BRUSSELS Belgium
Telephone:	02/720.91.80
Fax:	02/721.43.06

DDE Belgium

Software:	SUPERMAX LIBRARY SYSTEM
Number of installations in Belgium:	0
Max. size of Belg. install.:	
Company:	Belgian subsidiary of Dansk Data Elektronik A/S
Entrance on Belgian market:	1991
Modules available:	Cf. standard list at p. 42 except: community information and videotex module
Modules generally used:	
Computer:	Mini SUPERMAX
Terminal capacity:	500 (150 - 200 concurrent users)
Typical installation, number of terminals:	15 - 80 concurrent users
Max. number of records:	24.000.000
Catalographic rules:	AACR II
Subject classification:	UDC, Dewey, DKS (SISO is under investigation)
Input format:	LC MARC, BNB MARC, UNIMARC All standard MARC-formats can be implemented
Import of external records:	Via MARC-tapes
Supply of records:	No
OPAC:	Cf. standard list at p. 42
LAN:	Ethernet, Token-ring
Prices:	
Purchase costs:	A typical system costs 300.000 to 400.000 BEF per workstation (soft- and hardware)
Maintenance:	<10% of purchase price

Address:	DDE Belgium NV Excelsiorlaan 45-b8 B-1930 Zaventem
Telephone:	02/725.12.25
Fax:	02/726.03.05

FORREZ

Software:	BIDOC
Number of installations in Belgium:	9
Max. size of Belg. install.:	4 terminals
Company:	Small Belgian company
Entrance on Belgian market:	1989
Modules available:	Cf. standard list at p. 42 except: OPAC, online ordering, online claiming, interlending, e-mail, MIS, comm.info, bull.boards, gateways, videotex.
Modules generally used:	Cataloguing, serials control, report generation
Computer:	PC
Terminal capacity:	> 10
Typical installation, number of terminals:	2-3
Max. number of records:	2.000.000.000
Catalographic rules:	Free
Subject classification:	Only Dewey and SISO
Input format:	Local format
Import of external records:	With conversion to local BIDOC DUMP format
Supply of records:	No
OPAC:	Cf. standard list at p. 42 except: corporate author, place of publication. Boolean searching is limited
LAN:	Generally available LANs can be coupled
Prices:	
Purchase costs:	Software 5 terminals 250.000 BEF 10 terminals 300.000 BEF
Maintenance:	Software from third year onwards: 10% of purchase price

Address:	Forrez Ijzerenmolenstraat 74 B 3001 HEVERLEE Belgium
Telephone:	016/23.00.12
Fax:	

GEMIC

Software:	BIBBOSS
Number of installations in Belgium:	7
Max. size of Belg. install.:	7 terminals
Company:	GEMIC is installing automation systems for local authorities in Belgium
Entrance on Belgian market:	1981
Modules available:	Cf. standard list at p. 42 except: online ordering, community info, bulletin boards. Extra: link with the population register of the local authority
Modules generally used:	---
Computer:	HP 3000/9XX
Terminal capacity:	1500
Typical installation, number of terminals:	4-8
Max. number of records:	Nearly unlimited
Catalographic rules:	Free
Subject classification:	Only SISO
Input format:	Local
Import of external records:	From the VLACC-catalogue
Supply of records:	---
OPAC:	Cf. standard list at p. 42 Extra: level
LAN:	
Prices:	
Purchase costs:	
Maintenance:	

Address:	GEMIC, NV Merenstraat 40 B 3201 AARSCHOT-LANGDORP Belgium
Telephone:	016/56.99.35
Fax:	

IBM-BELGIUM

Software:	DOBIS-LIBIS[1]
Number of installations in Belgium:	11 (but mainly in large libraries)
Max. size of Belg. install.:	250 terminals (LIBIS-Net)
Company:	Belgian branch of international company
Entrance on Belgian market:	1978
Modules available:	Cf. standard list at p. 42 except: online ordering and claiming which only exist in batchmode, comm. information, bulletin boards, gateways. A videotex module is under preparation in France
Modules generally used:	Catal., acquisition, OPAC, serials control, circulation, e-mail
Computer:	IBM mainframes or minis under VSE or MVS
Terminal capacity:	Many thousands
Typical installation, number of terminals:	LIBIS-Net: 220 simultaneous users
Max. number of records:	Milliards
Catalographic rules:	AACR II and FOBID-rules are supported; other rules may be used
Subject classification:	Cf. standard list at p. 42
Input format:	DMARC with conversion programs for: LC MARC, UNIMARC, OCLC-MARC
Import of external records:	Yes
Supply of records:	Yes
OPAC:	Cf. standard list at p. 42 Extra: abstract, editor, location for limitation
LAN:	SNA, 3270 emulation: TCP/IP-OSI-Netbios over Token-ring; Ethernet
Prices:	
Purchase costs:	Not communicated as this is determined by the total solution and the environment of the bigger libraries this software has been designed for
Maintenance:	

Address:	IBM-Belgium Victoria Reginaplantsoen 1 Square Victoria Regina 1 B 1210 Brussels Belgium
Telephone:	02/214.33.07
Fax:	02/214.30.02

[1] IBM proposes also STAIRS especially in documentation centers

IN2 COMPUTERS

Software:	LIBER
Number of installations in Belgium:	9
Max. size of Belg. install.:	24 terminals (University of Liège)
Company:	IN2 computers is a subsidiary of Siemens
Entrance on Belgian market:	1989
Modules available:	Cf. standard list at p. 42
Modules generally used:	Cataloguing, OPAQ, acquisitions
Computer:	Mini: Siemens/IN2 MX 300/IN2 Micro: Siemens 286, 386, 486
Terminal capacity:	Mini: 256 Micro: 54
Typical installation, number of terminals:	7
Max. number of records:	Linked with disk capacity
Catalographic rules:	Free
Subject classification:	Only UDC, Dewey, SISO and MASSY are presently supported
Input format:	INTERMARC, UNIMARC
Import of external records:	CD-ROM, tape, floppy
Supply of records:	No
OPAC:	Cf. standard list at p. 42 except: date and place of publication Extra: publisher
LAN:	Toplan, Ethernet
Prices:	
Purchase costs:	Soft- and hardware mini
	5 terminals/80.000 records 1.500.000 BEF
	10 terminals/200.000 records 2.500.000 BEF
	20 terminals/200.000 records 3.500.000 BEF
	40 terminals/200.000 records 5.000.000 BEF
Maintenance:	5 terminals 135.000 BEF
	10 terminals 225.000 BEF
	20 terminals 315.000 BEF
	40 terminals 450.000 BEF

Address:	IN2 Computers Chaussée de la Hulpe 177, bte 1 Terhulpsesteenweg 177, B 1 B 1170 Brussels Belgium
Telephone:	02/660.69.13
Fax:	02/660.19.97

DE LANNOY

Software:	CARDBOX PLUS
Number of installations in Belgium:	>50
Max. size of Belg. install.:	
Company:	Belgian company, mainly distributing official publications
Entrance on Belgian market:	1990 (with Cardbox Plus)
Modules available:	Cf. standard list at p. 42 except: electronic mail, gateways, videotex module
Modules generally used:	
Computer:	VAX and IBM compatible PC's
Terminal capacity:	Hardware bound
Typical installation, number of terminals:	
Max. number of records:	500.000 per database, number of databases unlimited
Catalographic rules:	Free
Subject classification:	Free
Input format:	Free
Import of external records:	ASCII-files
Supply of records:	Titles of official publications (ca. 15.000) in CARDBOX-format on floppy
OPAC:	Cf. standard list at p. 42
LAN:	Cardbox is compatible with Ethernet, Novell, Lantastic etc.

Prices:		
	1 terminal	24.150 BEF
	5 terminals	59.000 BEF
	10 terminals	ca. 75.000 BEF
	20 terminals	ca. 120.000 BEF
	40 terminals	ca. 160.000 BEF

Purchase costs:	
Maintenance:	---

Address:	DE LANNOY Avenue du Roi, 202 Koningslaan 202 B 1060 Brussels Belgium
Telephone:	02/538.51.69
Fax:	02/538.08.41

ODIS

Software:	VUBIS
Number of installations in Belgium:	40
Max. size of Belg. install.:	170 terminals and PC's (VUBIS-Antwerp)
Company:	Belgo-Dutch company, also active in France and Luxembourg
Entrance on Belgian market:	1987
Modules available:	Cf. standard list at p. 42 except: online ordering, online claiming, videotex
Modules generally used:	All
Computer:	Mainframe (SEQUENT, DEC, IBM; mini's (NCR, DEC) Micro's (COMPAQ 386, 486)
Terminal capacity:	Only limited by hardware
Typical installation, number of terminals:	1-200
Max. number of records:	Only limited by disk capacity
Catalographic rules:	Free rules
Subject classification:	Cf. standard list at p. 42: LC and MeSH are not supported Extra: KWUC
Input format:	UNIMARC
Import of external records:	Conversion formats for CSLI, DOBIS-LIBIS, PICA
Supply of records:	Via various sources; database of 4.000.000 records. UNIMARC
OPAC:	Cf. standard list at p. 42 except: language of the item, date and place of publication, shelfmark (coming soon) Extra: permuterm index with built-in boolean searching
LAN:	Ethernet, Novell, Banyan Vines
Prices:	
Purchase costs:	VUBIS software: all existing modules
	4 users: 360.000 BEF
	12 users: 880.000 BEF
	20 users: 1.400.000 BEF
	64 users: 4.260.000 BEF
Maintenance:	20 % of the software price

Address:	ODIS Provinciebaan 41 B 2470 Retie (Turnhout) Belgium
Telephone:	014/67.14.21
Fax:	014/67.14.22

SATI S.A.

Software:	SIGAL-SATI
Number of installations in Belgium:	5
Max. size of Belg. install.:	50 (Public Library of Liège)
Company:	Belgian company, subsidiary of ORDA-B soon active in the rest of Europe
Entrance on Belgian market:	1988
Modules available:	Cf. standard list at p. 42 Extra: specific interfaces
Modules generally used:	
Computer:	Mainframe DEC VAX/VMS Mini DEC MICROVAX VAXSTATION
Terminal capacity:	Virtually unlimited by clustering VAX-machines
Typical installation, number of terminals:	1-20
Max. number of records:	>3.000.000
Catalographic rules:	Free with automatic ISBD-interpunction
Subject classification:	Cf. standard list at p. 42 including RAMEAU
Input format:	Local
Import of external records:	UNIMARC 87
Supply of records:	Via database of Public Library of Liège (150.000 records) UNIMARC, TEXTO
OPAC:	Cf. standard list at p. 42 Extra: abstracts and additional information can be searched
LAN:	Available
Prices:	
Purchase costs:	Software and hardware

5 terminals	1.500.000 BEF
10 terminals	2.500.000 BEF
20 terminals	4.000.000 BEF
40 terminals	7.000.000 BEF

Maintenance:

5 terminals	150.000 BEF
10 terminals	284.000 BEF
20 terminals	385.000 BEF
40 terminals	637.000 BEF

Address:	SATI s.a. Zone industrielle du Petit-Rechain Avenue du Parc 25 B 4655 Chaineux Belgium
Telephone:	087/31.36.78
Fax:	087/31.59.62

SQUARE

Software:	BIBIS
Number of installations in Belgium:	3
Max. size of Belg. install.:	---
Company:	Dutch company marketing this product also in the Netherlands and Germany
Entrance on Belgian market:	1986
Modules available:	Cf. standard list at p. 42 Extra: thesaurus, periodicals circulation BBX/BIBIS utilities
Modules generally used:	
Computer:	Hardware independent using industry standards as MS DOS, UNIX, XENIX and others
Terminal capacity:	Hardware bound
Typical installation, number of terminals:	15
Max. number of records:	Unlimited
Catalographic rules:	Free
Subject classification:	Cf. standard list at p. 42
Input format:	LC MARC, BNB MARC, INTERMARC, UNIMARC
Import of external records:	Yes
Supply of records:	Origin VLACC, PICA
OPAC:	Cf. standard list at p. 42 Extra, barcode, publisher, notes
LAN:	
Prices:	
Purchase costs:	Prices of software depend upon size of database, operating system and the number of users. Prices given below indicate levels from 30.000 records onwards.

