Environmental Scan

**As an input for the development of a strategic plan of
L'Agence Bibliographique de l'Enseignement Superieur (ABES)
for the period 2012 - 2015**

7 March 2011 Prepared by:
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I.   Introduction

In November 2010, L'Agence Bibliographique de l'Enseignement Supérieur (ABES) has given TICER @ Tilburg University in the Netherlands the assignment to make an environmental scan as an input for the development of a new strategic plan of ABES for the period 2012-2015.

ABES is the agency that is in charge of SUDOC, the Système Universitaire de Documentation, the Library Union Catalogue for the academic, specialist and other HE libraries in France.
SUDOC was launched in 2001 and represents currently the holdings of 1,100 libraries (plus 2,000 public or private libraries) with more than 8 million records. It is a very successful and freely accessible integrated catalogue.

Since 2002, ABES has refined the SUDOC portal with new features enabling users to make advanced searches on the holdings of a wide range of materials (including electronic periodicals, theses and other research publications).

In addition, ABES provides facilities for the storage and retrieval of electronic theses, with full search access to a permanent theses archive (STAR).
ABES is also an active participant in consortium purchasing for electronic resources at university level. By working with the Couperin Consortium (which specializes in the licensing of electronic journals) ABES can now play an influential role in the decisions on licensing to the benefit of universities and research centers.

A recent initiative is the creation of CALAMES, a new online fully searchable catalogue of archives and manuscripts in French universities and research libraries. CALAMES is operational since December 2007.

The environnemental scan should provide answers to the following questions:

I. « Quelle est la solution actuelle de l'ABES comparée à celle d'organisations similaires en Europe et sur d'autres continents ?

II. Comment les organisations similaires conçoivent-elles les évolutions futures du paysage dans lequel elles évoluent ?

III. Comment les organisations similaires perçoivent-elles la pertinence de leur(s) rôle(s) futur(s) ? »

« L'analyse de l'environnement ne se limitera pas aux activités existantes de l'ABES (catalogues collectifs, achat de ressources électroniques), mais portera aussi sur les environnements numériques d'apprentissage, les ensembles de données (*data sets*), les entrepôts de données et plus globalement sur toutes les problématiques documentaires susceptibles de constituer un champ d'investissement pour l'ABES. Couverture géographique de l'analyse de l'environnement: Europe et pays d'autres continents où des organisations de taille similaire ont développé des services ou produits innovants. »

The objectives of this mission were discussed during a meeting in Montpellier with the director and senior managers of ABES on the 6th of January 2011. In the discussion the following specific issues were identified:

1. It is important for ABES to develop a clear policy on the way electronic resources should be handled. Should the metadata of these information items become an integral part of the SUDOC Catalogue or should they be treated differently and stored and managed outside SUDOC? In any case, it will be important to have one single point of access to all relevant resources, to the metadata of printed and electronic (multimedia) documents.
2. There is a clear concern about the state-of-the-art and the user friendliness of the Central Catalogue system CBS provided by OCLC. Are other organizations struggling with the same problems and what solutions are found or planned?
3. In general there is concern about the dependence on OCLC. The services OCLC is currently providing for the central system are vital. Local library systems and local applications are highly dependent on a good communication with the central system and increasingly also with OCLC's WorldCat.
   How are other organizations dealing with these issues?
4. A good and productive communication with the library partners of ABES is key. How are other organizations managing their network relations? What lessons can be learnt? Can examples of good practice be identified?

This environmental scan will deal with the three initial strategic questions. Additionally the four more specific questions will be discussed.

On behalf of TICER this environmental scan has been made by Hans Geleijnse, library strategy consultant and former director of library and IT services at Tilburg University.

Methods used

The following methods were applied for this mission:
- desk research;
- open discussion with the customer;
- analysis of the key questions;
- electronic communication with a number of library organizations and service providers;
- meetings with a number of library organizations and service providers;
- feed back on these meetings;
- analysis of the key findings;
- communication with the customer.

The following steps have been taken:
- Preparatory discussion with the director and other senior officers of ABES on the current strategic plan of ABES, the opportunities and the threats, the key issues relevant for a future strategy.
- Research on the most recent information sources with respect to libraries, consortia and the information environment in general.
- Research on strategic documents of many relevant organizations.

- Electronic communication and interaction with European organizations on a number of questions:
  - An overview of the current services of the organization.
  - The new services that are planned for the near future.
  - The way the organization is dealing with the metadata of and access to electronic information from various sources.
  - The relationship with the libraries in the network and the changes that are foreseen in the future.
  - The strategic goals for the next years.
  - The future prospects of the organization.
  - Visits to and meetings with a selected number of European sister organizations to discuss the above mentioned issues more in detail.
  - Visits to and meetings with the most important service providers to discuss their current and new services, their view on central and local systems, the opportunities of cloud computing and their strategy for the future.
  - Meetings with a number of library directors to get informed on their views and prospects.
  - Regular feed-back with the director of ABES about the progress and the final report.

Information via mail has been received from a number of organizations in Europe, in particular from RERO, IDS, CBUC, FinELib and BSZ.
Meetings have been organized with representatives of GBV, BIBSYS, OCLC and Ex Libris.
Moreover, meetings with library directors and library specialists from the Netherlands and Norway were organized to discuss the most important developments relevant for research libraries and to learn about their views on library cooperation in the future.
With this information from various sources a clear environmental scan can be presented.

The report has the following paragraphs:

I.	Introduction
II.	Relevant trends and developments in the Information environment
III.	The development and strategy of some important non-European library organizations
IV.	The development and strategy of selected library organizations in Europe
V.	The new services and strategies of important service providers
VI.	Assessment and prospects
VII.	The specific issues raised by ABES
VIII.	Some recommendations

Appendix: A list of library organizations and service providers that have provided valuable information for this mission.

II.   Relevant trends and developments in the Information environment

The services and plans of library organizations and service providers are the core element of this environmental scan. However, it is useful to reflect first on some of the most important developments and trends in the information environment. What are the most important trends with respect to user demands and user behavior? What are the relevant IT trends? What are the prospects of publishers and information providers?

- The traditional role of the library is declining

  In 2009, Ithaka, a not-for-profit organization with various important digital library services such as JSTOR and Portico, has conducted a Faculty Survey in the United States on faculty attitudes and practices (http://www.ithaka.org/ithaka-s-r/research/faculty-surveys-2000-2009/Faculty%20Study%202009.pdf).
  The Ithaka report emphasizes the declining visibility and importance of traditional roles of the library. The responses of the survey show a gradual decline in the perceived importance of the gateway function of the library which matches the shift to network-level discovery.
  Ithaka confirms the results of the Outsell Survey on Information Markets and Users (December 2008). Outsell (http://www.outsellinc.com/database_subscriptions) investigated where people go to seek information and found that 57% of the researchers used Internet search engines, 24.5 % the portals of their organization and only 4.2 % the physical library of their organization.
  According to the Ithaka report, "Libraries need to consider very carefully the investments they make in search and discovery services" and "Libraries should also give careful consideration to ways to deliver these services more efficiently through collaboration and participation in services delivered 'in the cloud' or at the network level.
  Another aspect is that gradually more and more metadata are becoming available from publishers, service providers and booksellers
  (http://wikibon.org/wiki/v/Cloud_Meta_Data:_Driving_New_Business_Model).
  Cooperative work and networked activities of libraries will diminish the workload for individual libraries with respect to cataloguing.

- Licensing and the move to "electronic only'

  All surveys show that most "users appreciate the convenience of electronic access over the physical library".
  The before mentioned report also shows a gradual increase in the perceived importance of the buyer function of the library. This suggests that the role of library consortia in licensing and organizing access to electronic resources will remain very important.

  The Open Access movement is gradually becoming stronger and will have a major impact on the future business models of scholarly publishing. According to a survey of the Society for Open Access Publishing on the attitudes of researchers on, and their experiences with, open access publishing, 89% of the respondents believed that

journals publishing open access articles would benefit their field.
http://arxiv.org/ftp/arxiv/papers/1101/1101.5260.pdf.
Change will come, but it will probably take more time than expected. The commercial (and society) publishers are still dominating the system of scholarly publishing. The total size of the STM market will be $ 25 billion in the year 2011.
According to the Springer CEO, Derk Haank (December 2010), approximately 4% of all articles indexed by ISI in 2009 are open access. Although these figures will change in the years to come, it will still be important in the period of the next strategic plan to make license agreements with publishers and to realize access to scholarly and scientific journals for students and researchers of the French universities and other institutes of higher education at affordable prices.

In the US the acceptance of the move to 'electronic only and the cancellation of print subscription to journals" increased over time from 50% in 2003, 61% in 2006 to 72% in 2009. In countries such as the Netherlands and Finland most libraries have a firm e-only policy, but in most European countries libraries still seem to be reluctant to make this move. One of the obstacles for this inevitable and logical shift is a clear concern about perpetual access, digital archiving and preservation. The pressure on budgets and cost of storage space might speed up this move to e-only.

- E-books

  In the last 15 years the licensing of e-journals has been high on the agenda. It is expected that in the next few years the licensing of electronic books will become a key issue.

  In the Charleston Report (November/December 2010, Volume 15, No.3) Anthony Watkinson reported from the Frankfurt Book Fair and the Annual Conference of the STM Publishers. According to his observations all publishers "agreed that e-books are the future". The Google e-bookstore opened in December 2010 featuring books from more than 4000 publishers. E-books will include enhancements for devices and in particular new apps.
  At the same time the number of digitized books is increasing. Google estimated that there are about 130 million unique books in the world. On 14 October 2010 Google announced that the number of scanned books is already over 15 million.

- Discovery services. New functionalities in library systems.

  In February 2010, JISC and OCLC published a report that analyzed the findings of twelve user behavior studies in the US and the UK, "The Digital Information Seeker" (http://www.jisc.ac.uk/publications/reports/2010/digitalinformationseekers.aspx)
  "The evidence provided by the results of the studies supports the centrality of Google and other search engines. Google is often used to locate and access e-journal content. At the same time, the entire Discovery-to-Delivery process needs to be supported by information systems, including increased access to resources."
  "In the age of Google, users come to the library with certain expectations about information discovery. They look for a single search box on a library Web site and assume they will be able to search across every kind of content. This is the key concept of Web-scale discovery – one search box powered by a large index of

preharvested content." (Rowe in The Charleston Advisor, 2010, nr.1)
This implies that new functionalities in library systems are needed:
- Seamless access to resources is required
- Library systems need to look and function more like search engines
- Metadata should be of high-quality to facilitate efficient and effective discovery of appropriate resources.

It is obvious that libraries should guarantee that their information is also visible via Internet search engines such as Google and Google Scholar.