Purchase costs software

VMS	1.028.038 BEF
UNIX	799.788 BEF
PC Network	685.663 BEF
PC	571.538 BEF

Some price has to be paid for the link to industry standards.

Maintenance: 8% of purchase costs.

Address: SQUARE b.v.
Buitenop 5
NL 6041 LA Roermond
The Netherlands

Telephone: 047/503.49.99

Fax: 047/501.16.75

TITE-LIVE

Software:	BIBULUS and DEBORA-DOC
Number of installations in Belgium:	4
Max. size of Belg. install.:	4 terminals
Company:	Subsidiary of the publishing house Casterman (Tournai) marketing this product also in France and Luxembourg. DEBORA-DOC is produced by the Centre informatique et bible of the abbey of Maredsous.
Entrance on Belgian market:	1990
Modules available:	Cf. standard list at p. 42 except: gateways
Modules generally used:	All
Computer:	MICRO BULL/ZENITH or PC compatibles
Terminal capacity:	Depending upon PC and network
Typical installation, number of terminals:	1-3
Max. number of records:	Depending on the storage capacity
Catalographic rules:	Free
Subject classification:	Only UDC, Dewey and SISO
Input format:	INTERMARC, UNIMARC
Import of external records:	Possible but not yet developed
Supply of records:	Possible but not yet developed
OPAC:	Cf. standard list at p. 42 except: word from title, place and date of publication, truncation
LAN:	STARLAN or MULTIPOSTE "PROLOGUE"
Prices:	
Purchase costs:	Software 5 terminals 195.000 BEF 10 terminals 320.000 BEF
Maintenance:	

Address:	TITE-LIVE s.a. Rue de la borgnette 15 B 7500 Tournai Belgium
Telephone:	069/21.67.79
Fax:	069/22.44.58

WANG-BELGIUM

Software:	WANGLIB
Number of installations in Belgium:	2
Max. size of Belg. install.:	20 terminals
Company:	Belgian branch of international company marketing this product also in the Netherlands
Entrance on Belgian market:	1990 (marketing WANGLIB), 1980 (SINIBIB)
Modules available:	Cf. standard list at p. 42 except: online claiming, interlending, community information and videotex
Modules generally used:	---
Computer:	Mini Wang , a UNIX version and PC back up facilities are under preparation
Terminal capacity:	128
Typical installation, number of terminals:	10-20
Max. number of records:	Depending upon storage capacity: presently 11 GBYTES
Catalographic rules:	FOBID
Subject classification:	Only SISO
Input format:	Local, conversion to LC MARC available
Import of external records:	Using the VLACC-records (conversion costs: 200.000 BEF)
Supply of records:	D-MARC
OPAC:	Cf. standard list at p. 42 except: language of item, date and place of publication, shelfmark
LAN:	
Prices:	
Purchase costs:	Depending very much upon type of installed hardware

5 terminals	1.700.000 BEF
10 terminals	1.900.000 BEF
20 terminals	2.500.000 BEF
40 terminals	5.000.000 BEF

Maintenance: Depending very much upon installed hardware

Address:	WANG Belgium Zweefvliegtuigstraat 10 Rue du planeur 10 B 1130 Brussels Belgium
Telephone:	02/727.21.11
Fax:	02/727.25.29

Appendix 2

Integrated library systems offered by the cooperative utilities

AIHM (Mons)

Software:	BIBLIO
Number of installations in Belgium:	21
Max. size of Belg. install.:	---
Company:	Cooperative utility in the province of Hainaut for the automation of local and provincial authorities
Entrance on Belgian market:	1981
Modules available:	Cf. standard list at p. 42 except: online claiming, report generation, bulletin boards
Modules generally used:	---
Computer:	Mainframe IBM 4381-PO3 MVS/IMS/DL1 Micro IBM compatible
Terminal capacity:	No limits
Typical installation, number of terminals:	4
Max. number of records:	No limits
Catalographic rules:	Free
Subject classification:	Only UDC and local subject classification (RAMEAU?) are provided for
Input format:	Local
Import of external records:	Yes
Supply of records:	Mostly on microfiche and cards (550.000 records)
OPAC:	Only available: author, corporate author, title, subject
LAN:	Mainly Token-ring
Prices:	
Purchase costs:	Hardware: market price
Running cost:	Creation of a record 7 BEF Conservation of a record in the database 1,14 BEF per year

Address:	Association informatique hennuyère (AIHM) Avenue de Gaulle 102 7000 Mons Belgium
Telephone:	065/33.91.51
Fax:	065/35.28.90

CEVI

Software:	VUBIS
Number of installations in Belgium:	22
Max. size of Belg. install.:	26 terminals
Company:	Cooperative utility in the provinces of East and West Flanders for the automation of local and provincial authorities.
Entrance on Belgian market:	1982 (since 1990 with VUBIS)
Modules available:	Cf. standard list at p. 42 except e-mail, report gen., MIS, comm.information, bulletin boards, videotex
Modules generally used:	In this order: cataloguing, circulation, acquisition
Computer:	Mini: NCR TOWER 32/XX0 Micro: MITAC 80386
Terminal capacity:	124
Typical installation, number of terminals:	15
Max. number of records:	Only limited by disk capacity (2Gb)
Catalographic rules:	FOBID
Subject classification:	Only UDC and SISO
Input format:	VUBIS-format
Import of external records:	Via D-MARC or PICK-format
Supply of records:	Data form VUBIS-users, VLACC in UNIMARC or D-MARC
OPAC:	Cf. standard list at p. 42 except: language of item, date and place of publication
LAN:	
Prices:	
Purchase costs:	5 terminals 1.200.000 BEF 10 terminals 1.600.000 BEF 20 terminals 3.000.000 BEF 40 terminals 6.000.000 BEF
Maintenance:	5 terminals 130.000 BEF 10 terminals 150.000 BEF 20 terminals 300.000 BEF 40 terminals 400.000 BEF

Address:	Intercommunaal Centrum voor Informatica (CEVI) Nederpolder 26 B 9000 Gent Belgium or Kon. Leopold III-laan 41 B 8200 Brugge Belgium
Telephone:	091/25.48.60
Fax:	091/33.05.24

CIPAL

Software:	DOBIS-LIBIS
Number of installations in Belgium:	11
Max. size of Belg. install.:	13 (Central Public Library of Limburg in Hasselt)
Company:	Cooperative utility in the provinces of Antwerp and Limburg for the automation of local and provincial authorities
Entrance on Belgian market:	1985
Modules available:	Cf. standard list at p. 42 except: online ordering, community information, bulletin boards, gateways, videotex
Modules generally used:	Cataloguing, OPAC, circulation, e-mail, bibliographic searching
Computer:	IBM-mainframe
Terminal capacity:	Unlimited
Typical installation, number of terminals:	10
Max. number of records:	Unlimited
Catalographic rules:	Free
Subject classification:	Only UDC, SISO and a local format are supported
Input format:	D-MARC
Import of external records:	Yes D-MARC
Supply of records:	Yes from CIPAL-database and VLACC in D-MARC
OPAC:	Cf. standard list at p. 42 except: language of the item, date and place of publication Extra: publisher, ISBN
LAN:	UNIX system used as control-unit Token-ring network
Prices:	
Purchase costs:	Costs depend on the size of the library
Maintenance:	---

Address:	CIPAL Technische Schoolstraat 43A B 2440 Geel Belgium
Telephone:	014/57.62.11
Fax:	014/58.35.00

CIPAL

Software:	CIBIS
Number of installations in Belgium:	4
Max. size of Belg. install.:	---
Company:	Cooperative utility in the provinces of Antwerp and Limburg for the automation of the local and provincial authorities
Entrance on Belgian market:	1990-1991
Modules available:	Only cataloguing, OPAC and circulation In preparation: serials recording, acquisition
Modules generally used:	All 3
Computer:	Mini: UNIX system Micro: IBM compatible
Terminal capacity:	Depending upon hardware
Typical installation, number of terminals:	5
Max. number of records:	Depending upon disk capacity
Catalographic rules:	Free
Subject classification:	Only UDC and SISO are at present supported
Input format:	D-MARC
Import of external records:	Yes D-MARC
Supply of records:	Yes from CIPAL and VLACC databases (230.000 records) Record delivered in local format
OPAC:	Cf. standard list at p. 42 except: language of item, date and place of publication, shelfmark
LAN:	UNIX system as server, NOVELL
Prices:	
Purchase costs:	Costs depend on the size of the library
Maintenance:	

Address:	CIPAL Technische Schoolstraat 43A B 2440 Geel Belgium
Telephone:	014/57.62.11
Fax:	014/58.35.00

COI

Software:	DOBIS-LIBIS
Number of installations in Belgium:	2 (a.o the VLACC union catalogue of public libraries)
Max. size of Belg. install.:	26
Company:	COI is a utility set up for the automation of the Flemish central administration
Entrance on Belgian market:	1982
Modules available:	Cf. standard list at p. 42 except: serials control, community information, bulletin boards, videotex
Modules generally used:	Bibliographic searching, cataloguing, e-mail, OPAC
Computer:	IBM-mainframe 3090
Terminal capacity:	Unlimited
Typical installation, number of terminals:	5-20
Max. number of records:	Unlimited
Catalographic rules:	FOBID
Subject classification:	Implemented are: UDC and SISO
Input format:	D-MARC
Import of external records:	---
Supply of records:	Yes from VLACC in D-MARC 2.20 BEF per record in D-MARC 3.30 BEF per record in local format
OPAC:	Cf. standard list at p. 42 except: language of item and date and place of publication
LAN:	Yes
Prices:	
Purchase costs:	Hardware
Running costs:	Contract in relation to number of vols. and transactions

Address:	COI Interleuvenlaan 16 B 3001 Leuven Belgium
Telephone:	016/20.28.00
Fax:	016/23.68.06

COI-VLABRIC

Software:	DOBILUS
Number of installations in Belgium:	1
Max. size of Belg. install.:	17 (Public Library in Leuven)
Company:	COI is a utility set up for the automation of the Flemish central administration. VLABRIC is a cooperative utility for the automation of local authorities in the Dutch-speaking part of Flanders
Entrance on Belgian market:	1988
Modules available:	Only: circulation. This product interacts with DOBIS-LIBIS
Modules generally used:	
Computer:	Micro IBM PS/2 in LAN
Terminal capacity:	260
Typical installation, number of terminals:	5-20
Max. number of records:	Depending upon the hardware
Catalographic rules:	See DOBIS-LIBIS
Subject classification:	See DOBIS-LIBIS
Input format:	See DOBIS-LIBIS
Import of external records:	See DOBIS-LIBIS
Supply of records:	See DOBIS-LIBIS
OPAC:	See DOBIS-LIBIS
LAN:	Yes
Prices:	
Purchase costs:	---
Maintenance:	---

Address:	COI-VLABRIC Interleuvenlaan 16 B 3001 Leuven Belgium
Telephone:	016/20.28.00
Fax:	016/23.68.06

CTI (Liège)

Software:	SIGAL ("Système intégré de gestion automatisée du livre")
Number of installations in Belgium:	Public library of Liège with 14 branch libraries, 13 museums in the city of Liège
Max. size of Belg. install.:	27 (Public library of Liège)
Company:	Center of all automation activities in the City of Liège
Entrance on Belgian market:	1981
Modules available:	Cf. standard list at p. 42 except: serials recording (coming soon), electronic mail, report generation and management information
Modules generally used:	Idem
Computer:	BULL DPS8011/82 T
Terminal capacity:	500
Typical installation, number of terminals:	Liège: 200
Max. number of records:	Unlimited
Catalographic rules:	AFNOR/CLPCF
Subject classification:	UDC, RAMEAU
Input format:	INTERMARC (adapted version)
Import of external records:	Planned for 1991 (Database OPALE of the "Bibliothèque nationale" in Paris)
Supply of records:	Mainly to other SIGAL-libraries (UNIMARC)
OPAC:	Available: author, corporate author, title, word from title, keyword.
LAN:	No
Prices:	All participating libraries are part of the administration of the city of Liège. They all pay a share in the costs of the city's mainframe.
Purchase costs:	---
Maintenance:	---