- Increasing mobility and flexibility

In November 2009 an "International Delphi Study 2030" on the future of ICT was published on behalf of the Münchner Kreis (http://www.tnsglobal.com/research/keyinsightreports/4350BECF691241E8B6BCE43182144400.aspx).
This Delphi study involved more than 800 international experts. They expect that at short notice ICT will be an integral part of everyday school life and that a personal electronic device will be a basic component of school instruction by 2015 to 2019. For employees in all sectors of society an increasing mobility and flexibility of the work environment will take place blurring the lines between work and private life. This will stimulate "a change in culture and way of thinking, so employees are no longer measured by their attendance in the office, but rather by the results they produce."

Also Gartner stresses the importance of mobile applications. "By year-end 2010, 1.2 billion people will carry handsets capable of rich, mobile commerce providing a rich environment for the convergence of mobility and the Web."
(http://www.gartner.com/it/page.jsp?id=1210613)

- Social networking

In the last few years there has been an exponential growth of social media, in particular Twitter and Facebook. This development is very much connected with the growing importance of mobility, the desire to be continuously online and to be connected.
This creates a huge variety of networks enabling people to inform others and to be informed in an unprecedented manner with relevant and interesting information but also with a lot of 'noise' and clutter.
The influence of social media was and is clearly demonstrated in the Middle East.

Some libraries are now promoting their services by using social media. The use of social networking software in some academic and public libraries in order to make libraries a space in which potential library users can collaborate and exchange with their libraries might be more important. This can create new relationships between the library staff and virtual library users, researchers, teachers and students.

- Cloud-based services

  The development of cloud computing can be regarded as a response to the demands for more flexibility and for efficient solutions to reduce the work in the back-offices of organisations.
  The National Institute of Standards and Technology (NIST) defines cloud computing as "a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction."
  The term "cloud" is used as a metaphor for the Internet. Typical cloud computing providers deliver common business applications online that are accessed from another Web service or software like a Web browser while the software and data are stored on servers.
  Most cloud computing infrastructures consist of services delivered through common centers and built on servers. Clouds often appear as single points of access for consumers' computing needs (http://en.wikipedia.org/wiki/Cloud_computing).

  Some universities are already using cloud applications when it comes to e-mail, RSS, file storage and word processing. This approach can also be applied to library services. Over the past year, more and more ILS vendors have started offering cloud-hosted versions of their products. OCLC and several other vendors began offering a cloud-based ILS tools that complement their existing cataloging tools (e.g. WorldCat and FirstSearch). http://www.techsoupforlibraries.org/blog/what-is-cloud-computing-and-how-will-it-affect-libraries.
  This concept is now being used in new library services in particular by Ex Libris and OCLC.

  The Charleston Report of July/August 2010 presented the highlights of TechTrends at the ALA Annual 2010 (http://charlestonco.com/). The Report emphasizes the opportunities cloud computing and software as a service (SaaS) could offer to the library community.
  "An increasing number of libraries are moving to a more virtual model of acquiring and maintaining software through remote hosting of applications either on their own internal network or via a third party like Amazon, LibLime or Primo Central."

  The Final Report of the ARL Digital Repository Task Force of January 2009 expects that 'in the 2015 technology environment, much that is currently managed locally will be managed in a distributed manner – through collaborations within institutions or among institutions or by contracting services from the commercial sector. Local management of content and storage systems will be a waning paradigm as distributed, virtualized storage becomes the norm."
  http://www.arl.org/bm~doc/repository-services-report.pdf

- Privacy, security, data protection and preservation

  The German Delphi study identifies also some important threats, in particular with respect to the protection of privacy and the security of systems and data.

  Sometimes statements are being made that another view on privacy is required and that a deep knowledge of the interests and behavior of users would lead to more and better customized services.
  Facebook founder Mark Zuckerberg said in an interview last January that if he were to create Facebook again today, user information would by default be public, not private as it was for years until the company changed dramatically in December 2010.
  Privacy is no longer relevant as a social norm.
  (http://www.readwriteweb.com/archives/facebooks_zuckerberg_says_the_age_of_privacy_is_ov.php).
  These views will not be shared by many information professionals.

  A number of recent incidents stress that libraries and library organizations should put emphasis on the safeguarding of data, but also on the sustainability of the services and digital preservation.

- Budget

  Many libraries are suffering of will suffer from the effect of the economic crisis and will have to realize significant savings. Services will be monitored more critically and valued on their cost-effectiveness. Libraries will be encouraged to assess and evaluate their services and their organization.
  This might also have an effect on vendors and suppliers. They may be forced to reduce their costs and sometimes even their prices.

III. The development and strategy of some important non-European Library organizations

OhioLINK

The Ohio Library and Information Network, OhioLINK, is a consortium of college and university libraries in Ohio serving more than 600,000 students and academic users at 89 institutions (http://www.ohiolink.edu/).
The goal of this consortium is to provide easy access to information and rapid delivery of library materials throughout the state. It offers six main electronic services: a library catalog, research databases, an electronic journal center, a digital media center, a collection of e-books and an electronic theses and dissertation center.
OhioLINK provides access to:

- A central library catalog with 12 million unique titles from the member libraries
- 14,000 electronic journals
- 150 electronic research databases
- 62,000 e-books
- Thousands of images, videos and sounds
- 26,000 theses and dissertations from Ohio students.

For many years OhioLINK has been the most important and most successful library consortium in the United States with exemplary services.
However, the Ohio example also shows that continuous success is not guaranteed.
On the 4th of February 2009, the OhioLINK computer disk storage system suffered a widespread, and supposedly not possible, multiple component failure affecting all major services with the exception of the OhioLINK Library Catalog. Only on the 18th of March the system was successfully restored.
This failure was the start of a intense debate on the deficiencies in the technical infrastructure and the governance of the consortium. The debate showed a great concern about the future of OhioLINK, in particular after the resignation of the executive director.
The following key problems were identified:

- ❖ The roles, responsibilities, and authorities of the Executive Director were undefined and even chaotic
- ❖ The roles, responsibilities and authorities of the staff of the Ohio Super Computer center were undefined
- ❖ The governance of OhioLINK was no longer informed by the active participation of the academic leaders. The gap between the governing body of the consortium and the membership had apparently become too wide.
- ❖ Insufficiency of the existing OhioLink infrastructure

The debate (http://maagblog.ysu.edu/ohiolink/page/2)/ also showed how greatly dependent all institutions of higher education in the state are on the sustainability of the services of OhioLINK. The strongly centralized service provision to the libraries had been a strength for some time, but became a weakness when the technical infrastructure collapsed for a period of time.

A new director, whose appointment was publicly announced by the end of September 2010,

decided in October not to accept the job. John Magill, who acted as Interim Director, has now been appointed as Executive Director of OhioLINK.

Lyrasis

Lyrasis was created in 2009 by the merger of PALINET (Network of libraries in Delaware, Maryland, New Jersey, Pennsylvania, West Virginia) and SOLINET (Southeastern Library Network) and joined shortly thereafter by NELINET (North England Library Network). Lyrasis is the largest regional non-profit membership organization in the United States comprised of more than 2,000 members, serving more than 6,000 institutions. The diverse membership is located primarily in the Mid-Atlantic, Northeast, Southeast, and West regions of the U.S. (http://www.lyrasis.org/About-Us.aspx)
The consortium offers a wide range of services, including licenses to electronic information, cost savings on a variety of products from various vendors, but also assistance in digitizing and preserving library collections, access to consultants and trainers and an educational programme for librarians and information professionals.

The very concise Strategic Plan 2010-2013 emphasized on two goals:

1. Transform libraries, operations, and technologies to meet the needs of tomorrow's library users:
   - *Provide affordable capacity and expertise for members*
   - *Advance the use of technology to improve libraries*
   - *Foster the professional growth of staff*
   - *Build collaborative opportunities for libraries.*

2. Expand the availability of content while controlling costs:
   - *Ensure effective content creation, management, and access to all formats*
   - *Enable libraries to control the cost of information*
   - *Explore and implement services built on next generation bibliographic and resource sharing standards*.

The Lyrasis example is interesting because it shows
   - the merger of three successful consortia from various regions in the US
   - a combination of licensing services and consultancy, educational and support services
   - emphasis on cost reduction.

It will be interesting to see how this impressive network will develop.

California Digital Library

The California Digital Library (CDL) was founded by the University of California in 1997 "to take advantage of emerging technologies that were transforming the way digital information was being published and accessed".
The CDL is a part of the organizational structure of the system of major public universities in California with their various campuses of high reputation, such as UC Berkeley, UCLA, UC San Diego, UC Santa Barbara and others.
The joint catalog Melvyl is now one of the largest online library catalogs in the United States. CDL facilitates the co-investment and sharing of materials and services used by libraries across the UC system.

On various issues CDL has been an important innovator in the digital library developments such as digital curation, scholarly publishing, archiving and preservation.

The services include a.o. licensing of electronic resources, shared cataloguing, mass digitization, publishing services, repository services, resource sharing and instructional materials.

Important themes in the Strategic Plan 2009-2012 are:
- *Next generation of library services, new solutions for library services including acquisitions, ingest, content management, metadata, discovery, preservation, data curation and publishing.*
- *Digital curation throughout the information life cycle.*
- *Expanding access, expanding trusted discovery services, creating more streamlined and integrated delivery options, and encouraging support for open access.*
- *Scholarly communication sustainability: increasing access and finding sustainable funding models.*
- *University as publisher.*

The program covers almost the complete range of digital library services with an emphasis on innovation, access to electronic resources, open access, heritage collections, digitization and preservation. It goes far beyond what the other before mentioned consortia are doing or claiming, but with a delicate balance between the services provided by the CDL system and the activities at the individual campuses.
The program also stresses partnership with Google, Internet Archive, HathiTrust and JSTOR. The ambition is 'to integrate the widest range of contents with delivery tools and services and to become an academic counterweight to commercial publishers".

It is also important to notice that there is an increasing focus on the need to show efficiencies and effectiveness and to demonstrate that collaborative efforts create substantial savings. "In an era of diminished resources and increased attention to accountability, it is even more important to commit to this goal."

A National Digital Library of the United States?

It might also be good to mention that institutions and foundations have started a discussion on a collaboration to create a National Digital Library. Robert Darnton, the library director of Harvard University, is leading the effort to make this library a reality. The idea is to create "an open, distributed network of comprehensive online resources" drawn from the country's libraries, archives, museums, and universities.