Address:	Centre de traitement de l'information (CTI) Cité administrative en Potiérue B 4000 Liège Belgium
Telephone:	041/22.30.00
Fax:	

Appendix 3

List of libraries and research library networks having returned the questionnaire of which the data were used in the survey

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1. National library

Bibliothèque royale
Koninklijke bibliotheek
Bd. de l'empereur 4
Keizerslaan 4
B 1000 Brussels
Contactperson: W. Vanderpijpen

Bibliographie de Belgique
Belgische bibliografie
Bd. de l'empereur 4
Keizerslaan 4
B 1000 Brussels
Contactperson: W. Vanderpijpen

1. Research library networks

Antwerpen
VUBIS-Antwerpen
c.o. UIA-library
Universiteitsplein 1
B 2610 Antwerpen (Wilrijk)
Contactperson: R. Philips

Leuven
LIBIS-Net
c.o. Universiteitsbibliotheek KU-Leuven
Mgr. Ladeuzeplein 21
B 3000 Leuven
Contactpersons: A. Regent, J. Corthouts

2. University libraries

2.1. Flanders

Antwerpen	RUCA	Universitair Centrum Antwerpen Bibliotheek Middelheimlaan 1 B 2020 Antwerpen Contactperson: B. Van Styvendaele

	UFSIA	Universitaire Faculteiten St.-Ignatius Antwerpen Bibliotheek Prinsstraat 9 B 2000 Antwerpen Contactperson: Th. Boeckx
	UIA	Universitaire Instelling Antwerpen Bibliotheek Universiteitsplein 1 B - 2610 Antwerpen (Wilrijk) Contactperson: J. Van Borm
Brussel	UFSAL	Universitaire Faculteiten St.-Aloysius Bibliotheek Vrijheidslaan 17 B 1080 Brussel Contactperson: E. Defoort
	VUB	Vrije Universiteit Brussel Bibliotheek Pleinlaan 2 B 1050 Brussel Contactpersons: S.M. Namenwirth, G. Alewaeters, P. Nieuwenhuysen
Diepenbeek	LUC	Universiteitsbibliotheek Limburg Universitaire campus, gebouw D B 3590 Diepenbeek Contactperson: L. Egghe
Gent	RUG	Rijksuniversiteit Gent Centrale Bibliotheek Rozier 9 B 9000 Gent Contactperson: G. Van Hooydonk
Leuven	KUL	Katholieke Universiteit Leuven Universiteitsbibliotheek Mgr. Ladeuzeplein 21 B 3000 Leuven Contactperson: W. Jonckheere
Kortrijk	KULCK	Katholieke Universiteit Leuven Campus Kortrijk : Bibliotheek E. Sabbelaan 53 B 8500 Kortrijk Contactperson: P. Soetaert

2.2. French-speaking Belgium

Bruxelles ULB
Université Libre de Bruxelles
Centre de gestion des bibliothèques
Av. F.D. Roosevelt 50
B 1050 Bruxelles
Contactperson: A. Spoiden

UCL-M
Université Catholique de Louvain
Bibliothèque de la Faculté de médecine
Av. Hippocrate 50
B 1200 Bruxelles
Contactpersons: M. Walckiers, D. Blitz

Gembloux
Faculté des sciences agronomiques de Gembloux
Passage des déportés 2
B 5800 Gembloux
Contactperson: M. Populer

Liège ULg
Université de Liège
Réseau des bibliothèques de l'ULg
Place Cockerill 1
B 4000 Liège
Contactperson: J. Denooz

Louvain-la-Neuve

UCL-C
Université catholique de Louvain
Bibliothèque générale et de sciences humaines
Place Cardinal Mercier 31
B 1348 Louvain-la-Neuve
Contactperson: J. Germain

UCL-E
Université catholique de Louvain
Bibliothèque de la Faculté des sciences
économiques, sociales et politiques
Place Montesquieu 1
B 1348 Louvain-la-Neuve
Contactperson: M. Dorban

UCL-S
Université catholique de Louvain
Bibliothèque des sciences exactes
Place des sciences 3
B 1348 Louvain-la-Neuve
Contactperson: L. Van Simaeys

Mons FPMs
Faculté Polytechnique de Mons
Bibliothèque
Rue de Houdain 9
B 7000 Mons
Contactperson: N. Delebois-Poncin

UEMs Université de Mons Hainault
Bibliothèque
Rue Marguerite Bervoets 2
Place du pou 20
B 7000 Mons
Contactperson: R. Claix

Namur FUNDP Facultés universitaires Notre-Dame de la Paix
Bibliothèque universitaire Moretus Plantin
Rue Grandgagnage 19
B 5000 Namur
Contactperson: J.-M. Gilles

3. Non-university higher education library

Geel Hoger Instituut der Kempen (HIK)
Centrale Bibliotheek
Kleinhoefstraat 4
B 2440 Geel
Contactperson: K. Mertens

4. Public libraries

4.1. Flanders

Antwerpen Centrale Openbare Bibliotheek
Lange Nieuwstraat 105
B 2000 Antwerpen
Contactperson: H. Van Tricht

Brugge Centrale Openbare Bibliotheek
Kuipersstraat 3
B 8000 Brugge
Contactperson: L. Speecke

Hasselt Centrale Openbare Bibliotheek Provincie Limburg
Martelarenlaan 17
B 3000 Hasselt
Contactperson: E. Heidbuchel

Kortrijk Stedelijke Openbare Bibliotheek
Leiestraat 30
B 8500 Kortrijk
Contactperson: P. Vancolen

Leuven Centrale Openbare Bibliotheek
L. Vanderkelenstraat 28
B 3000 Leuven
Contactperson: D. Van Wonterghem

Mechelen — Stedelijke Openbare Bibliotheek
Gebr. Verhaegenstraat 14
B 2800 Mechelen
Contactperson: R. Van de Wiele

Oostende — Stedelijke Openbare Bibliotheek
Wapenplein
B 8400 Oostende
Contactperson: R. Leroy

Ronse — Plaatselijke Openbare Bibliotheek
E. Soudansquare
B 9600 Ronse
Contactperson: E. Coetsier

St. Niklaas — Stedelijke Openbare Bibliotheek
Hendrik Heymansplein 3
B 9100 St. Niklaas
Contactperson: L. De Backer

Turnhout — Stedelijke Openbare Bibliotheek
Warandestraat 42
B 2300 Turnhout
Contactperson: L. Mertens

Willebroek — Plaatselijke Openbare Bibliotheek
Schoolweg 1A
B 2830 Willebroek
Contactperson: T. Brems

4.2. French-speaking Belgium

Bruxelles — Bibliothèque principale
Bd. Emile Bockstael 246
B 1020 Bruxelles
Contactperson: G. Parmentier

Charleroi — Bibliothèque de l'Université du travail
Bd. Rouiller 1
B 6000 Charleroi
Contactpersons: J.M. Remy, F. Bouty

Liège — Bibliothèque Chiroux-Croisiers
Place des Carnes 8
B 4000 Liège
Contactpersons: J.P. Rouge, B. Demoulin

Marche-en-Famenne
Bibliothèque centrale du Luxembourg
Chaussée de l'Ourthe 74
B 6900 Marche-en-Famenne

Contactperson: Annet

Mouscron
Centre de lecture publique
Rue du beau-chêne 20
B 7700 Mouscron
Contactperson: P. Lepoutre

Nivelles
Bibliothèque publique centrale de la
Communauté française (Brabant Wallon)
Place Albert 1
B 1400 Nivelles
Contactperson: Y. Parent

Verviers
Bibliothèque principale
Place du marché
B 4800 Verviers
Contactperson: A.-L. Boute

Waremme
Bibliothèque publique libre de Hesbay
Avenue Monjoie 36
B 4370 Waremme
Contactperson: Morue

5. Special libraries

5.1. Public authorities

Antwerpen
Instituut voor Tropische Geneeskunde
Nationalestraat 155
B 2000 Antwerpen
Contactperson: G. Roelants

Stadsbibliotheek
H. Conscienceplein 4
B 2000 Antwerpen
Contactperson: R. Rennenberg

Brussels
The American Library
Bolwerksquare 1C
Square du Bastion 1C
B 1050 Brussels
Contactperson: E. Olislaeger

Banque nationale du Belgique
Nationale Bank van België
Bibliothèque scientifique
Wetenschappelijke bibliotheek
Bd. de Berlaimont 5
B 1000 Brussels
Contactperson: A. Mabille

Belgische Radio en Televisie (BRT)
Beeldarchief
A. Reyerslaan 52
B 1043 Brussel
Contactperson: E. De Groef

British Council
Britannia House
Jozef II straat 30
Rue Josef II 30
B 1040 Brussels
Contactperson: L. Bull

Institut royal des sciences naturelles de Belgique
Koninklijk Belgisch Instituut voor Natuurwetenschappen
Rue Vautier 29
Vautierstraat 29
B 1040 Brussels
Contactperson: J. Govaere

Ministerie van de Vlaamse Gemeenschap
Departement van Onderwijs: Centrale Bibliotheek
Koningsstraat 150
B 1000 Brussel
Contactperson: E. Deprez

Ministry of Defense
Documentatiecentrum en Centrale Bibliotheek
Centre de documentation et Bibliothèque centrale
Everestraat
B 1140 Brussels
Contactperson: J. Stercken

Parlement
Bibliothèque - Bibliotheek
Place de la nation 2
Natieplein 2
B 1008 Brussels
Contactperson: P. Delbart

Queteletfonds
Fonds Quetelet
Nijverheidsstraat 6
Rue de l'industrie 6
B 1040 Brussels
Contactperson: G. De Saedeleer

Mol

Studiecentrum voor Kernenergie (SCK)
Boeretang 200
B 2400 Mol
Contactperson: H. Everaert

5.2. Private authorities

Antwerpen

Agfa-Gevaert
Bedrijfsbibliotheek
Septestraat 27
B 2640 Mortsel
Contactperson: G. De Groot

Beerse

Janssen Pharmaceutica
Wetenschappelijke Documentatie
Turnhoutseweg 30
B 2340 Beerse
Contactperson: R. Mertens

Brussels

BAC (bank)
Trierstraat 25
B 1040 Brussels
Contactperson: D. Boeyaert

BBL (bank)
Centre national de documentation
Nationaal documentatiecentrum
Av. Marnix 24
Marnixlaan 24
B 1050 Brussels

BIDKA - CIDMOC
Bibliotheek - Informatie en Documentatiecentrum
van de Katholieke Arbeidersbeweging
Centre d'information et de documentation
du Mouvement ouvrier chrétien
Wetstraat 121
Rue de la loi 121
B 1040 Brussels
Contactperson: L. Aerts

Compagnie intercommunale bruxelloise des eaux
Service documentation
Rue aux laines 70
B 1000 Bruxelles
Contactperson: M. Delcol

Gemeentekrediet van België / Crédit communal de Belgique
Pachecolaan 44
Av. Pacheco 44
B 1000 Brussels
Contactperson: De Coninck

Générale de Banque
Service information business
Montagne du parc 3
B 1000 Bruxelles
Contactperson: L. De Vits

IBM IEC Library
Chaussée de Bruxelles 135
Brusselsesteenweg 135
B 1310 La Hulpe / Terhulpen
Contactpersons: G. Marchal, M.-Cl. Peeters

Institut belge pour la sécurité routière
Belgisch Instituut voor Verkeersveiligheid
Chaussée de Haacht 1405
Haachtsesteenweg 1405
B 1130 Brussels
Contactpersons: Th. Guignet, J. Van Cauwelaert

Kredietbank
Warmoesberg 2
B 1000 Brussels
Contactperson: P. Saerens

Solvay & Cie
Direction centrale des recherches
Rue de Ransbeek 310
B 1120 Brussels
Contactperson: L. Meyers

Tractebel
Documentation
Av. Ariane 7
B 1200 Bruxelles

Denée

Centre informatique et bible
Abbey de Maredsous
B 5198 Denée
Contactperson: R.-F. Poswick

Jumet

Glaverbel
Centre de recherches
Rue de l'aurore 2
B 6040 Jumet
Contactperson: J. De Ceuninck