National Library of Australia

The National Library of Australia has created Libraries Australia and provides important benefits to the libraries such as

- use of all of the data of the Australian National Bibliographic Database to meet copy cataloguing needs;
- unlimited access to WorldCat;
- inclusion of Blackwells TOC data which enhances the member libraries' catalogues;

- assistance in migration to new cataloguing standards (including RDA - Resource Description & Access);
- full use of the national interlibrary loan system;
- real time synchronisation of catalogue data of member libraries to the global catalogue WorldCat.

The Strategic Plan July 2010 to June 2012 addresses the need to improve the CBS provided by OCLC Leiden. One of the requests is to configurate changes to CBS to support the Cataloguing standard RDA.

The feasibility of enabling the local discovery services, including the local catalogues, of the member libraries to become views of Trove will be explored. Trove is a discovery service focused on Australia and Australians.

The Council of Australian University Libraries

The Council of Australian University Libraries (CAUL) is aimed at improving access "to the information resources that are fundamental to the advancement of teaching, learning and research" (http://www.caul.edu.au/).

The CAUL Electronic Information Resources Committee CEIRC is CAUL's primary vehicle for relationships with vendors and publishers. It addresses a range of activities including collaborative purchasing of electronic information resources, licensing conditions, access issues, statistical reporting and effective negotiation. The membership also includes University libraries in New Zealand and 23 external organizations in Australia and New Zealand.

CAUL is also focusing on new and innovative developments such the CAUL Open Scholarship Initiative and the CAUL Australian Institutional Repository Support Service (CAIRSS) that provides support for all Institutional Repositories in Australian universities.

The Strategic plan of CAUL 2010-2012 was updated in March 2010 and sets a number of general goals to facilitate members' role in supporting and maximizing the learning, teaching and research outcomes, to maximize access to information resources and to promote best practice in pursuit of internationally recognized high quality library services and operations.

The wide range of actions and activities include:

- the library's role in contributing to Teaching and Learning standards and quality audits
- Share best practice on information literacy
- Contribute to the Australian National Data Service (ANDS)
- Engage in professional development opportunities
- Contribute to the development and promotion of institutional repositories initiatives
- Plan for the inclusion of research outputs in institutional repositories
- Share information on the range of mobile devices used to access scholarly resources
- Surveys for benchmarking between CAUL members

IV.   The Strategy and development of selected library organizations in Europe

In this scan the focus has been on library organizations in European countries that have a mission that is comparable to the mission of ABES. The report also implies library organizations that are particularly interesting because of their activities and challenging strategy.
This overview is and cannot be comprehensive, but with this selection a good assessment can be made of the most relevant developments at similar organizations.
The information that is being provided is initially based on information available in documents and publications on the Web.
Addition information has been collected through e-mail communication and face-to-face discussions with key people in these organizations.

Réseau des Bibliothèques de Suisse Occidentale (RERO)

The Library network of Western Switzerland RERO, an acronym of REseau ROmand, was founded in 1985. Currently RERO represents a group of 220 university, heritage, special and public libraries from the cantons Geneva, Vaud, Fribourg, Neuchâtel, Jura and Valais and the swiss federal courts. Language is mainly French but also bilingual French-German.

RERO maintains a central catalogue of more than 5,2 million records en ten million holdings and serves about 50.000 students and some 280.000 library users. All libraries are using the same library management system, Virtua Consortium (from VTLS Inc.) with a single shared database. The centralized database contains
-    Global data shared by all libraries: bibliographic records, patron records.
-    Local data specific to the 6 institutions (the 6 group of libraries belonging to the same canton or political authority: Fribourg, Geneva, Neuchâtel & Jura, Valais, Vaud, Federal institutions).

The actual OPACs are specific views on this database, such as the RERO catalog (http://opac.rero.ch), the Fribourg catalog (http://opac.rero.ch/fr) and the Geneva catalog (http://opac.rero.ch/ge).
The RERO catalog is regarded as the main source and should first be used, whenever possible, for cataloguing all resources, printed or electronic. However, it cannot be regarded as the only source. The second important catalog is the RERODOC digital library: it acts both for depositing digitized collections and as an institutional repository for grey literature (thesis, dissertations, preprints, post prints, research reports).Some resources are referenced only in the RERODOC digital library, or in both RERODOC and RERO, other sources are referenced in institutional repositories or specific databases.

Actual RERO actions and projects are resulting from the Strategic Plan 2008-2012.

Among them:

-    An important goal for the next years is the development of a single entry point for the access of all information resources: RERO catalog, RERODOC digital library, electronic resources, local institutional repositories etc.
     A working group has been installed to prepare a bid and to evaluate 3 to 5 interesting discovery tools (such as Primo, Summon, WorldCat local, EBSCO Discovery Service, Chivas).

The working group will make recommendations based on deep testing. A decision should be taken possibly at the end of 2011 and implementation is foreseen in 2012.

For this new discovery tool cloud computing might be considered for the use of metadata. For the current RERO services it is not an option. All servers that are hosting the RERO services to libraries are in the central computer centre in Martigny.

- The strategic plan 2008-2012 identifies also some other new services that should be developed next to the before mentioned discovery tool:

  ❖ *Harmonized circulation* in the network: RERO should be considered as a single library, which means that a patron should borrow resources from anywhere in the network, with the same rules in all libraries. As a first step the same rules for ILL will be developed.
  ❖ *Catalog enrichment* by adding tables of content, automatic indexing tools, semantic links.
  ❖ *Long-term archiving*. This has already started for thesis: RERO has setup a URN attribution service for thesis hosted by REROROC. The theses are harvested by the Swiss national library which is responsible for thesis long-term archiving. In April RERO will start a strategic study about the opportunity to offer a long-term archiving service to its library members.
  ❖ *Subject indexing*: The future of the specific pre-coordinated RERO Vocabulary and subject indexing in RERO are actually discussed. A decision should be taken in the next 3 months: simplification is one of the goals, possible scenarii are considering automatic indexing and/or adoption of another vocabulary (like Rameau) but post-coordinated.

These objectives are a response to the difficulties and weaknesses that the Strategic Plan 2008-2012 identified, such as the need to offer better services to users and the existence of different rules and regulations in the network.

- Another objective was to redefine the RERO gouvernance and structure, in order to better take into account the diversity of the network and to be more efficient in decision making. Some factors are making the situation for the RERO network a bit complex:
  o the diversity and heterogeneity of the network
  o Swiss university library politics and the federal structure of the country. Some issues are being dealt with at a national level, others at regional level.

A temporary gouvernance is in place since January 2010. This simplified gouvernance model with a Strategic council and a Board of the Strategic Council is working well. It is actually proposed as the definitive one, maybe with some minor adaptations related to the composition of the bodies. By the end of 2010, an important step has been reached with the approvement, by all members, of the mission of the organization:

"RERO est un réseau de bibliothèques partenaires. En tant que tel, il constitue un instrument de politique documentaire, soutenu par les autorités politiques, académiques et culturelles de Suisse occidentale.

Il met en valeur les ressources et le patrimoine documentaires des bibliothèques partenaires grâce notamment à son catalogue collectif.

> Il met à disposition des outils et des services correspondant au contexte linguistique et culturel des bibliothèques membres.
> Par son catalogue collectif il contribue et renforce la coopération académique, culturelle et documentaire.
> Il fournit des prestations et services aux bibliothèques partenaires."

The next step is the revision of the RERO Convention, linking all partners. The new model of convention and gouvernance should be effective in 2012.

Informationsverbund Deutschschweiz (IDS)

The Informationsverbund Deutschschweiz (IDS) was started in 1999 and is now a network of more than 400 libraries with 5 catalogues and more than 13,5 Million records. The majority of the libraries are in the German speaking part of Switzerland but also libraries in the French and the Italian part of the country are involved.

IDS can be regarded as a network of networks. All five networks have their own database for their catalog and they are all working with Aleph from Ex Libris
SFX and Metalib are installed centrally for IDS and are in use for 4 of the 5 networks.
One of the IDS members, NEBIS, a network of 80 Libraries and Information Centers in Switzerland (including a.o. EFPL Lausanne and ETH Zürich), has its own installation of SFX and is also using Primo.
The NEBIS catalog contains about 4.2 million titles, including books, serials, journals and non-book materials. Most documents may be ordered online. To borrow library materials users must register at one of the NEBIS libraries.

The networks are autonomous but have realized a close cooperation and are carrying out a set of joint projects.
The coordinating body of the IDS (IDS Verbundkoordination) reports to the Conference of Libraries for Higher Education of the German part of Switzerland (Konferenz Deutschschweizer Hochschulbibliotheken (KDH) and is responsible for the central tasks of the organization and for the development and implementation of joint projects.

One of these joint projects is a project for a centralized user database. This should include an update of the solution that is currently in place and is aimed at using shibbolized data from the different universities and schools.

The University Library Consortium of Catalunya (CBUC)

The Catalunya library consortium (CBUC) is a consortium of the academic libraries in Catalunya and was founded in 1996 as a public body with its own legal status. It is the most advanced consortium in Spain.

15,36 % of the CBUC's budget is provided by the contributions of the Catalan university administration, 70.46 % by contributions of the members of the Consortium and the remaining 13.95 % is covered by income from services provided to libraries that are not members of the CBUC.
Some specific projects of the Consortium - in particular the Digital Library - receive special

funding from the university administration.

The first activity of the CBUC was to create a union catalogue, the Collective Catalogue of the Universities of Catalonia (CCUC). All libraries are cataloguing in this central catalogue and are copying records to their local catalogue. This procedure was chosen in order to avoid duplications. In quarterly meetings the applications of the common rules that are approved by the National Library are discussed.

Shortly after the creation of the CCUC the Consortium considered that it would be feasible and beneficial to organize an interlibrary loan program.

The next step was the project for the Digital Library of Catalonia.
The mission of this Digital Library project is "to provide a core set of multidisciplinary e-resources to all of our consortium members, the Catalan university libraries. The result should be that any university student or faculty in any CBUC member library has the same amount of "basic" e-information to do their work/research."
As a consequence licensing became the third core activity of the Consortium.
The licensing program has gradually been expanded to other sectors, in particular to hospitals, research centers and public administration services

The Consortium is using the Millennium system of Innovative Interfaces for cataloguing. From the start the policy has been to have all licensed electronic resources (databases and journals) catalogued in the Union Catalogue of CBUC. On top of Millennium the Ex Libris products Metalib and SFX are used for various search services.
Metalib was installed in a decentralized way but this has turned out not to be very efficient. A migration to Primo Central with "Primo User Interface" as discovery tool is being planned now.

In the discussion about the possibilities and opportunities of cloud computing for the services of CBUC, the consortium is fairly depending on the vision of Cesca, the Supercomputation Consortium of Catalonia that is hosting the hardware. Options to reduce the costs and to improve the provision of the system will be considered.