Zwevegem

Bekaert NV
Corporate Information Services
B 8550 Zwevegem
Contactperson: J. Vandenhende

Appendix 4

List of acronyms and abbreviations

AACR	Anglo-American cataloguing rules (special library)
ABB	Assurantie van de Belgische Boerenbond
ABD	Association belge de documentation
AFNOR	Association française de normalisation
AIHM	Association informatique hennuyère (utility)
ANTILOPE	Union catalogue of current periodicals in Belgian research libraries
AVM	Audiovisual material
BAC	Deposit Bank, called BAC
BAUD	Bits per second (transmission speed)
BBL	Bank Brussels-Lambert
BEF	Belgian francs
BELINDIS	Belgian Information and Dissimination Service (Belgian host organization)
BIDKA	Bibliotheek-, Informatie- en Documentatiecentrum van de Kristelijke Arbeidersbeweging (network of special libraries)
BIOMED	Union catalogue of current biomedical periodicals in Belgium
BRT	Belgian Radio and Television (Flanders)
CCB	Collectieve Catalogus België Catalogue collectif belge (Belgian CD-ROM union catalogue)
CD-ROM	Compact disk read only memory
CDU	Classification décimale universelle (UDC)
CEC	Commission of the European Communities
CEVI	CEVI: Intercommunaal Centrum voor Informatica (utility)
CIBE	Compagnie intercommunale bruxelloise des eaux
CIB	Centre informatique et bible (Dénee: abbey of Maredsous)

CIDMOC	Centre d'information et de documentation du Mouvement ouvrier chrétien (network of special libraries)
CIP	Cataloguing in publication
CIPAL	Cooperative utility, called CIPAL, for the provinces of Antwerpen and Limburg
CIUF	Conseil interuniversitaire de la Communauté française de Belgique (Interuniversity Council of the French-speaking Community in Belgium)
COI	Centrum voor Overheidsinformatiek, Leuven (utility)
COM	Computer output on microform
CTI	Centre de traitement de l'information (City of Liège)
D-MARC	DOBIS-MARC
Debora	Documentation et études bibliques par ordinateurs et réseaux automatisés (Maredsous)
DOBIS	Dortmunder Bibliothek Information System
EC	European Communities
ESA	European Space Agency
FOBID	Federatie van Organisaties op het Gebied van het Bibliotheek-, Informatie- en Dokumentatiewezen
FPMs	Faculté polytechnique de Mons
FTE	Full Time Equivalent
FUNDP	Facultés universitaires Notre Dame de la Paix (Namur)
Gembloux	Faculté des sciences agronomiques de Gembloux
HIK	Hoger Instituut der Kempen (Geel)
IBSR	Institut belge pour la sécurité routière
IHE	Institute for Hygiëne and Epidemiology (Brussels)
ILL	Interlibrary lending (including photocopies of periodical articles)
INSIST	Institut de l'information scientifique et technique (CNRS-France)

INTERMARC	International machine readable catalogue (a catalogue exchange format)
ISBD	International standard bibliographic description
ISBSR	Institut royal des sciences naturelles de Belgique
IT	Information technologies
ITG	Instituut voor Tropische Geneeskunde (Antwerpen)
KADOC	Katholiek Archief en Documentatiecentrum (Leuven)
KBIN	Koninklijke Belgisch Instituut voor Natuurwetenschappen
KU-L	Katholieke Universiteit Leuven
KU-Leuven	Katholieke Universiteit Leuven
KULCK	Katholieke Universiteit Leuven. Campus Kortrijk
LAN	Local area network
LC	Library of Congress
LCSH	Library of Congress Subject Headings
LIB-2	EC-study. State of the art of the application of new information technologies in libraries and their impact on library functions. 1986
LIBIS	Leuvens Integraal Bibliotheek- en Informatiesysteem
LIBIS-Net	Network organized by LIBIS
LUC	Limburgs Universitair Centrum
MARC	Machine readable catalogue
Mecu	Million Ecus
MeSH	Medical subject headings
NBLC	Nederlands Bibliotheek en Lectuurcentrum (Den Haag)
OCLC	Online Computer Library Center (Dublin, Ohio)
OPAC	On line public access catalogue
OSI	Open Systems Interconnection

PC	Personal computer
PICA	Project geïntegreerde catalogus (The Dutch automated library system)
Quetelet	Quetelet-library of the Ministry of Economy (Brussels)
RAMEAU	Répertoire d'autorité matière encyclopédique et alphabétique unifié
RUCA	Rijksuniversitair Centrum Antwerpen
RUG	Rijksuniversiteit Gent
SBA	Stadsbibliotheek Antwerpen
SCK	Studiecentrum voor Kernenergie (Mol)
SDI	Selective dissimination of information
SISO	Schema voor de indeling van de systematische catalogus in openbare bibliotheken (classification scheme for public libraries)
TACO	Database produced by NBLC
UA	Universiteit Antwerpen
UCL	Université catholique de Louvain
UCL-C	Université catholique de Louvain. Bibliothèque générale et de sciences humaines
UCL-E	Université catholique de Louvain. Bibliothèque de la Faculté des sciences économiques, sociales et politiques
UCL-M	Université catholique de Louvain. Bibliothèque de la Faculté de médecine
UCL-S	Université catholique de Louvain. Bibliothèque des sciences exactes
UDC	Universal decimal classification
UEMs	Université de Mons Hainaut
UFSAL	Universitaire Faculteiten Sint-Aloysius (Brussel)
UFSIA	Universitaire Faculteiten Sint Ignatius (Antwerpen)
UIA	Universitaire Instelling Antwerpen

ULB	Université libre de Bruxelles
ULg	Université de Liège
UNIMARC	Universal machine readable catalogue
VLABRIC	Vlaams Brabants Informatica Centrum (utility)
VLACC	Vlaamse centrale catalogus (the automated union catalogue of the public libraries in Flanders)
VLIR	Vlaamse Interuniversitaire Raad (the inter-university council of the Dutch - speaking universities)
VOWB	Vlaams Overlegorgaan voor Wetenschappelijk Bibliotheekwerk Flemish Library Council, part of the VLIR: the Flemish Interuniversity Council
VUB	Vrije Universiteit Brussel
VUBIS	VUB Informatie Systeem
VUBIS-Antwerpen	Network organized by the University of Antwerpen
WAN	Wide area network

Appendix 5

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Appendix 6

Dutch and French versions of the questionnaires

- Libraries' questionnaire
  - French
  - Dutch

- Suppliers' questionnaire
  - French
  - Dutch

LIB 2 update study de la CE
Enquête: l'automatisation des bibliothèques fin 1990

Introduction

La Commission de la CE: DG XIIIb désire être informée de la situation de l'automatisation dans les bibliothèques des pays-membres pour la période 1986-1990. Ce projet s'appelle LIB-2 update et est la suite de l'étude de 1986 qui pour la Belgique a été publiée sous le titre: *Report on the introduction of the New Information Technologies (NITS) and on the interlending situation in Belgian libraries*. Anvers, 1986, 182 p. Dans cette nouvelle étude la CE essaie de répertorier les changements dans la période 1986-1990.

Conseils

1. Bibliothèques travaillant en réseau
   Bibliothèques faisant partie d'un réseau peuvent faire remplir certaines rubriques par le responsable du réseau. Ainsi nous évitons que les mêmes données de base ne doivent être remplies par tous les participants du réseau (ex. LIBIS-net). En retournant le questionnaire on signalera l'information à livrer par le réseau avec l'indication de l'institution qui en prendra soin.

2. Grandes institutions ayant plusieurs bibliothèques
   Les grandes institutions ayant plusieurs bibliothèques (quasi) autonomes sont priées de remplir des questionnaires séparés pour chacune des bibliothèques. A cette fin vous pouvez copier le questionnaire ou en demander des exemplaires supplémentaires. Dans tous les autres cas une approche globale de la part des grandes institutions semble être indiquée.

3. Subdivisions de l'enquête
   1. Identification de la bibliothèque.
   2. Base(s) de données lisible(s) par machine (cette information peut être livrée en grande partie par le réseau).
   3. Réseau (cette information peut être livrée en grande partie par le réseau).
   4. Systèmes intégrés pour l'automatisation des bibliothèques (cette information peut être livrée partiellement par le réseau).
   5. Services basés sur IT ('information technology') pour les usagers.
   6. Documentation.
   7. Renseignements.

4. Estimations
   Là où il est difficile de donner des chiffres exacts vous pouvez donner des estimations. Les estimations doivent être précédées par "ca.".

5. Non-réponse
   Omettez les questions auxquelles vous n'arrivez pas à répondre. Il vaut mieux remplir l'enquête avec des lacunes que de ne pas la renvoyer du tout.

6. Problèmes avec l'enquête!
   Téléphonez nous aux numéros suivants:
   03/820.21.42 K.Clara
   03/820.21.43 J.Van Borm.

7. Documentation
   Veuillez nous envoyer des références ou des photocopies de livres, d'articles et d'études (même grises) sur l'automatisation dans votre bibliothèque. Nous les citerons dans la bibliographie à condition qu'il s'agisse de publications publiées entre 1986 et 1991.

8. Information supplémentaire
   Vous pouvez toujours ajouter de l'information supplémentaire. Là où le questionnaire ne le permet pas utilisez des feuilles supplémentaires.

9. Date limite du retour de votre questionnaire: le 31 janvier 1991
   Adresse: Bibliothèque de l'UIA
   LIB 2
   PB 13
   2610 Anvers (Wilrijk)

LIB 2-update study
Enquête: Situation de l'automatisation des bibliothèques à la fin de l'année 1990

1. Identification de la bibliothèque

1.1. Nom :

1.2. Adresse :

1.3. Nom de la personne qui répond :

1.4. Tél.:

1.5. Type de bibliothèque

- ☐ bibliothèque scientifique de niveau universitaire
- ☐ bibliothèque d'une institution d'enseignement supérieur non univ.
  - ☐ cycle de moins de 4 ans
  - ☐ cycle de 4 ans
- ☐ bibliothèque publique
- ☐ bibliothèque gouvernementale ou ministérielle
- ☐ bibliothèque d'entreprise
- ☐ autre bibliothèque (donnez le type s.v.p.)

1.6. Budget d'acquisition 1990 (livres et périodiques)

1.7. Nombre de volumes (livres et périodiques reliés)

1.8. Nombre des périodiques en cours

1.9. Nombre du personnel (à plein temps)

1.10. Nombre de lecteurs

2. Base(s) de données lisible(s) par machine

2.1. (Estimation du) nombre de titres (≠ volumes) dans votre bibliothèque

2.2. Nombre de titres dans la base automatisée

1986
1990

2.3. Les acquisitions sont-elles toutes enregistrées dans la base?

non ☐

oui ☐

Si non, quel %

2.4. Pourcentage de la collection dans la base

1986
1990

2.5. Sujets dans la base (en %)

Sciences humaines %

Sciences sociales (y inclus écon.) %

Sciences exactes et appliquées %

Médecine %

2.6. Rétroconversion (rétrocatalogage)
Y a-t-il (y avait-il) dans votre bibliothèque un programme de rétroconversion du vieux fichier dans la base?

non ☐

oui ☐

Ce programme est-il terminé?

non ☐

oui ☐

Si non

Combien de titres doivent encore être traités?

Dans quelle période comptez-vous réaliser ce travail?

Quelles sont les priorités?

Profondeur de la rétroconversion

'short title' ☐

'full title' ☐

Modalités.

saisie de données à partir des fiches ☐

saisie de données à partir du livre ☐

autres (indiquer s.v.p.) ☐

2.7. Catalogage

2.7.1. Création des notices catalographiques

1. La bibliothèque crée-t-elle ses propres notices catalographiques?

non ☐

oui ☐

partiellement ☐

2. Quelles sont les règles catalographiques utilisées?

	pur	adapté	niveau (level)
AACR II	☐	☐	
FOBID (Pays-Bas)	☐	☐	
AFNOR (France)	☐	☐	
autres (indiquer s.v.p.)	☐	☐	

3. Quel(s) standard(s) employez-vous pour l'indexation matières?

	pur	adapté
CDU	☐	☐
Dewey	☐	☐
LoC	☐	☐
SISO	☐	☐
BLISS	☐	☐
LCSH	☐	☐
MeSH	☐	☐
autres	☐	☐

(nommez-les s.v.p.)