New activities include:
- ❖ A shared storage area of less frequently used material, and
- ❖ Institutional repositories services for the various universities in the consortium. From the repositories side, the goal is to collect all the intellectual production from Catalan universities, along with the dissemination of open access publications in Catalan or published in Catalonia. The open access repositories services include TDX (Theses and Dissertations Online), RACO (Catalan Journals in Open Access), RECERCAT (Research Repository of Catalonia), MDC (Digital Memory of Catalonia) and an E-Table of Contents database.

  The CBUC is also working on the interoperability between the repositories and the Current research information systems. At the local level some Catalan universities have made a significant progress on it.

Various new services are being planned for the next few years:

- The development of a ''patron initiated'' consortial borrowing system. The collections of all libraries should become one unique collection for the user.
- Expand the number of libraries that are using Millennium.
- Improve the synergy between the members of the consortium and to take the characteristics and size of the various libraries into account.
- Extend the Digital Library to research centres and hospitals.
- Creation of a system for user authentication for accessing external digital resources in a controlled way.
- Creation of a portal that unifies the access to all available resources, print or digital, commercial or open access.

An important strength of this consortium is that the member institutions that are all based in and very much connected with Catalunya have the feeling that they are the owners of the consortium. This should remain so and should encourage the consortium management to keep the lines between the consortium and the individual research libraries as short as possible.

By keeping these links close and by focusing continuously on a service oriented approach, the consortium can expand its activities in the interest of the partner libraries aiming at a concentration of back office activities in order to allow libraries to improve their front office services and/or to reduce their costs.

Germany

The library situation in Germany is very much determined by the federal structure of the "Länder". In this respect a Report of the Wissenschaftsrat will be important for the future policy development and activities of the various regional library organizations. An overview of the most important recommendations will be provided later in this report after the summary of the key activities of some of these organizations.

Gemeinsamer Bibliotheksverbund (GBV)

GBV is the Common Library Network of more than 400 academic, public and research institute libraries of the German States Bremen, Hamburg, Mecklenburg-Vorpommern, Niedersachsen, Sachsen-Anhalt, Schleswig-Holstein, Thüringen and the Foundation of Prussian Cultural Heritage.

The core of the service is a joint Central Bibliographic System CBS provided by OCLC as a basis for cataloguing, interlibrary loan and document delivery. More than 400 libraries are currently cataloguing online in the GBV database. In addition to the data that are added by the member libraries, also the data from other unions and from WorldCat can be added. The joint catalog with now more than 34.1 million titles is freely available on the Internet. In conjunction with these core services access to several databases and ILL services are provided.

The Verbundzentrale (VZG) of the GBV manages the LBS 4 Local Library system, originally developed by Pica in the Netherlands and now maintained by OCLC, for more than 170 libraries on 29 different installations. From the very start the vendor provided the CBS system in combination with LBS installations for the local libraries. It must be stressed that

the VZG has customized LBS to its own goals and intends to continue with this approach also in the future.

The cost of the LBS installation for the various research libraries are low and the above mentioned possibilities for customization make a shift in the near future to another ILS vendor unlikely.

Another key service is the Online Contents database provided by Swets with references to more than 30 million articles from more than 17.800 journals. The joint GBV libraries are adding the data of more than 7000 additional journals to this OLC database.

Other services include

- A Local Library System LBS service for small and medium sized libraries running on a server in Gottingen;
- OCLC's Touch Point as Portal Software for simultaneous access to various information sources. The iPort software, originally developed at Tilburg University, has been built into Touch Point. This is seen as a temporary solution in view of upcoming new discovery services. Some libraries have developed their own systems;
- Content Management Service;
- Installation of Repository software, currently with an emphasis on MyCore;
- SFX-Linkserver,
- OCR-Service.

New services will include Infrastructures for Web 2.0 applications, such as Social Network functions in CBS 5.0.

It should be noted that licensing is not a part of the business of GBV. Another organization is responsible for these activities. Also in this area the federal structure of the country is an impediment for efficient licensing. In some cases national licenses could be realized with the support of the German Research Society DFG.

The GBV has made a strategic plan for the years 2011-2015. This plan identifies the following key areas:

- ❖ The cornerstone of the library services will continue to be based on CBS and the integrated LBS systems.
- ❖ Development of a comprehensive and effective infrastructure for digitization and digital information, including an Electronic Resource Management system.
- ❖ Improving the quality of the metadata in order to have better search results. Emphasis will be given by VZG to the full use of automatic application of Dewey classifications and Dublin core metadata.
  It is also an objective to act as a focal point for the use of the metadata provided by publishers and book sellers. It is expected that an increasing number of metadata will be provided with the content which will have a great impact on the library staff in the cataloguing area.
- ❖ Strengthening the governance of the VZG.

- ❖ VZG will offer Repository systems and will analyze what services can be provided to partners in the area of research data.
- ❖ VZG will provide hosting solutions for LBS, Open URL Linkresolvers, Portal solutions and Streaming Video.
- ❖ For the future development of Local Library Systems the VZG focus on Open Source software components in order to realize high flexibility and vendor independence.

For an organization such as GBV/VZG cloud computing could offer interesting opportunities. VZG is already engaged in the hosting of a variety of local services. This could be improved and extended by using cloud technologies.

GBV is firm on what data and services should run in the (American part of the) cloud and what data should be definitely stored and managed in Germany. User information but also lending information (which user is reading what) should be processed and stored locally or in the secured GBV network and not in the US.

Cloud computing will probably not be a panacea for everything. It is doubtful whether cloud computing will provide sound and effective solutions for the big libraries with different locations and complicated structures such as the SUB Göttingen. Also the interconnectivity with local administrative systems should become proven technology before use could be considered.

For many years GBV is now a partner of OCLC. There is a great satisfaction about the 'excellent CBS' and the LBS that has a great flexibility. The data are owned by the GBV libraries, although they can be provided to WorldCat.

In view of the current service provision and the arrangements with OCLC on these systems, Ex Libris is not regarded as a serious competitor for OCLC. The ownership of Ex Libris is also an element of uncertainty.

It might also be good to stress that the importance of WorldCat for GBV and GBV libraries should not be overestimated. The relevance in practice is limited. Most of the relevant information is already available in the GBV network and the Interlibrary Loan system is working very efficiently. WorldCat data are only relevant for some specific research areas.

The budget of VZG is more than M€8. The various libraries are contributing 80% to this budget, 20% of the income stems from other sources and services.

VZG is an efficient organization working with a staff of only 65 persons including:

- 13 staff members in the area of library services, data import and data conversion
- 2 staff members for Interlibrary loan services
- 15 staff members for digital library development
- 10 staff members to support the local library systems
- 20 staff members in the technical area
- 10 staff members for management and support.

The number of services that are being provided is impressive.

The central board in the governance model of VZG is the Verbundleitung. This board has 15 members, 7 representatives of the ministries of the participating Länder and 8 representatives of the libraries. A group of 8 people from libraries, VZG and OCLC are acting as advisors to the board.

Das Hochschulbibliothekszentrum des Landes Nordrhein-Westfalen (HBZ)

HBZ is a central service and development center for libraries in and beyond Nordrhein-Westfalen. HBZ is using the Aleph system by Ex Libris as the central system for cataloguing. For more than 10 years HBZ is using the Library portal "Digitale Bibliothek – DigiBib"'. This portal performs metasearching but does not comply anymore with the current requirements and expectations. Therefore, the need was felt to look for new discovery tools.

In 2010 HBZ and VZG published a joint report on the currently most important commercial search engines or „discovery service" in order to search and find information both in the various participating libraries and in a wide range of external sources. A comparison on content, functionality and interoperability was made with the existing information portals of HBZ (DigiBib) and VZG (OCLC Touch Point).
The report focused on EBSCO Discovery Service – EDS, Primo Central (Ex Libris) and Summon (Serials Solutions).

The report concludes that all products are performing well and are usable. In comparison EDS and Primo Central showed significantly better results on various criteria than Summon. The differences between EDS and Primo Central are not significant.
Unfortunately WorldCat Local could not be included in this survey because this product was not yet available in Germany at the time of the survey.

Bibliotheksservice-Zentrum Baden-Württemberg (BSZ)

The Library Service Center Baden-Württemberg (BSZ) provides services for libraries, museums and archives in Baden-Württemberg and beyond. It is governed by the Ministry of science, research and arts of Baden- Württemberg and is established in Konstanz. The BSZ is managed by a director who reports to the ministry.
The "Kuratorium" with representatives of all participating libraries, museums and archives acts as the central advisory board both for the Director of the BSZ and the ministry. Representatives of the ministry can attend the meeting of the Kuratorium as advisors.

The core business is the management of the bibliographic database Südwestdeutscher Bibliotheksverbund that is used by more than 1000 academic libraries in Baden-Württemberg, Saarland and Sachsen as well as other organizations and in special libraries and out of Germany (e.g. Goethe-Institute).

BSZ is using the CBS software provided by OCLC. In general, BSZ is satisfied with CBS. The system is regarded as flexible and open for innovation. However, upgrading is required in the field of web-based cataloguing and search facilities such as faceting searching.

The library directors of a consortium of more than 50 libraries have decided to move from the Horizon software to a new local library system. The decision to move to aDIS/BMS, provided by ASTEC GMBH, was based on a tender procedure.

As a service provider BSZ will support the migration to this new system in the next two years. Ten libraries of Universities of Applied Sciences are already running the new system.

❖　　　In the next few years BSZ is planning to develop and provide important new services such as embedding repositories in the other activities of BSZ, e.g. the union catalogue.

Most of the metadata of media in repositories are also in the union catalogue. It is up to the libraries and their universities to decide what they want to be presented in the union catalogue. The open source repository OPUS (developed at the University Library Stuttgart) is widely used in about 100 colleges and universities. There is a workflow for OPUS-repositories of the libraries of the Südwestdeutscher Bibliotheksverbund and the SWB union catalogue.

❖　　　Development on search engines and semantic Web

A portal (BAM) has been developed by the BSZ with Lucene (www.bam-portal.de)
At this moment a project with the Stiftung Preußischer Kulturbesitz is running to improve searching and localize information with facetted search. A beta version is already available: http://www.spk-digital.de/. This is work in progress.

❖　　　Improvement of preservation and digitization.

BSZ has done a couple of preservation projects, e.g. BOA: Baden-Württembergisches Online-Archiv http://www.boa-bw.de/ and Historische Schallaufzeichnungen online.

Digitization, cataloguing and online representation of historic sound recordings of the Deutschen Volksliedarchiv Freiburg http://pollux.bsz-bw.de/DB=2.316/
This year BSZ will start a big project to digitize historical journals of Libraries in the Lake of Constance-region (Germany, Austria, Switzerland). The software SWBcontent that will be used is developed by the BSZ staff: http://www.bsz-bw.de/digitalebibliothek/swbcontent.html

❖　　　Web-based cataloguing for libraries and museums.

The licensing and provision of e-books and e-journals will become more important. Activities in this area are undertaken in close cooperation with other organizations in Germany. However, it is also expected that conventional services in the area of library systems and joint cataloguing will remain important.

Public funding will remain a corner stone for the development of the consortium. However, the continuous need for innovation requires a greater flexibility, in budget and in staff organisation. This will be a major challenge for the future.
It is expected that the ministry will issue a new scale of fees which will improve the situation at least a bit. Now many institutions ask for a detailed service without any payment. In Germany there is no sponsoring for organisations such as BSZ.

Hessische Bibliothekssystem HeBIS

The Hessische Bibliothekssystem HeBIS is the electronic information and service union of academic libraries in Hessen and parts of the Rhineland Palatinate and is one of the six regional library unions in Germany. Central organisation is at the Johann Wolfgang Goethe University in Frankfurt am Main.

The HeBIS-Verbundzentrale (HeBIS VZ) includes 'Bibliothekarische Dienste' as library service centre and 'HeBIS Information Technology' (HeBIS IT) as technical services for the union.

HeBIS is based on a central union database in Frankfurt am Main with six local subsystems (at the Universities and Technical Universities in Darmstadt, Frankfurt am Main, Giessen, Kassel, Marburg, Mainz) equipped with software from OCLC.

The HeBIS database (incl. Retro Database) records currently over 42 million titles and norm data sets. These comprise 16 million titles of all types of publications with over 26 million records of stocks from 567 libraries of all sizes in the region.

State Library Berlin

The Journals database (Zeitschriftendatenbank ZDB) is a joint service of the State Library of Berlin and the German National library
It is the largest bibliographic database in the world for journals, periodicals and newspapers from all countries and in all languages, both in printed and in electronic form.
 More than 4000 libraries in Germany and Austria are contributing to this database. The use is free for all libraries and organizations. The catalog of the Zeitschriftendatenbank (ZDB) can be searched online. The database is restricted to information on the journal. Information on individual journal articles is not available.

The State library of Berlin is responsible for the management and development of the database.

Recommendations of the Wissenschaftsrat for the future of Verbundsystems in Germany.

On 28 January 2011 the Recommendations of the Wissenschaftsrat, an Advisory Council of the Federal Government, on the future development of the German library union systems were published. This Council stresses that the current system of 6 library unions is not effective and that a fundamental reform of the system is needed with less duplication, more coordination and more division of tasks and responsibilities to the benefit of the users.
The Council concludes that there is an overlap of activities between the 6 unions and too much redundancy. With the 250 full time equivalents of staff more services could be realized.

One of the basic services of the Unions is the production and management of catalog data. The Council believes that bibliographic data resources could become less important if the development of WorldCat continues or if metadata will become available on the Internet as Linked Open Data. *For this reason the unions should focus more on the collection and integration of metadata that are already available*.

According to the report, the unions have refused to combine their data. This attitude has come under criticism of the Council.
On top of the basic services additional innovative services should be provided. Open Access publishing, licensing, authentication, full text searching, digitization, archiving and access to primary research data are mentioned as important areas that require a higher strategic priority.

On 3 February 2011 the Wissenschaftsrat and the Deutsche Forschungsgemeinschaft (DFG) released a joint statement on these recommendations. This stresses that there will be political and financial pressure to realize the required reforms.

The two organizations confirm the need for more coordination and demand for the creation of a coordinating body, a „Koordinationsgremium". The basic services should be provided centrally. Additional innovative services should be developed and provided not on a regional basis but in a joint effort.

United Kingdom

In the UK there is no organisation that is comparable with the previous ones.

UK Research Libraries UK (RLUK) manages a joint OPAC of the member libraries (Copac). Copac is a traditional library catalogue - which means it gives access to details of documents and their location. The records on Copac represent the merged online catalogues of members of the Research Libraries UK (RLUK). There are some 30 million records on Copac representing the merged holdings of RLUK member institutions, including the British Library, the National Library of Scotland, the National Library of Wales/Llyfrgell Genedlaethol Cymru, and the National Art Library (V&A), plus special collections from a small number of non-RLUK libraries.

RLUK is involved in developing joint strategies, in particular on licensing with the major publishing houses.

One of important ongoing projects is the UK Research Reserve project, which should offer a collaborative, coordinated and sustainable approach to securing the long term retention, storage and access to low-use printed research journals. UKRR is a project funded by the Higher Education Funding Council and led by Imperial College London on behalf of the research library sector in partnership with the British Library.

The Joint Information Systems Committee (JISC) has stimulated a lot of innovations in the use of digital technologies and has initiated and financed a number of important studies and projects. It is one of the leading organizations in the world if it comes to the digital library developments.

JISC provides the JANET network, access to electronic resources and advisory and consultancy services.

JISC strongly supports the Open Access developments and stimulates libraries to develop a clear policy and joint activities on digitization and the management of research data.

UKB (The Netherlands)

In 1969 Leiden University Library took the initiative to start the Dutch library automation project PICA (Project Integrated Catalogue Automation). The first step was to create a system for joint cataloguing. The second step was the development of a local library system. After a long period of successful activities in the Netherlands as a cooperation of university libraries, Pica gradually moved away from the original ideas and became a not-for-profit enterprise that expanded its activities to other countries and to other types of libraries. In 2000 Pica was acquired by OCLC.

The joint cataloguing system GGC (CBS) is still an important database that is being used by most of the Dutch libraries. The GGC provides online access to WorldCat from which metadata can be copied.
The GGC database is offered to users as the Netherlands Central Catalogue NCC with more than 15 million unique records. It is the basis for a very efficient national Interlibrary Loan System that is being used by 400 libraries.

For a long time the majority of the Dutch university libraries also used the Local Library System LBS provided by Pica. A few years ago important founding fathers of PICA such as the Universities of Leiden and Amsterdam moved to the Aleph system of Ex Libris, because they were not satisfied about the performances of OCLC/Pica.
This shows the present diversity among research libraries in the Netherlands.

The UKB is the Dutch consortium of the thirteen university libraries and the National Library of the Netherlands. UKB's key policy objectives are:

- Improve the content available for the member libraries by jointly

    - acquiring content which is not available or easily accessible on the open internet;
    - developing a publication infrastructure for the scientific output of the institutions;
    - promoting publication with open access;
    - dealing with imminent collection budget deficits.

- Enhance the infrastructure for discovery and delivery by jointly

    - developing an efficient, integrated infrastructure for discovery and access, including both open and restricted information resources.

- Support e-research and e-learning by jointly

    - developing facilities for e-learning
    - developing facilities for e-science: storage, publication and valorisation of research output.

The libraries managed to establish a joint policy with respect to licensing – which is currently on their behalf being handled by SURF – the promotion of Open Access and institutional repositories and the acquisition of one single system for Current Research Information. Unfortunately all other objectives of the strategic plan have not been met. The basis for cooperation on various areas is apparently too small.
This is a pity. A dispersed approach of key issues in this relatively small country is not very efficient and leads to a waste of resources.

BIBSYS (Norway)

BIBSYS started in 1972 as a project with the purpose to automate the internal processes in two higher education libraries in Norway.
Today BIBSYS is a government agency reporting to the Ministry of Education and Research and organized as a unit of the University of Science and Technology (NTNU). BIBSYS

serves the higher educational institutions, governmental and other research institutions in Norway and the National Library of Norway.

The Board of BIBSYS has the overall responsibility for the professional activities at BIBSYS. This Board has six members. Five members are appointed by the Ministry of Education and Research, one member is elected by and from BIBSYS staff. All Board members appointed by the Ministry have key positions in the Norwegian higher education sector.

Since 1972 BIBSYS has evolved from a library system supplier for two libraries in the town of Trondheim, to developing and operating a national library system for Norwegian research and special libraries and employs currently 45 fte of staff.
More than 100 institutions are using the BIBSYS integrated library system that was developed in house. This system combines a joint catalogue with the regular functions of a local library system.
On top of these basic systems various applications have been developed for the libraries in the network such as a library portal, repository services, an discovery tool and others.
Various applications had to be developed to serve the specific needs of the National Library that is reporting to the Ministry of Culture.

The library database includes more than 5 million unique titles and over 15 million copies. All libraries are cataloguing directly in the central database. This means that there is only one bibliographic record with many holdings, but no copies and no duplicates.
This central database covers metadata of relevant electronic resources to a certain degree. An integration of a Knowledge base of e-resources and the catalogue is desirable.

In the debates and the decision making process the position of the 4 major university libraries of Norway – Oslo, Bergen, Trondheim and Tromsø - has been very important. The decisions these universities have made on a variety of systems and services have created a complex and diverse landscape.
Although all libraries are using the BIBSYS library system, a number of important additional products of BIBSYS are not used by these 4 main users, such as the Netportal (the universities are using Uniport based on SFX and Metalib), the Repository software BRAGE based on DSpace (the universities are using DUO, DIVA, BORA and MUNIN, three of them based on DSpace), Forskdok for research documentation (Universities were using FRIDA). The ministry decided to put an end to the diversity in the area of research information and decided that all research institutions should move to CRISTIN, a new system based on FRIDA and Forsdok, as THE national research information system.

In the current situation there are basically three areas of activities that are important for research and research libraries:

  ➢ library back-office services and front-end discovery services;
  ➢ institutional repositories;
  ➢ a research information system.

In these areas and between these areas streamlining and integration are needed.
The recent bid for a new system focused on the first area: back-office services and front-end services discovery tools.

The recent tender procedure for a new system was basically a result from discussions

between BIBSYS and representatives from the libraries.

Already in February 2008 the before mentioned university libraries had stressed that the BIBSYS library systems "should be replaced as soon as possible by a new library system, a well-functioning, modern ILS that would be a complement to other support tools and systems already in place."

(http://www.bibsys.no/files/pdf/future_of_academic_libraries/foredrag_hana_christie.pdf).

These libraries clarified that they were only using some of the services provided by BIBSYS, in particular the catalogue, the circulation system and the Ask service.

In addition the libraries had made their own decisions to fulfill local needs based on commercial, free and in-house developed programs, applications and databases such as:

- Library portals and Context Sensitive linking to full-text (Metalib and SFX and *not* Bibsys Mime)
- Open research archives

In 2009 a report was made on the future of the BIBSYS library management system. The findings were that the focus should be on buying off-the-shelf software and not on further development of the current self-made system.