4. Quel est le format utilisé pour la saisie des données?

	pur	adapté
LC MARC	☐	☐
BNB MARC	☐	☐
INTERMARC	☐	☐
UNIMARC	☐	☐
autre	☐	☐

(lequel)

5. Quelles entrées (indexes) offrez-vous dans votre catalogue (OPAC)?

auteur ☐
collectivité ☐
titre ☐
titre de collection ☐
chaque mot du titre ☐
langue du titre ☐
sujet ☐
mot clé ☐
date d'édition ☐
lieu d'édition ☐
cote ☐
autres ☐
(lesquelles?)

6. Quelles techniques de restriction ou d'élargissement de l'interrogation sont offertes par le catalogue public?

troncation ☐
logique booléenne ☐
autres (nommez-les s.v.p.) ☐

2.7.2. Importation de notices catalographiques dérivées d'une autre source
Votre bibliothèque utilise-t-elle des notices catalographiques dérivées d'une autre source?

non ☐
oui ☐
partiellement ☐

Origine de ces notices

Réseau auquel on appartient ☐

OCLC ☐

LoC ☐

Autres (lesquelles?) ☐

Quels formats pourriez-vous accepter au niveau de l'input des données (ex. INTERMARC, UNIMARC)?

2.7.3. Fourniture des notices catalographiques à d'autres bibliothèques

1. Est-ce que vous livrez des notices catalographiques à d'autres bibliothèques?

non ☐

oui ☐

Si oui,
aux membres de votre réseau

non ☐

oui ☐

à des bibliothèques non-membres de votre réseau

non ☐

oui ☐

2. Dans quel format livrez-vous des notices catalographiques (ex. INTERMARC, UNIMARC)?

3. La transmission des données se fait sous forme de:

'screen dump' ☐

'record by record transfer' ☐

'file transfer' ☐

autres ☐
(lesquelles?)

4. Supports utilisés.

online ☐

bande magnétique ☐

CD-ROM ☐

disquette ☐

papier ☐

5. Sous quelles conditions livrez-vous des notices catalographiques à d'autres bibliothèques?
- quant à leur usage (limité, illimité)

- quant à l'aspect financier

2.8. Quels sont les changements les plus importants depuis 1986 quant aux points 2.1 à 2.7 ci-dessus?

2.9. Quels seront les changements les plus importants pour les années 1991 à 1993 quant aux points 2.1 à 2.7 ci-dessus?

3. Réseaux et accès aux bases de données lisibles par machine

3.1. Votre réseau

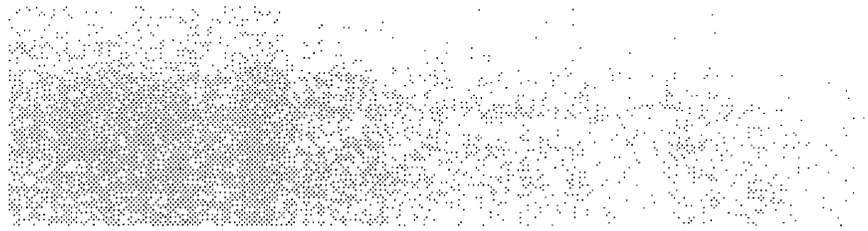
3.1.1. Votre bibliothèque fait-elle partie d'un réseau?

non ☐

oui ☐

Lequel?

3.1.2. Décrivez l'architecture de votre réseau



3.1.3. LAN

Votre base (catalogue) est-elle accessible au LAN local ('local area network' ex. le réseau d'un campus universitaire)?

non ☐

oui ☐

3.1.4. Votre base (catalogue) est-elle accessible aux usagers extérieurs?

non ☐

oui ☐

Si oui,

via 'dial up' ☐

via DCS (X.25) ☐

autres ☐

lesquels?

Quelles en sont les conditions d'accès?

contract ☐

mot de passe ☐

payement ☐

Lequel?

autres ☐

Lesquelles?

3.2. Accès à un autre reseau

3.2.1. Votre bibliothèque est-elle interconnectée avec d'autres réseaux de bibliothèques?

non ☐

oui ☐

Lequel?

3.2.2. Est-ce que vous avez des plans pour l'interconnexion avec un autre réseau?

non ☐

oui ☐

Lequel?

3.3. Quels sont les changements les plus importants depuis 1986 quant aux points 3.1 à 3.4 ci-dessus?

3.4. Quels seront les changements les plus importants pour les années 1991 à 1993 quant aux points 3.1 à 3.4 ci-dessus?

4. Systèmes intégrés pour l'automatisation des bibliothèques

4.1. Quel système employez-vous pour l'automatisation de votre bibliothèque?

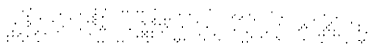
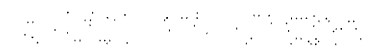
- aucun ☐
- fait maison ☐
- système commercial ☐

4.2. Qui en est le fournisseur ou fabricant?

4.2.1. Hardware

4.2.2. Logiciel

4.3. Quels modules utilisez-vous?

- catalogage ☐
- catalogue public (OPAC) ☐
- acquisition ☐
  - 'online ordering' ☐
- bulletinage des périodiques ☐
  - 'online claiming' ☐
- prêt ☐
- prêt entre bibliothèques ☐
- messagerie électronique ☐
- création des rapports ☐
- 'management information' ☐
-  ☐
-  ☐
-  ☐

4.4. Hardware

4.4.1. La base est-elle installée sur

Mainframe	☐	Marque	Type
Mini	☐	Marque	Type
Micro(PC)	☐	Marque	Type

4.4.2. Cet ordinateur est-il réservé exclusivement à la bibliothèque ou est-ce que la bibliothèque le partage avec d'autres applications?

usage exclusif ☐

usage partagé ☐

Avec qui?

4.4.3. Combien de terminaux dédicacés ou PC sont reliés avec le système à l'exclusion des terminaux et PC qui se raccordent occasionnellement (ex. via un LAN)?

4.4.4. Rôle des micro(PC) comparé aux terminaux

4.5. Personnel

Est-ce que vous avez engagé des informaticiens pour l'automatisation de votre bibliothèque?

non ☐

oui ☐

Combien?

De quel niveau?

4.6. Coût du système (éventuellement estimation)

4.6.1. Prix à l'installation

personnel
hardware
logiciel
varia

TOTAL

4.6.2. Prix annuel (chiffres 1990)

personnel
hardware
logiciel
varia

TOTAL

4.7. Quels sont les changements les plus importants depuis 1986 quant aux points 4.1 à 4.6 ci-dessus?

4.8. Quels seront les changements les plus importants pour les années 1991 à 1993 quant aux points 4.1 à 4.6 ci-dessus?

5. Services basés sur IT ('information technology') pour les usagers

5.1. Mettez-vous à la disposition de vos usagers des bases bibliographiques, autres que celles de votre bibliothèque (ex. Antilope)?

non ☐

oui ☐

Lesquelles?

5.2. Mettez-vous à la disposition de vos usagers des bases, autres que des bases bibliographiques ou catalographiques (ex. 'community information' ou des 'full text databases')?

non ☐

oui ☐

Lesquelles?

5.3. Assurez-vous des 'gateways' vers d'autres bases de données (ex. Dialog, autre réseau)?

non ☐

oui ☐

Lesquels?

5.4. Videotex

5.4.1. Votre base peut-elle être consultée par videotex?

non ☐

oui ☐

5.4.2. Votre système donne-t-il accès au videotex?

non ☐

oui ☐

Quelles connexions?

5.5. Fournissez-vous un des services suivants?

'kiosk'-service[1] ☐

télécopie ☐

messagerie électronique pour les lecteurs ☐

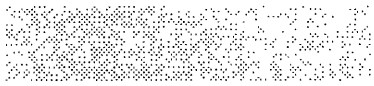
5.6. Prêt entre bibliothèques

5.6.1. Utilisez-vous des disques CD-ROM pour orienter le prêt entre bibliothèques?

non ☐

oui ☐

Lesquels?



5.6.2. Est-ce que vous avez changé votre prêt entre bibliothèques en utilisant d'autres techniques IT 'information technology' (ex. des bases sur disquettes, 'electronic document ordering')?

non ☐

oui ☐

Comment?

5.6.3. Le lecteur a-t-il accès à ses demandes de prêt entre bibliothèques stockées dans le système automatisé?

non ☐

oui ☐

Peut-il introduire lui-même les demandes dans le système?

non ☐

oui ☐

Peut-il consulter les données concernant ses demandes?

non ☐

oui ☐

---

[1] De l'information de type générale non liée à la bibliothèque comme par ex. des activités diverses au campus, dans une bibliothèque publique ou centre culturel.

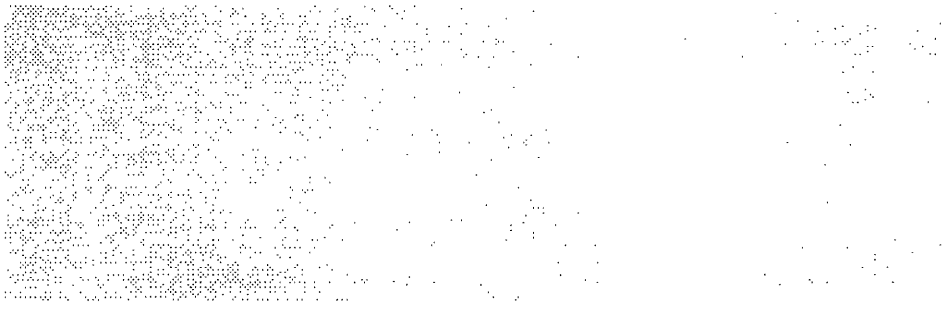
5.7. CD-ROM
Fournissez-vous de la documentation stockée sur CD-ROM à vos lecteurs?

non ☐

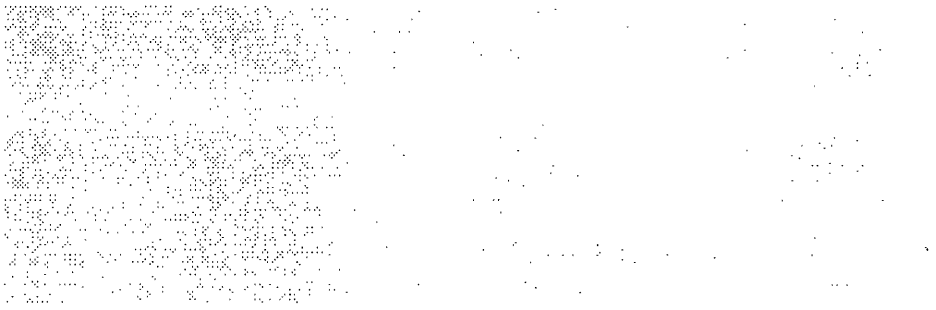
en self service ☐

'mediated' ☐

5.8. Quels sont les changements importants depuis 1986 quant aux points 5.1 à 5.7?



5.9. Quels seront les changements importants pour les années 1991 à 1993 quant aux points 5.1 à 5.7?



6. Documentation

Signalez ici les livres, articles, études (même grises) sur l'automatisation de votre bibliothèque pour la période de 1986 à 1991. Des copies des articles et des études, même des copies de la littérature grise peuvent être envoyées aux auteurs de l'enquête. Elles seront utilisées comme source première pour constituer le rapport et seront bien sûr reprises dans la bibliographie annexe au rapport.

7. Information

Bienque nous nous soyons efforcés de localiser en Belgique toutes les bibliothèques ayant une excellente infrastructure automatisée, il n'est pas exclu que quelque bibliothèque ne se trouve pas dans notre liste d'adresses. C'est pourquoi nous vous demandons de nous signaler les bibliothèques dans votre région ou secteur qui ont été automatisées dans les années 1986 à 1990 (bibliothèques disposant d'un minimum de 10 terminaux ou micros).

Cette question s'adresse tout particulièrement aux bibliothèques publiques, aux bibliothèques du secteur privé et aux bibliothèques gouvernementales et ministérielles.