In the debate the future of the concept of the online public access catalogue was questioned in particular because

- users aren't finding their information there, they're finding it on the web
- university libraries are not registering all relevant information such as information on journal articles in the catalogue/the OPAC

the metadata a researcher needs are not registered in an OPAC, they are available only in research databases.

The position of the University Library of University of Science and Technology in Trondheim (NTNU) on these issues needs to be elaborated.

This library questioned whether the acquisition of a new library system would really be the solution for the problems libraries were facing. NTNU felt that major companies such as Ex Libris and OCLC were still very much paper based in their thinking and their services although 90 % of the resources of the library are spent on electronic resources. It is also obvious that although libraries make best efforts to market their portal and search solutions to the users, the reality is that users are searching with Google and Google Scholar.

Is it really useful to spend a lot of money on buying new systems that nobody will use?

The experience of this library with the use of Metalib was negative. The library was not satisfied with Metalib because the number of users remained too limited. SFX has turned out to be a good service, but only because it was leading users via Google to relevant information resources.

The Trondheim University Library stressed and stresses that libraries have to face the reality and have to put Google Scholar in the centre. From that starting point it should be clarified what should be done additionally to see that users will get the quality information they are looking for.

However, the NTNU is interested in learning what OCLC and the new library system can offer regarding new and innovative user services.

Another issue that was raised in the debate in Norway was that the traditional library management system does not fit anymore in today's academic environment with its own user

authentication systems and financial management systems. A seamless integration with the financial system of the universities (to control the whole acquisition area of the library), the Human Resources Management system, the user identification system, etc would be a key topic for a brand new system.

It was also suggested that BIBSYS should focus more on Linked Data and on the storage and retrieval of it (http://infonatives.wordpress.com/2009/06/27/bibsys-modernization/).

A tender process started in 2009 and was professionally managed by the University of Trondheim procurement department.
For the new library management system capabilities for integration and an open concept were key. A real Service Oriented Architecture was needed to fulfill the needs of BIBSYS and the various libraries involved.
The ambition was to find a real new system that would cover or rather replace

- ❖ the traditional ILS
- ❖ the search, discovery and delivery tools.

It would be important to see the library system as a collection of services and not as a system. Optimal use of the metadata that are available was also important.

After a step-by step procedure with a market survey, a call for interest and a refined request for proposals, a final tender procedure was launched. In this tender it was important to look for new solutions and not for refreshed versions of old solutions.

As a result of the tender procedure, BIBSYS decided in November 2010 to make an agreement with OCLC on Web-scale Management Services: "OCLC WMS is regarded as a library system of the next generation with tools for online library management, metadata management, acquisitions, lending, license management and library administration."

Why this choice?

The Board had set 4 criteria for the selection and gave weight to these criteria:

1. Architecture   30%
2. Commercial conditions   25%
3. Functionality   25%
4. Security of supplier   20%

The total score for OCLC on these criteria was overall better than that of the competitor.

The main reasons for this decision were the following:

- The architecture presented by OCLC was convincing. It is a real redesign, not a way to reshape the ILS. For BIBSYS the SOA was a key issue, providing optimal conditions for integration with other services. The new product is not available yet, but OCLC managed to demonstrate a pilot and to show more of their new approach.
- The content that OCLC can provide is a real asset. The company puts the most efforts on agreements with vendors, has WorldCat in place and has an agreement with Google.

However, the practical importance of WorldCat as such should not be overestimated. The Knowledge base for electronic resources is far more important and will be an efficient tool for all participating libraries. Moreover, the agreement with Google can guarantee that all relevant information will also be or become visible through Google. For most users Google or Google Scholar is the starting point for searching. OCLC recognizes this reality.

- OCLC is in a position that it can and will adapt to changes and to new developments and demands in the future. The new architecture is fit for the future

BIBSYS will be an early user of these new products and services that should be in place on 1 January 2013. However, it is stated that BIBSYS can cancel the contract if OCLC would not be able to deliver what they promise.
According to OCLC it is a 7-year project of $ 6.5 million
(http://www.oclc.org/multimedia/2011/files/arc/Jordan.pdf).

It is the goal of all libraries that the OCLC solution will replace everything that is currently working both in the back-office and in the front-end. This means:

- nothing locally anymore;
- most of the services will run at OCLC (in the cloud), but the user database will remain in Europe but not necessarily in Norway;
- some services at BIBSYS will remain, but this will also be dependent of the applications required by the libraries.

The Norwegians are clear about the ownership of the metadata. It is the firm policy of the ministry that the Norwegian state owns the data and that in the cloud solution Norway is always entitled to retrieve the data. This means also that it will always be possible to make a switch to another vendor if needed.

 The final decision of the Board to make an agreement with OCLC was a surprise for many people, including some of the libraries. The expectations are high and should be met by the vendor in order to convince all participants.
In the new concept BIBSYS will have the freedom to make adjustments and to repackage if there is a need for it.

In theory it would be possible to have the back-office services from vendor A and the front-end services from vendor B. This sounds open, flexible and attractive. However, BIBSYS is convinced that this would be very inefficient. They would definitely not recommend this. It would not contribute to better services for the customers.

Looking back at the history of BIBSYS of more than 30 years, it is clear that it was a big step to move from self made services to the acquisition of a completely new service provided by a vendor. BIBSYS has maintained its traditional position and services in this area for a long time, probably for too long. The lesson for others is that you have to change before you are forced to change.

The National Library of Finland

After the separation of the functions of the National Library and the Helsinki University Library, the National Library is in a good position to clearly focus on the further development

of national services for all Finnish libraries: research, public and other libraries.
The development of The Finnish National Electronic Library (FinELib) in the 90s has given an important impetus to these national, coordinated or joint developments.
FinELib is a consortium that comprises Finnish universities, universities of applied sciences, public libraries and a number of research institutes and special libraries. From the start, the main activity of this consortium has been the joint licensing of electronic resources.

The National Library Network Services offer a service package aimed at libraries to make information more accessible to society. The service package consists of support of the digital library services and digital library environment by
  - hosting Digital library software (Voyager, Metalib, EnCompass) for the various institutions;
  - offering the Nelli retrieval portal with Metalib and SFX software, various national bibliographic databases and cataloguing services;
  - the digital object management system Doria (using DSpace) and
  - the organization and presentation of joint statistics for research libraries.
The aim is to use resources efficiently by concentrating the services and applying service-centre thinking.

The National library is currently working on Linked Open Data and is developing principles concerning opening the metadata.
The position with respect to research data is not yet defined but the library will probably have a role in standardization (eg. Metadata, identifiers) and the implementation of standards

The strategic planning for new services is ongoing. The digital library will be the core of the plan that will be updated this year. Related to the plan and even a consequence of the plan is the Finnish Digital Library development.(http://www.kdk2011.fi/en and http://www.kdk2011.fi/en/enterprisearchitecture

New services which are not included in the current plan are:
  - role in research data management
  - role in research evaluation infrastructure (related to national licensing and IT infrastructure)
  - wider role in the development of national ontologies, authority files, standardisation
  - defining together with the libraries what kind of library system Finnish libraries would need for the future (a decision has to be made between Open Source or commercial solutions)

It is expected that the relationship with the libraries in the Finnish network will change in the next 5 years since major changes are taking place in the libraries network, such as mergers. The services the National Library can provide for the libraries will most probably become even more important in the future because of the limited resources of libraries and the budget cuts due to the economic situation.

Finland has managed to find a unique balance between central services, joint services and local services and developments. It offers a very interesting example for other European countries.
 I would like to stress that some key success factors have contributed to this situation:

  - a strong and forward looking national library

- awareness that cooperation would lead to better and more efficient services
- excellent relationship with and support from the government
- strong leadership
- high quality staff.

V. The new services and strategy of important service providers

OCLC

OCLC is a nonprofit, membership, computer library service and research organization. More than 72,000 libraries in 112 countries have used OCLC services to locate, acquire, catalog, lend, preserve and manage library materials.

OCLC and its member libraries cooperatively produce and maintain WorldCat, the world's largest online database for discovery of library resources.

For a very long time OCLC has focused on printed information. This is now changing rapidly. The current strategy of OCLC is to make full use of new Web technologies and emphasizing cloud computing. "OCLC is introducing next-generation services using 21st century Web technology that will greatly amplify the power of library cooperation. By connecting more libraries and more records, there will be more network effects and more value for the cooperative. Some services will interconnect in the cloud through machine-to-machine interfaces. Others will reside where they are technically most appropriate, at the local, group or global levels.

The vision is to use Web scale to deliver library resources, services and expertise at the point of need, within user workflows and in a manner that users want and understand. The Web-scale model will encourage users to participate in a network and community of libraries by enabling them to reuse information and socialize around information. It also will create a powerful, unified presence for libraries on the Web and give users a local, group and global reach." http://www.oclc.org/us/en/about/vision/default.htm.

OCLC does not have the ambition anymore to be also a content provider (e.g. e-books). The focus is completely on metadata and infrastructure. The cornerstone of the future oriented services will be WorldCat and WorldCatLocal.

(http://www.oclc.org/news/reeases/2010/201015.htm)

The Norwegian consortium BIBSYS has recently made an agreement with OCLC on these Web-scale Management Services. "It is regarded as a library system of the next generation with tools for online library management, metadata management, acquisitions, lending, license management and library administration."

(http://www.oclc.org/news/releases/2010/201055.htm). The before mentioned services will be provided "from the cloud", but the user database will still be managed by Bibsys or by the libraries in this network.

A situation is envisaged that the data are in the US, the IT back office infrastructure in the Netherlands or another EC country and the user database in Norway.

The WMS for Bibsys should be operational on 1 January 2013.

The various CBS installations remain important in the strategy of OCLC and could be positioned as 'metadata hubs". CBS is a flexible and highly functional system that can handle different metadata formats.

The old-fashioned WinIBW will disappear and be replaced by an integrated Web application that communicates both with CBS and Worldcat. It will probably be released in

2012.

In the next 5 years the organizations that are using CBS can definitely rely on the continuation of this service. It will also be possible for library organizations to have a CBS service remotely hosted in Leiden. The ILL services will "gradually disappear in the cloud." It might also be good to mention that OCLC is planning to move from the Pica+ metadata format to Marc21.

OCLC will not focus on a complete centralization of services which of course would be possible and efficient. For political, cultural, legal and functional reasons the strategy will be to work with Metadata Hubs and to respond to the need to control vital information locally or nationally.

OCLC would like to elaborate a 'partnership concept' that will be based on cooperation with important partners such as ABES, GBV, the Australian National Library and many others.