Nom de la bibliothèque	Adresse	Importance de l'automatisation (estimation du nombre de terminaux et micro (PC))

LIB 2 update study van de EG
Enquête : Stand van de bibliotheekautomatisering eind 1990

Inleiding

De Commissie van de EG: DG XIII b wenst geïnformeerd te worden over de stand van zaken van de bibliotheekautomatisering in de lidstaten voor de periode 1986-1990. Dit project heet LIB 2-update study en sluit aan bij de studie van 1986 die voor België gepubliceerd werd onder de titel: *Report on the introduction of the New Information Technologies (NITS) and on the interlending situation in Belgian libraries.* Antwerpen, 1986, 182 p. Het is de bedoeling van de EG om via deze update studie veranderingen op te sporen voor de periode 1986-1990.

Raadgevingen

1. Netwerkbibliotheken
   Bibliotheken die deel uitmaken van een netwerk kunnen onderling afspraken maken over het invullen van bepaalde rubrieken. Zo hoeven voor het LIBIS-net, de VLACC of VUBIS-Antwerpen niet steeds dezelfde basisgegevens ingevuld. Bij het retourneren van de ingevulde enquêteformulieren kan dan verwezen worden naar de netwerkinformatie met aanduiding van de instelling die daarvoor zal zorgen.

2. Grote instellingen met vele bibliotheken
   Grote instellingen met (quasi) autonome bibliotheken kunnen best per bibliotheek een aparte vragenlijst invullen. Kopieer daartoe de enquêtelijst of vraag extra exemplaren. In de andere gevallen verdient een globale benadering de voorkeur.

3. Indeling van de enquête
   1. Identificatie van de bibliotheek.
   2. Machine-leesbare bestanden (info kan deels door netwerk geleverd worden).
   3. Netwerken (info kan grotendeels door netwerk geleverd worden).
   4. Geïntegreerde bibliotheeksystemen (info kan deels door netwerk geleverd worden).
   5. IT-georiënteerde diensten voor de gebruiker.
   6. Documentatie.
   7. Inlichtingen.

4. Ramingen
   Als exacte cijfers moeilijk te geven zijn geeft u bij voorkeur ramingen. Wil u deze laten voorafgaan door "ca.".

5. Onbeantwoorde vragen
   Sla vragen die u niet kunt beantwoorden over.
   Het is beter de enquête in te vullen met lacunes dan ze te laten liggen.

6. Problemen bij het invullen
   Bel ons op nummer 03/820.21.42 (K.Clara) of 03/820.21.43 (J.Van Borm).

7. Documentatie
   Wil u zo goed zijn om referenties naar of fotocopieën van boeken, artikelen en studies (ook grijze) over uw bibliotheekautomatiseringssysteem mee op te sturen. Wij nemen ze beslist op in de bibliografie voor zover ze althans betrekking hebben op de periode 1986-1991.

8. Extra informatie
   Extra informatie kan u toevoegen. Als de ruimte op het enquêteformulier daartoe niet volstaat, gebruik dan extra pagina's.

9. Uiterste datum van inzending: 31 januari 1991
   Adres: UIA-bibliotheek
   LIB 2
   PB 13
   2610 Antwerpen (Wilrijk)

LIB 2-update study
Enquête: Stand van de bibliotheekautomatisering eind 1990

1. Identificatie van de bibliotheek

1.1. Naam:

1.2. Adres:

1.3. Naam van de persoon die antwoordt:

1.4. Tel.:

1.5. Type bibliotheek

- ☐ wetenschapp. bibliotheek van universitair niveau
- ☐ HOBU-bibliotheek
  - ☐ korte type
  - ☐ lange type
- ☐ openbare bibliotheek
- ☐ overheidsbibliotheek (ministeries e.d.)
- ☐ bedrijfsbibliotheek
- ☐ andere (welke?)

1.6. Aanschafkrediet 1990 (boeken en tijdschriften)

1.7. Bezit in aantal boekdelen (boeken en ingebonden tijdschriften)

1.8. Aantal lopende tijdschriften

1.9. Aantal personeelsleden (VTE)

1.10. Aantal lezers

2. Machine-leesbare bestanden

2.1. (Geschat) aantal titels in de bibliotheek (≠ volumes)

2.2. Aantal titels in de geautomatiseerde database

1986
1990

2.3. Worden aanwinsten in de database ingevoerd

neen ☐

ja ☐

Zo neen, welk %

2.4. Percentage van de collectie in de database

1986
1990

2.5. Onderwerpsindeling van de database (in %)

Humane wetenschappen %

Sociale wetenschappen (incl.economie) %

Exacte en toegepaste wetenschappen %

Geneeskunde %

2.6. Reconversie

Loopt (of liep) in uw bibliotheek een reconversieprogramma waarbij de oude steekkaartencatalogus wordt opgenomen in de database?

neen ☐

ja ☐

Is dit programma al afgewerkt?

neen ☐

ja ☐

Zo neen. Hoeveel titels dient u nog te converteren?

In welke periode denkt u dit te realiseren?

Welke prioriteiten worden daarbij gelegd?

Diepte van de retro-catalogisering

'short title ☐

'full title' ☐

Wijze van retro-catalogisering

input van de gegevens vanuit de steekkaart ☐

input van de gegevens vertrekkend van het boek ☐

andere, welke?

2.7. Catalogisering

2.7.1. Eigen record-creatie

1. Creëert de bibliotheek eigen bibliografische records?

ja ☐

neen ☐

partieel ☐

2. Welke catalogusregels worden daarbij gebruikt?

	zuiver	aangepast	niveau ('level')
AACR II	☐	☐	
FOBID	☐	☐	
AFNOR	☐	☐	
andere (welke?)	☐	☐	

3. Welke onderwerpsontsluiting wordt gebruikt?

	zuiver	aangepast
UDC	☐	☐
Dewey	☐	☐
LoC	☐	☐
SISO	☐	☐
BLISS	☐	☐
LCSH	☐	☐
MeSH	☐	☐
andere	☐	☐

(welke?)

4. Welk formaat wordt gebruikt voor input?

	zuiver	aangepast
LC MARC	☐	☐
BNB MARC	☐	☐
INTERMARC	☐	☐
UNIMARC	☐	☐
andere	☐	☐

(welk?)

5. Welke ingangen biedt de publiekscatalogus?

- auteur ☐
- corporatieve auteur ☐
- titel ☐
- reekstitel ☐
- elk titelwoord ☐
- taal van het werk ☐
- onderwerp ☐
- trefwoord ☐
- datum van uitgave ☐
- plaats van uitgave ☐
- boeknummer ☐
- andere ☐

  (welke?)

6. Welke technieken van vraagverbreding of -verenging biedt de publiekscatalogus?

- truncatie ☐
- 'boolean searching' ☐
- andere ☐

  (welke?)

2.7.2. Import van externe records

Gebruikt uw bibliotheek elders aangemaakte beschrijvingen?

- neen ☐
- ja ☐
- partieel ☐

Herkomst van deze records

Netwerk waartoe men behoort ☐

OCLC ☐

LoC ☐

Andere ☐

(welke?)

Welke input-formaten kan uw systeem verwerken (v.b. INTERMARC, UNIMARC)?

2.7.3. Toelevering van beschrijvingen aan derden

1. Biedt u records aan voor gebruik door derden?

neen ☐

ja ☐

Indien ja,

Binnen eigen netwerk.

neen ☐

ja ☐

Aan andere bibliotheken, niet-leden van het netwerk.

neen ☐

ja ☐

2. In welk formaat levert u de beschrijvingen aan (v.b. INTERMARC, UNIMARC)?

3. Hoe gebeurt de dataoverdracht?

'screen dump' ☐

'record by record transfer' ☐

'file transfer' ☐

andere ☐
(welke?)

4. Gebruikte media (dragers)

online ☐

band ☐

CD-ROM ☐

floppy ☐

papier ☐

5. Onder welke voorwaarden levert u beschrijvingen aan derden?
- qua gebruik (beperkt, onbeperkt)

- financieel

2.8. Wat zijn sinds 1986 de voornaamste wijzigingen t.a.v. de hierboven vernoemde items (2.1 tot 2.7)?

2.9 Wat zullen de voornaamste wijzigingen zijn voor de e.k. drie jaren (1991-1993) t.a.v. de items 2.1 tot 2.7 ?

3. Netwerken en toegang tot machine-leesbare bestanden

3.1. Eigen netwerk

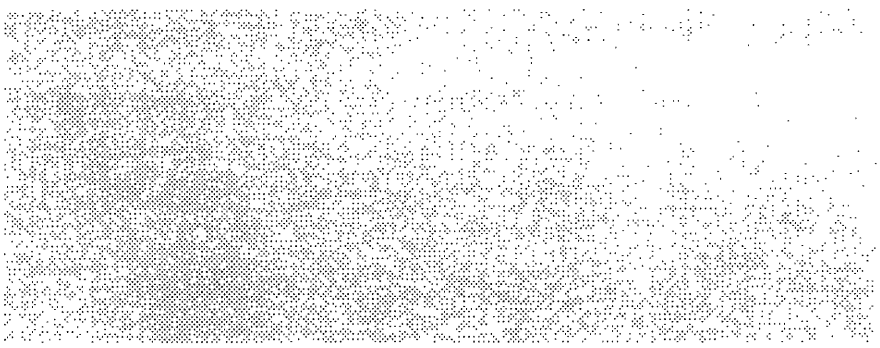
3.1.1. Is uw bibliotheek lid van een netwerk?

neen ☐

ja ☐

Welk?

3.1.2. Geef een korte beschrijving van de netwerk-architectuur



3.1.3. LAN

Is uw database (catalogus) toegankelijk via een 'local area netwerk' bv. een campusnetwerk?

neen ☐

ja ☐

3.1.4. Is uw database (catalogus) toegankelijk voor externe gebruikers?

neen ☐

ja ☐

Indien ja,

via 'dial up' ☐

via DCS (X 25) ☐

andere ☐

(welke?)

Wat zijn dan de toegangsvoorwaarden?

contract ☐

paswoord ☐

betaling ☐

welke?

andere ☐

welke?

3.2. Toegang tot een ander netwerk

3.2.1. Is uw bibliotheek verbonden met andere bibliotheeknetwerken?

neen ☐

ja ☐

welke?

3.2.2. Hebt u plannen tot interconnectie met andere netwerken?

neen ☐

ja ☐

welke?

3.3. Belangrijkste wijzigingen sinds 1986 t.a.v. de items 3.1 tot 3.4?

3.4. Wat zullen de voornaamste wijzigingen zijn voor de e.k. drie jaar (1991-1993) t.a.v. de items 3.1 tot 3.4?

4. Geïntegreerde bibliotheeksystemen

4.1. Welk geautomatiseerd bibliotheeksysteem is in gebruik in uw bibliotheek?

geen ☐

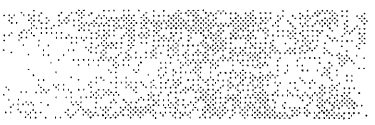
in huis gemaakt systeem ☐

commercieel systeem ☐

4.2. Wie is de leverancier c.q. producent?

4.2.1. Hardware

4.2.2. Software



4.3. Welke modules zijn in gebruik?

catalogisering ☐

OPAC ☐

acquisitie ☐

- 'online ordering' ☐

tijdschriftenbeheer ☐

- 'online claiming' ☐

leen ☐

interbibliothecaire leen ☐

'electronic mail' ☐

'report generation' ☐

'management information' ☐

☐

☐

☐

4.4. Apparatuur

4.4.1. Draait de database op:

Mainframe	☐	Merk	Type
Minicomputer	☐	Merk	Type
Micro(PC)	☐	Merk	Type

4.4.2. Is deze computerapparatuur alleen voor de bibliotheek gereserveerd of deelt u die met andere gebruikers?

alleen ☐

gedeeld ☐

Met wie?

4.4.3. Hoeveel dedicated terminals of PC's zijn er verbonden met het systeem (uitgesloten zijn de terminals die occasioneel aangesloten worden via b.v. een lokaal LAN)?