In the cloud approach in which WorldCat and the Knowledge base with Link resolver are the cornerstones it will become less important where metadata of e-resources will be stored. It will not be needed to add these metadata for the 'national' CBS.
For the user it does not matter where the information is located or stored. The only relevant question is that information can be found and accessed.

The OCLC approach for the front-end will be WorldCat Local (a name that does not really cover the service) that will be a competitor to Primo Central, Summon and others.
WorldCat Local delivers single-search-box access to more than 700 million items from the local library and the world's library collections. The exact content available to the users depends on the licenses that are in place. With one single interface more than 1,100 databases or collections of bibliographic records can be reached. No local hardware or software will be needed and frequent updates and enhancements will be provided.
It integrates with the current ILS, authentication and delivery services.
Social networking tools allow users to create and share lists, write reviews, rate items and more. The interface languages will include French. Detailed usage statistics will be provided through a hosted tracking/metrics tool.
Planned enhancements include a full-featured, customizable mobile portal and institution-specific downloadable apps.

In the back office various workflows can be distinguished: only printed material, electronic information, digitized information that is also available in printed form, etc. Dependent on the workflow different solutions in the back office can be applied, but it would be wise to make optimal benefit of the metadata that are already available in the cloud, in Worldcat, in the various databases of publishers and information providers or in repositories and to not replicate work that has been done already.

The cloud approach of ILS is currently marketed both by OCLC and Ex Libris as the most important players in this library field.
The unique selling points of OCLC in this competitive environment are:

- WorldCat (with more than 194 million bibliographic records representing 1.5 billion items, including Google Books)

- Data Aggregation (1000 databases are currently indexed)
- A complete new SOA architecture, an Open platform that is well designed and configured, optimal use of grid computing.

This open concept implies that in the cloud also services from other vendors and suppliers could be used. It would be possible to have the discovery interface from another vendor than the ILS. However, the most optimal integration will be realized if all services are being provided by one single supplier.

Ex Libris

Ex Libris provides collaborative, local and integrated library services and can be regarded as the most important competitor of OCLC in this area.

Ex Libris has an important customer base of leading research libraries around the globe and has a wide range of products both for printed and for electronic media.
In January 2011 Ex Libris announced the cloud based Alma Library Management Service, a next-generation framework for library services "by consolidating, optimizing and extending library workflows.''
Important capabilities of Alma are:

- ❖ Unified Resource Management which should turn format-based vertical silos (print, electronic and digital resources) to service-based horizontal workflows enabling unified discovery.
- ❖ Collaborative metadata management combining global sharing of metadata with local needs. Libraries don't have to catalogue data that have been processed already by others. Moreover a continuously growing Knowledge Base is being used. It might be good to stress that Alma will also support UNIMARC.
- ❖ Intelligent collection development based on relevant user information.
- ❖ Cloud-based services.
- ❖ Web services and open interfaces based on SOA architecture. Libraries will be able to develop adapters and plug-ins.

Alma should cover everything in the library management and back office area that we know today. All features of Rosetta, "a highly scalable, secure, and easily managed digital preservation system", are also available in Alma.
The primary deployment of Alma is via cloud based service which will lower the total cost of ownership, reduce investment of local hardware and provide an infrastructure for improved sharing of collections and data.
The whole concept emphasizes the integration into the environment of the research library and the research university, with union catalogs, open access repositories, research management systems, metadata providers, learning management systems, student information systems and others.

Ex Libris focuses on an open platform strategy and will increase their emphasis on service-oriented architecture principles, ensuring that they will provide services as core building

blocks for applications developed by Ex Libris and by other parties. The adds on produced by Ex Libris users can be distributed to other users in order to make full advantage of the development capabilities in libraries and IT centers.

The development partners of Alma are Boston College, Princeton University Library, Purdue University Library and K.U.Leuven. Ex Libris emphasizes that the developments are very much customer driven. The general release is scheduled for early 2012.

An important element in the debate on cloud-computing is the question where is running what. Alma will at least have a hub in Europe and eventually in specific European countries if there is a clear need for it and sufficient critical mass.

For the front-end Ex Libris is marketing its successful Primo discovery service.
In 2009 the company introduced [Primo Central](#).
Primo Central indexes scholarly materials such as articles and e-books provided by publishers and aggregators. It should act as a Google for the library information environment.
Primo® is presented as a one-stop solution for the discovery and delivery of local and remote resources, such as books, journal articles, and digital objects. It should interface seamlessly with library applications from Ex Libris and other vendors. Primo services can be embedded in commonly used applications such as course management systems and institutional portals and be accessed via mobile devices.

With Alma and Primo a unified library management service and a unified discovery service should be offered.

Ex Libris has a clear and comprehensive view on the needs of libraries, researchers and students and offers a convincing future-oriented approach that can help libraries to change their processes according to the needs of today's users and the requirements of efficient operations.

ProQuest

ProQuest focuses on "specialized information resources and technologies that provide the most successful ways for people to search, find, use, and share information".
Important brands of ProQuest are UMI, Chadwyck-Healey, SIRS, eLibrary, Serials Solutions, Ulrich's, RefWorks, COS, Dialog and Bowker.
ProQuest positions itself as more than a content provider or aggregator: "an information partner, creating indispensable research solutions that connect people and information" with a focus on user-centered discovery technology.

The company announced that it will launch "an all-new platform that will transform delivery of several highly-regarded individual platforms into a consolidated research experience that will encompass all ProQuest family products over time."

Serials Solutions is focusing on e-resource data, access, management, and assessment. They currently serve more than 3000 libraries of all sizes and types. The company stresses that it has been an innovator in several areas, such as the first:

- e-resource knowledge base
- MARC records updating service for e-resources
- federated search engine featuring results clustering
- e-resource management system integrated with a hosted knowledge base and Open URL link resolver
- e-resource management system for consortia and library groups
- e-resource assessment service to deliver cost and usage analysis
- integrated e-resource access and management solution
- web-scale discovery service

The Web-scale discovery service Summon is an important competitor to Primo and WorldCat Local. It offers Web-searching of the content in library collections and a wide range of other databases via one search box.

VI.   Assessment and Prospects

This section will discuss the three key questions presented by ABES.

I.   « Quelle est la solution actuelle de l'ABES comparée à celle d'organisations similaires en Europe et sur d'autres continents ?

By creating the SUDOC database ABES has developed an excellent service for libraries and end-users based on a system for joint cataloguing, with the involvement of all French research libraries. Most organizations with a similar role are operating in a significantly smaller country (e.g. Norway, and the Netherlands) or only in part of their country (e.g. Germany, and Spain). In this respect ABES has a unique national position.
It is important to stress that both ABES and most of the other similar organizations have created high-quality metadata on a cooperative basis, building up a critical mass of expertise in a way which could never have been achieved by one research library alone.

The focus of this environmental scan was to look at similar organizations that have developed a central catalog, based on the principles of joint cataloguing, for a network of libraries in a region or a country, and have gone on to develop other services beyond that.

The main differences between these organizations and ABES are as follows:

1. Most organizations offer a wider range of services to the libraries in the network, including repository services, hosting, digitization and consultancy. Some of them – the US organizations in particular, as well as the National Library of Finland with FinElib, and the Consortium of University Libraries in Catalonia in Spain – also play a major role in the organization of joint license agreements with publishers and vendors and are important players in the ICOLC.

2. Various organizations also support the libraries in the network with their local library systems, especially where all or most of the network partners have opted for the same ILS.

3. Most organizations focus not only on research libraries, but provide services to public libraries in their network as well.

The new activities that ABES has developed over the past few years in the area of licensing (in close cooperation with Couperin), as well as the development of an e-theses portal, are completely in line with international developments and consistent with the national role of the organization. There should be room for extending new services of this kind.

II.   Comment les organisations similaires conçoivent-elles les évolutions futures du paysage dans lequel elles évoluent ?

All similar organizations are developing new projects and strategic plans that emphasize digital and electronic information and the importance of supporting libraries in their mission to serve researchers, teachers and students in the future.
The general feeling is that if library organizations were to maintain their primary focus on printed information, they would soon become obsolete. However, for the time being, a delicate balance has to be found between the management of and access to printed information, and enabling access to all the relevant electronic information available in the global network. This balance will change dramatically in the next 5 to 10 years in favor of electronic resources.

The overview of the various organizations inside and outside Europe shows that there are major differences in the decisions that organizations are taking or have taken with respect to future developments. However, they also have important plans and ideas in common, particularly with respect to:

+   The provision of discovery services for libraries;

+   The need to achieve more benefits through economies of scale;

+   Putting more emphasis on open solutions;

+   Growing interest in a new generation of library services;

+   Benefiting from the opportunities offered by cloud computing;

+   Making better use of Web 2.0 technologies.

III.   Comment les organisations similaires perçoivent-elles la pertinence de leur(s) rôle(s) futur(s) ? »

Most organizations feel that there would not be a bright future for them if they would not start to offer new activities and services, and fail to provide real added value to the libraries in the network. The exact role of the organizations could change in the future and depends very much on the central services libraries would require. In general, there is a tendency towards more centralization of basic services because this is more efficient and cost-effective.

By operating with a strong and reliable library organization, significant benefits can be achieved by the individual libraries and their users, in particular:

- Efficient use of metadata to avoid duplication and take full advantage of what is available on the web, through joint international cooperation between libraries and service providers.
- Stronger position in the negotiation process with international service providers and vendors, and opportunities to make better and more cost-effective agreements.
- To act as a trusted intermediary both for the service provider and for local libraries in hosting local library systems and services.

- A strong voice in the national debate on library resources, budgets, digitization and conservation issues.
- To be a focal point in the development of national services, such as a Current Research Information System, institutional and subject repositories, portals for heritage collections, support on the management and curatorship of research data, digitization and preservation.
- To act as a centre for library innovation, making use of the opportunities offered by Web 2.0, and the ideas and creativity available in the network.

These opportunities underline that future prospects are good because most libraries will be forced to reconsider their role and will be challenged by their parent institution to define what they should continue to do themselves, locally, jointly or remotely. Pressure on university budgets is expected to increase, together with the demand for high performance and cost-effectiveness. There is also a clear trend towards growing pressure from national authorities and advisory committees to join forces, deliver basic services centrally, avoid duplication and operate more efficiently.

A specific issue is the national union catalog. The unions in Germany are determined to maintain and develop this service further, but in the Netherlands the future of the GGC national catalog is questioned given the position and development of WorldCat. It should be noted however that the future of cataloguing is also questioned by the *Wissenschaftsrat* in Germany. Is there a discrepancy between what librarians feel is important and what key users believe?
In the Internet age it is important to examine activities critically, including services that were never questioned in the era of printed media. Why do users need a particular service? Does it still have added value? Could we also reach our goals in a different way? These questions should be considered, discussed and answered continually and systematically.