4.4.4. Rol van PC's versus terminals

4.5. Personeel

Hebt u eigen informatica-personeel in dienst t.b.v. de bibliotheekautomatisering?

neen ☐

ja ☐

Hoeveel?

Welk niveau?

4.6. Kostprijs van het systeem (eventueel raming)

4.6.1. Eenmalig

personeel
hardware
software
varia

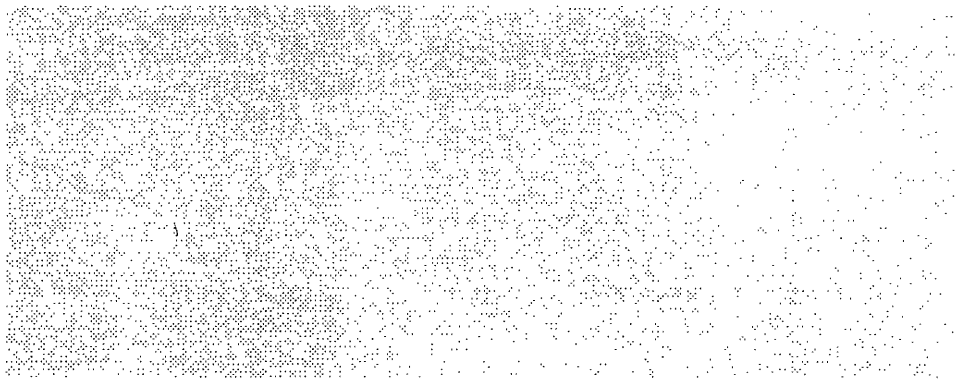
totaal

4.6.2. Recurrent jaarlijks (cijfers 1990)

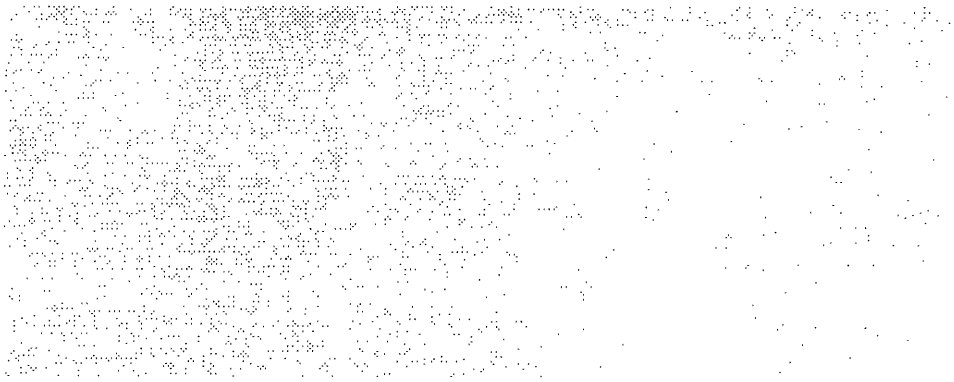
personeel
hardware
software
varia

totaal

4.7. Belangrijkste wijzigingen sinds 1986 t.a.v. de punten 4.1 tot 4.6?



4.8. Wat zullen de voornaamste wijzigingen zijn voor de e.k. drie jaren (1991-1993) t.a.v. de punten 4.1 tot 4.6?



5. IT-('information technology') georiënteerde diensten voor de lezer

5.1. Stelt u via uw eigen autom.systeem bibliografische bestanden, andere dan deze van uw eigen bibliotheek ter beschikking (v.b. Antilope)?

neen ☐

ja ☐

Welke?

5.2. Verstrekt u via uw eigen autom.systeem andere dan bibliografische of catalografische bestanden (v.b. 'community information' of 'full text' databases)?

neen ☐

ja ☐

Welke?

5.3. Zorgt u voor 'gateways' naar andere databases (v.b. Dialog, ander netwerk)?

neen ☐

ja ☐

Welke?

5.4. Videotex

5.4.1. Zijn uw eigen data over videotex raadpleegbaar?

neen ☐

ja ☐

5.4.2. Geeft u via uw eigen systeem toegang tot videotex?

neen ☐

ja ☐

Welke aansluitingen?

5.5. Verleent u via uw systeem een van de volgende diensten?

kiosk-service[1] ☐

fax-transmissie ☐

electronic mail voor lezers ☐

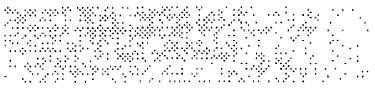
5.6. Interbibliothecair leenverkeer

5.6.1. Gebruikt u CD-ROM-bestanden t.b.v. het IBL-verkeer?

neen ☐

ja ☐

Welke?

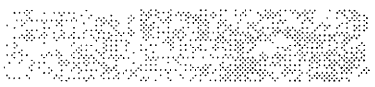


5.6.2. Hebt u door gebruik te maken van andere IT-technieken het IBL veranderd (v.b. bestanden op floppy, 'electronic document ordering')?

neen ☐

ja ☐

Hoe?



5.6.3. Heeft de gebruiker via het systeem toegang tot zijn IBL-gegevens?

neen ☐

ja ☐

Kan hij ze zelf invoeren?

neen ☐

ja ☐

Kan hij ze consulteren?

neen ☐

ja ☐

[1]Algemene, in de regel niet bibliotheekgerichte informatie (v.b. activiteiten op een universitaire campus of in een OB of cultureel centrum).

5.7. CD-ROM
Biedt u uw lezers documentatie op CD-ROM aan?

neen ☐

'self service' ☐

'mediated' ☐

5.8. Belangrijkste wijzigingen sinds 1986 t.a.v. de punten 5.1 tot 5.7?

5.9. Wat zullen de voornaamste wijzigingen zijn voor de e.k. 3 jaren (1991-1993) t.a.v. de punten 5.1 tot 5.7?

6. Documentatie

Vul hier gegevens in of voeg ze toe over boeken, artikelen, studies (ook grijze) over de automatisering van uw bibliotheek voor de periode 1986-1990. Kopieën van deze teksten, ook van de grijze literatuur zijn van harte welkom. Zij zullen mee dienen als basis voor het rapport en in de bibliografie opgenomen worden.

7. Inlichtingen

Alhoewel uiterste zorgvuldigheid is betracht is het toch mogelijk dat in ons adressenbestand belangrijke bibliotheken t.a.v. de vernieuwing in de automatisering zouden ontbreken. Daarom wordt u gevraagd hier additieve gegevens te vermelden over bibliotheken in uw regio of sector die de jongste jaren (1986-1990) geautomatiseerd werden (minimaal 10 terminals of PC's).

Deze vraagt richt zich inzonderheid tot de openbare bibliotheken, de bibliotheken in de privé-sector en de overheidsbibliotheken.

Naam van bibliotheek	Adres	Omvang van de automatisering (raming aantal terminals + PC's).

LIB 2 update study de la CE
Enquête auprès des producteurs et distributeurs de systèmes pour l'automatisation des bibliothèques et centres de documentation

Introduction

La Commission de la CE: DG XIIIb désire être informée de la situation de l'automatisation dans les bibliothèques des pays-membres pour la période 1986-1990. Ce projet s'appelle LIB-2 update et est la suite de l'étude de 1986 qui pour la Belgique a été publiée sous le titre: *Report on the introduction of the New Information Technologies (NITS) and on the interlending situation in Belgian libraries.* Anvers, 1986, 182 p. Dans cette nouvelle étude la CE essaie de répertorier les changements dans la période 1986-1990.

Conseils

1. Subdivisions de l'enquête

    1. Identification du fournisseur.
    2. Systèmes intégrés pour l'automatisation des bibliothèques.
    3. Banque de données bibliographiques.
    4. Réseaux.
    5. Changements depuis 1986.
    6. Changements prévus pour la période 1991-1993.
    7. Documentation.

2. Estimations

    Là où il est difficile de donner des chiffres exacts vous pouvez donner des estimations. Les estimations doivent être précédées par "ca.".

3. Non-réponse

    Omettez les questions auxquelles vous n'arrivez pas à répondre. Il vaut mieux remplir l'enquête avec les lacunes que de ne pas la renvoyer du tout.

4. Problèmes avec l'enquête!

    Téléphonez nous aux numéros suivants:
    03/820.21.42 K.Clara
    03/820.21.43 J.Van Borm.

5. Documentation

    Veuillez nous envoyer des références ou des photocopies de livres, d'articles et d'études (même grises) sur votre système d'automatisation. Nous les citerons dans la bibliographie à condition qu'il s'agisse de publications publiées entre 1986 et 1991.

6. Information supplémentaire

   Vous pouvez toujours ajouter de l'information supplémentaire. Utilisez des feuilles supplémentaires là où le questionnaire ne le permet pas.

7. Date limite du retour de votre questionnaire: le 20 février 1991
   Adresse: Bibliothèque de l'UIA
   LIB 2
   PB 13
   2610 Anvers (Wilrijk)

LIB 2 update study de la CE
Enquête auprès des producteurs et distributeurs de systèmes pour l'automatisation des bibliothèques et centres de documentation

1. Identification de la firme/l'organisation

1.1. Nom:

1.2. Adresse:

1.3. Nom de la personne qui répond:

1.4. Tél.:

1.5. Type d'organisation

- ☐ privé
- ☐ organisation de l'état ou para-étatique
- ☐ autonome
- ☐ faisant parti d'une organisation plus vaste

1.6. Activités
L'automatisation des bibliothèques est-elle votre activité principale?

- ☐ oui
- ☐ non

Si non, veuillez donner de l'information sur les buts poursuivis par votre organisation.

2. Systèmes intégrés pour l'automatisation des bibliothèques

2.1. Nom de votre système:

2.2. Dates

2.2.1. Depuis quand est-ce que vous commercialisez ce système?

2.2.2. Avez-vous commercialisé auparavant un autre système?

☐ non

☐ oui (lequel?)

2.3. Quels modules offrez-vous?

☐ catalogage

☐ catalogue public (OPAC)

☐ acquisition

☐ 'online ordering'

☐ bulletinage des périodiques

☐ 'online claiming'

☐ prêt

☐ prêt entre bibliothèques

☐ messagerie électronique

☐ création des rapports

☐ 'management information'

☐ 'community information'

☐ 'bulletin boards'

☐ 'gateways' aux différents serveurs

☐ module videotex

☐

☐

☐

☐

2.4. Quels ordinateurs utilisez-vous en règle générale?

☐ Mainframe Marque: Type:

☐ Mini Marque: Type:

☐ Micro (PC) Marque: Type:

2.5. Capacités

2.5.1. Combien de terminaux peuvent être connectés au système?

2.5.2. Combien de terminaux sont connectés dans le cas d'une installation typique de votre système?

2.5.3. Combien de 'records' peuvent être stockés au maximum dans le système?

2.6. Commercialisation

Ce produit est-il commercialisé?

☐ uniquement en Belgique

☐ en Belgique et dans d'autres pays

Lesquels?

2.7. Clients

2.7.1. Quels sont vos utilisateurs belges? (Ajoutez éventuellement une liste de vos utilisateurs)

Nom de l'institution	Nombre de terminaux ou micros

2.7.2. Quels sont les modules qui généralement sont utilisés? (Une liste de vos clients avec les modules utilisés est la bienvenue)

2.8. Coût

2.8.1. Quel est le coût typique (hors TVA) pour une installation de

5 terminaux

10 terminaux

20 terminaux

40 terminaux

2.8.2. Prix annuel pour la maintenance?
pour une installation de

5 terminaux

10 terminaux

20 terminaux

40 terminaux

2.9. Personnel

L'automatisation d'une bibliothèque demande du personnel informatique compétent. Ces tâches comment sont-elles réparties entre le fournisseur et la bibliothèque?

3. Banque de données bibliographiques

3.1. Le système exige-t-il un certain type de règles catalographiques?

- ☐ non
- ☐ oui (lesquelles?)

3.2. Le système supporte-t-il les standards suivants pour l'indexation matières?

- ☐ CDU
- ☐ Dewey
- ☐ LoC
- ☐ SISO
- ☐ BLISS
- ☐ LCSH
- ☐ MeSH
- ☐ autres (lesquels?)

3.3. Quel format est utilisé au niveau de la saisie des données?

- ☐ LC MARC
- ☐ BNB MARC
- ☐ INTERMARC
- ☐ UNIMARC
- ☐ autres (lesquels?)

3.4. Quelles entrées (indexes) offrez-vous dans votre catalogue (OPAC)?

- ☐ auteur
- ☐ collectivité
- ☐ titre
- ☐ titre de collection
- ☐ chaque mot du titre
- ☐ langue du titre
- ☐ sujet
- ☐ mot clé
- ☐ date d'édition
- ☐ lieu d'édition
- ☐ cote
- ☐ autres (lesquelles?)

3.5. Quelles techniques de restriction ou d'élargissement de l'interrogation sont offertes par le catalogue public?

- ☐ troncation
- ☐ logique bolléenne
- ☐ autres (lesquelles?)

3.6. Importation de notices catalographiques dérivées d'une autre source.
Votre système peut-il utiliser des notices catalographiques dérivées d'une autre source?

- ☐ non
- ☐ oui

Quelles sont les conditions techniques?

3.7. Votre firme ou organisation fournit-elle des notices catalographiques ou bibliographiques aux bibliothèques ('record exchange')?

☐ non

☐ oui

Si oui,

3.7.1. Sources de ces notices catalographiques

3.7.2. Nombre de titres dans votre banque de données

3.7.3. Clients potentiels

☐ bibliothèques publiques

☐ bibliothèques scientifiques

☐ centres de documentation

☐ autres (lesquels?)

3.7.4. Sous quelles conditions livrez-vous des notices catalographiques?

- quant à leur usage (limité, illimité)

- quant à l'aspect financier

3.7.5. Format des notices livrées

☐ LC MARC

☐ BNB MARC

☐ INTERMARC

☐ UNIMARC

☐ autres (lesquels?)

3.7.6. La transmission des données se fait sous forme de

- ☐ 'screen dump'
- ☐ 'record by record transfer'
- ☐ 'file transfer'
- ☐ autres (lesquelles?)

3.7.7. Supports utilisés lors de la transmission

- ☐ online
- ☐ bande magnétique
- ☐ CD-ROM
- ☐ disquette
- ☐ autres (lesquels?)

4. Réseaux

4.1. LAN

Donnez une brève description technique des réseaux locaux que vous installez dans les bibliothèques.

4.2. WAN

Donnez une brève description technique des WAN's que vous avez déjà installés pour raccorder des sites éloignés.

5. Quels sont les changements les plus importants depuis 1986 quant à votre système d'automatisation des bibliothèques?

6. Quels seront les changements les plus importants quant à votre système d'automatisation des bibliothèques?

7. Documentation

Signalez ici de l'information supplémentaire quant à votre système pour l'automatisation des bibliothèques, dont vous croyez qu'elle puisse être utile pour le rapport de la CE. Envoyez-nous des articles et des études concernant votre système (publiés depuis 1986). Des manuels contiennent souvent de l'information précieuse. Vous pouvez nous les envoyer.

LIB 2 update study van de EG
Enquête bij de producenten en verdelers van automatiseringssystemen voor bibliotheken en documentatiecentra

Inleiding

De Commissie van de EG: DG XIII b wenst geïnformeerd te worden over de stand van zaken van de bibliotheekautomatisering in de lidstaten voor de periode 1986-1990. Dit project heet LIB 2-update study en sluit aan bij de studie van 1986 die voor België gepubliceerd werd onder de titel: *Report on the introduction of the New Information Technologies (NITS) and on the interlending situation in Belgian libraries*. Antwerpen, 1986, 182 p. Het is de bedoeling van de EG om via deze update studie veranderingen op te sporen voor de periode 1986-1990.

Raadgevingen

1. Indeling van de enquête

    1. Identificatie van de leverancier.
    2. Geïntegreerde automatiseringssystemen voor bibliotheken.
    3. Bibliografische database.
    4. Netwerken.
    5. Veranderingen sinds 1986.
    6. Wijzigingen 1991-1993.
    7. Documentatie.

2. Ramingen

    Als exacte cijfers moeilijk te geven zijn geeft u bij voorkeur ramingen. Wil u deze laten voorafgaan door "ca.".

3. Onbeantwoorde vragen

    Sla vragen die u niet kunt beantwoorden over. Het is beter de enquête in te vullen met lacunes dan ze te laten liggen.

4. Problemen bij het invullen

    Bel ons op nummer 03/820.21.42 (K. Clara) of 03/820.21.43 (J. Van Borm).

5. Documentatie

    Wil u zo goed zijn om referenties naar of fotocopieën van boeken, artikelen en studies (ook grijze) over uw automatiseringssysteem mee op te sturen. Wij nemen ze beslist op in de bibliografie voor zover ze althans betrekking hebben op de periode 1986-1991.

6. Extra informatie

   Extra informatie kan u toevoegen. Als de ruimte op het enquêteformulier daartoe niet volstaat, gebruik dan extra pagina's.

7. Uiterste datum van inzending: 20 februari 1991
   Adres: UIA-bibliotheek
   LIB 2
   PB 13
   2610 Antwerpen (Wilrijk)

LIB 2 update study van de EG
Enquête bij de producenten en verdelers van automatiseringssystemen voor bibliotheken en documentatiecentra

1. Identificatie van de firma/organisatie

1.1. Naam:

1.2. Adres:

1.3. Naam van de persoon die antwoordt:

1.4. Tel.:

1.5. Type van organisatie

- ☐ privé
- ☐ overheids- of semi-overheidsbedrijf
- ☐ zelfstandig
- ☐ onderdeel van grotere organisatie

1.6. Activiteit

Is bibliotheekautomatisering uw voornaamste activiteit?

- ☐ ja
- ☐ neen

Zo neen, geef bijkomende informatie over het profiel van uw organisatie of over het marktsegment waarin uw firma zich beweegt.

2. Geïntegreerde automatiseringssystemen voor bibliotheken

2.1. Naam van het systeem dat u op de markt brengt

2.2. Datering

2.2.1. Sinds wanneer brengt u dit systeem op de markt?

2.2.2. Was u voordien met een ander systeem op de markt?

- ☐ neen
- ☐ ja (welk?)

2.3. Welke modules bevat uw systeem nu?

- ☐ catalogisering
- ☐ OPAC
- ☐ acquisitie
- ☐ 'online ordering'
- ☐ tijdschriftenbeheer
- ☐ 'online claiming'
- ☐ leen
- ☐ interbibliothecaire leen
- ☐ 'electronic mail'
- ☐ 'report generation'
- ☐ 'management information'
- ☐ 'community information'
- ☐ 'bulletin boards'
- ☐ 'gateways' naar databases
- ☐ videotex-module
- ☐
- ☐
- ☐
- ☐

2.4. Welke apparatuur wordt daar doorgaans voor ingezet?

☐ Mainframe Merk: Type:

☐ Mini Merk: Type:

☐ Micro (PC) Merk: Type:

2.5. Capaciteit

2.5.1. Hoeveel terminals kunnen op uw systeem aangesloten worden?

2.5.2. Hoeveel terminals zijn er aangesloten op een typische installatie van uw systeem?

2.5.3. Hoeveel records kunnen maximaal in uw systeem opgeslagen worden?

2.6. Commercialisering

Wordt dit produkt gecommercialiseerd?

☐ enkel in België

☐ in België en andere landen

Welke?

2.7. Klanten

2.7.1. Welke installaties hebt u in België gerealiseerd? (U mag ook een klantenlijst toevoegen)

Naam van instelling Aantal terminals of PC's

2.7.2. Welke modules zijn daarbij in de regel operationeel?
(Een klantenlijst met daarop aangeduid de modules die operationeel zijn is ook welkom)

2.8. Kostprijs

2.8.1. Wat is een typische kostprijs (BTW excl.) bij een installatie van

5 terminals

10 terminals

20 terminals

40 terminals

2.8.2. Recurrente kosten per jaar voor maintenance e.d. bij installatie van

5 terminals

10 terminals

20 terminals

40 terminals

2.9. Staff-time

Elk bibliotheekautomatiseringssysteem vereist bijstand van personeel. Wat neemt u daarbij voor uw rekening, wat blijft voor rekening van de bibliotheek?

3. Bibliografische database

3.1. Wordt het gebruik van een bepaald type catalografische regels verondersteld?

- ☐ neen
- ☐ ja

Zo ja, welke?

3.2. Welke onderwerpsontsluiting wordt ondersteund?

- ☐ UDC
- ☐ Dewey
- ☐ LoC
- ☐ SISO
- ☐ BLISS
- ☐ LCSH
- ☐ MeSH
- ☐ andere (welke?)

3.3. Welk formaat wordt gebruikt voor de input?

- ☐ LC MARC
- ☐ BNB MARC
- ☐ INTERMARC
- ☐ UNIMARC
- ☐ andere (welke?)

3.4. Welke ingangen biedt de publiekscatalogus?

- ☐ auteur
- ☐ corporatieve auteur
- ☐ titel
- ☐ reekstitel
- ☐ elk titelwoord
- ☐ taal van het werk
- ☐ onderwerp
- ☐ trefwoord
- ☐ datum van uitgave
- ☐ plaats van uitgave
- ☐ boeknummer
- ☐ andere (welke?)

3.5. Welke technieken van vraagverbreding of -verenging biedt de publiekscatalogus?

- ☐ truncatie
- ☐ 'boolean searching'
- ☐ andere (welke?)

3.6. Import van externe records

Kan het systeem records van andere origine opnemen?

- ☐ neen
- ☐ ja

Zo ja, welke zijn daartoe de technische voorwaarden?

3.7. Levert uw firma of organisatie zelf records aan bibliotheken (record exchange)?

☐ neen

☐ ja

Zo ja?

3.7.1. Herkomst van deze records

3.7.2. Aantal titels in uw database

3.7.3. Mogelijke klanten

☐ OB

☐ WB

☐ documentatiecentra

☐ andere (welke?)

3.7.4. Voorwaarden waaronder u deze records toelevert
- qua gebruik (beperkt, onbeperkt)

- financieel

3.7.5. Formaat waarin u de records toelevert

☐ LC MARC

☐ BNB MARC

☐ INTERMARC

☐ UNIMARC

☐ andere (welke?)

3.7.6. Transmissie van de gegevens

- ☐ 'screen dump'
- ☐ 'record by record transfer'
- ☐ 'file transfer'
- ☐ andere (welke?)

3.7.7. Daarbij gebruikte dragers

- ☐ online
- ☐ band/tape
- ☐ CD-ROM
- ☐ floppy
- ☐ andere (welke?)

4. Netwerken

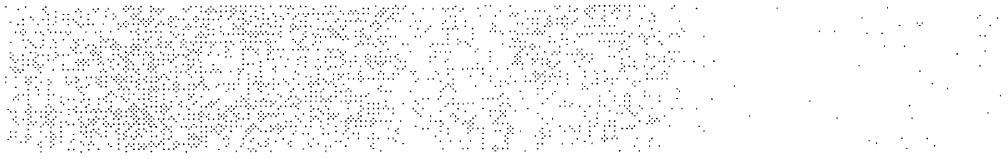
4.1. LAN

Geef een korte technische beschrijving van de lokale netwerken die u opzet.

4.2. WAN

Geef een korte beschrijving van de bredere netwerken die u eventueel hebt opgezet om diverse sites met hun eigen bibliotheekautomatisering met elkaar te verbinden.

5. Wat zijn sinds 1986 de voornaamste wijzigingen in uw bibliotheekautomatiseringssysteem?



6. Wat zullen de voornaamste wijzigingen zijn voor de e.k. 3 jaren (1991-1993) t.a.v. uw bibliotheekautomatiseringssysteem?

7. Documentatie

Vul hier bijkomende gegevens in over uw bibliotheekautomatiseringssysteem waarvan u denkt dat ze nuttig kunnen zijn voor de rapportering naar de EG toe. Stuur artikelen en studies op over uw systeem (gepubliceerd sinds 1986). Manuals bevatten vaak bijzonder waardevolle informatie. Ook zij zijn welkom.

A report prepared under a study contract between the European Economic Community, Directorate-General XIII B and the University of Antwerpen (UIA) by J. Van Borm with the assistance of K. Clara, M. Storms and H.D.L. Vervliet.