In any event, the duplication of work should definitely be avoided. The opportunities offered by the metadata that are already available in the global network are so obvious that they cannot be disregarded.

VII.   The specific issues raised by ABES

a.   *How to deal with electronic resources? Should the metadata be put in the central catalog or should these data be handled separately?*

The catalog was developed in the printed world and is usually based on physical holdings. The development of the digital library, the availability of electronic resources, some of which do not have a print equivalent, and the digitization of printed resources, have created a hybrid situation in research libraries. In general, it may be said that local catalogs do not, and will never, cover all the resources a local library provides access to. The same is true for central and/or national catalogs.

A few of the similar organizations are adding metadata of electronic resources to their central catalogue, but most of the organizations have other approaches and solutions in place. An example is the GBV that is still using the Online Contents database provided by Swets with metadata of the articles from more than 24.000 journals. It is obvious that also this database does not cover the wide range of electronic resources that are relevant and available. The federated search tools that are currently in place are outdated and do not satisfy the user anymore in the world of Google.
 The acquisition of state-of-the-art discovery services in order to have one entry point for searching Web catalogs, journals databases, subject repositories, e-book collections and other resources is high on the agenda. It should be stressed that the aim is both to provide a Google like discovery tool and to facilitate or enable information delivery using linking technologies.
Also the important information providers such as OCLC and Ex Libris make a distinction between the catalogs/WorldCat and their Knowledge base and try to make an optimal use of data from other parties.
Ex Libris provides a central index with more than 300 million records based on agreements with publishers and information providers. The local content from OPACs and repositories can be added to a local index. Searches can be made in both indices simultaneously. The OCLC concept is basically the same.

The developments in the area of linking technologies and the availability of good discovery services, make it logical to use these tools to search all relevant internal and external resources, including the joint SUDOC catalog.

However, it might also be wise not to rely on the 'external cloud' for all data. The data currently held in SUDOC are French-owned. The same should apply to all electronic information – such as the contents of French university repositories, French e-journals, French e-theses, digitized French monographs – in the French language and/or produced in France. This does not mean that all this information should be part of SUDOC. There are other options outside SUDOC that could deal with the dispersed electronic resources in the French language or produced in France. Therefore, a French virtual knowledge base could be considered.
The metadata of international journals, databases and e-books that are essential for research and education could, of course, be taken from the cloud. It would be useful to define what should be done in the ABES network, what should be done by other French organizations and what kind of data could be used from the cloud.

b. *What should our relationship with OCLC be in the future?*

The ABES situation, which only uses the CBS Central Library System of OCLC, is markedly different from the situation of GBV in Germany, for example, that has a package deal with the CBS and local installations of LBS.
Replicating this GBV situation for France is not the obvious step. New situations require new solutions, and the same is true for the Integrated Library System.

The agreement made with OCLC in 1992 terminates at the end of this year. It is clear that ABES will continue with its work on SUDOC and its role in joint cataloguing, but this does not necessarily mean that the terms and conditions of the current agreement with OCLC should not be reconsidered. The original agreement was made in a world that was almost completely print-based. The importance of printed information is gradually declining. For journals – which consume 70–80 % of library budgets – the importance of print is already limited, e-only will gradually become the norm. Under these circumstances, the cost of the CBS service that will not cover the full range of relevant and currently available information, is open to debate. One option might be to negotiate an extension of the services that OCLC may be expected to provide in the future. An alternative might be to move to another service provider.

The dependence on OCLC has been questioned. In the current information environment, libraries are dealing with the predominance of a few major providers, such as Google, Amazon, Microsoft. There may be some uncertainty about the future and ownership of these companies. This might also be an issue for a company such as Ex Libris.
In this respect the status of OCLC as a not-for-profit organization, the governance of OCLC, and the number of organizations involved in this enterprise, is relatively reassuring.
I do not think that the issue of dependence should be decisive. The services, performance, content, and reliability of the service should be the prevailing factors. Another issue far more important than vendor dependence is: who will be in control of all the valuable data?
All European organizations agree that they should maintain control of the user data. There is no question about this. These data should not be stored in the United States, nor be governed by US law.
With respect to the metadata, it will be very important to define as precisely as possible which metadata ABES should control. The specific position of ABES in France and its role in supporting French research, education and culture, requires that safe provision be made for the sound management of the data, which should be regarded as 'national heritage'.

c. *What should the relationship between ABES and the libraries in the network be in the future?*

Good communication and interaction with the libraries in the network are essential for the successful development of an organization such as ABES. The OhioLink example as well as the BIBSYS discussions, shows that a weakening in this relationship can be harmful. There are opportunities for extending the services that ABES currently provides, but this requires a clear commitment on the part of the

research libraries and real involvement in the decision-making process on crucial matters. This could affect the governance model of the organization. This is an issue that requires serious consideration if ABES wants to make a quantum leap forward.

In the current situation the important decisions are being made by the Conseil d'Administration. It would be important to strengthen the position of representatives of the universities in this Board and to have a clear and strong advisory role of representatives of the library directors in an Advisory Board that would deal with all relevant strategic issues that have been addressed in this report. This could mean that the role of AURA should become stronger.

Libraries are facing turbulent times. Guidance, leadership, and the collaborative participation of all the important actors, are essential in such a situation.

d. *Can we expect OCLC to provide an update of the CBS?*

According to OCLC, the various CBS installations will remain an important element in their strategy and could be positioned as 'metadata hubs'. Other organizations also count on CBS and regard it as a flexible and highly functional system that can handle different metadata formats.
The outdated WinIBW will disappear and be replaced by an integrated Web application that communicates with both CBS and WorldCat. This will probably be released in 2012.
OCLC stresses that the organizations using CBS can definitely rely on the continuation of this service, for at least the next 5 years.
It might be a good idea to specify this if a new agreement with OCLC is to be entered into.

OCLC has indicated that they will facilitate the use of RDA (Resource Description & Access), a new unified cataloguing standard that takes the FRBR model (Functional Requirements for Bibliographic Records) into account.
From a technical point of view it is important to support linked record structures which is possible already in CBS.
OCLC expects that the implementation of RDA will be a matter of configuration. It might well be that the software will have to be adapted. These adaptations will be implied in the next version of CBS that is being developed.

CBS currently supports SNS (Social Network Services) functions. These functions have been developed in the SwissBib project and are also a part of the Picarta service. Reviews, abstracts, tags and ratings made by users can be added to the records in the CBS database. Technically it is also possible that users add metadata, but this is not yet in use.

The various new developments in the information environment stress the need of having well controlled and structured metadata. Initiatives such as FRBR, RDA, persistent identifiers (DAI in the Netherlands and ISNI internationally) and the use of metadata as linked data are also supporting this.
An interesting initiative in this context might be the cooperation between OCLC and Easybib (http://www.oclc.org/nl/nl/applicationgallery/profiles/EasyBib.htm).

e. *Could ABES play a role with respect to local library systems?*

Various library organizations are playing a successful role in the support, or even management, of local library systems. The new product developments by service providers, such as OCLC and Ex Libris, for both back-office and front-end, provide new opportunities in this area, using cloud computing solutions.

The development of cloud services could give an extra impetus to the discussion about the opportunities for making optimum use of the data globally available. This development could also lead to discussions in individual institutions on what to do locally, and what should be done remotely, or jointly. An organization offering reliable services based on collaboration between libraries could create an interesting scenario, particularly if the availability of the services can be guaranteed, updates can be installed automatically, the quality of the work can be maintained, efficiency can be improved and the workload in back offices reduced.

I would like to emphasize that such a development can only take place if there is a clear and forthright demand for it from a substantial number of universities, and there is a clear and convincing business case for it.

VIII. Some recommendations

➢ ABES should seriously explore the opportunities to become *the* metadata hub for France, for both the metadata of printed documents and the metadata of electronic resources. This would fit nicely into the strategy of both OCLC and Ex Libris in terms of the development of data hubs in Europe.
This role means that ABES would need to maintain and strengthen its position with respect to the metadata of print information, and develop a clear leading role as a metadata hub for electronic information. This should be done in cooperation with the relevant organizations in France, and with one or more external service providers.
It should be stressed that optimum use must be made of the metadata already available.

➢ In this context it would be good to harmonize all French activities and initiatives in the area of metadata and authority records, such as the useful new IdRef service provided by ABES and the VIAF initiative with involvement of the BnF. It would be important to have a joint strategy with respect to the acquisition, harvesting and quality of metadata and a clear definition of tasks and responsibilities.

➢ A new generation of back-office services (acquisition, cataloguing and circulation) and front-end services (searching, discovery and delivery) is emerging. Cloud computing services will open new windows of opportunity. Metadata will play an important role in this development. There will be opportunities for close cooperation on these new services between ABES, research libraries and their parent institutions, as well as other relevant organizations. For all libraries it will become increasingly important to consider what should be done centrally, jointly, remotely or locally. The licensing experience shows that joint efforts and close cooperation can create access to more content, better prices and conditions – to the benefit of researchers, teachers and students. The same is true for the products and services currently offered by major vendors. ABES is already an important service provider benefiting all research libraries: this role could be expanded.

➢ In-house development of discovery tools by libraries or by ABES is not recommended. These services will not be able to compete with the solutions provided by the main players such as Ex Libris and OCLC and with the changes and adaptations that inevitably will be required in the years to come. In the eighties and nineties important innovative services were developed by libraries and library consortia. For core systems, such as the ILS and discovery tools, this is not realistic anymore.
Moreover the added value of these services to Google and Google Scholar should be crystal-clear.

➢ ABES is playing an important role in support of the research libraries, in particular in the area of the SUDOC catalog, metadata in general and the e-theses portal.
It would be good if ABES would become the focal point in the development of national library services that are relevant for research, in particular the development of and management of a national Current Research Information System. The metadata on current and published research results could be linked to the full text in the various institutional repositories.

Appendix

Many colleagues from other library organization and service providers have provided valuable information and were prepared to share their views either in bilateral meetings or in e-mail contact.

- Lluís Anglada i de Ferrer, Director del Consorci de Biblioteques Universitàries de Catalunya CBUC, Barcelona, Spain
- Kurt de Belder, University Librarian Leiden University, The Netherlands (meeting 20/1/2011)
- Rune Brandshaug, Head of Section Architecture and Technology, University Library of Trondheim, Norway (meeting 10/02/2011)
- Marc Daubach, Corporate Vice President Ex Libris & Managing Director Europe, Hamburg, Germany (meeting 26/1/2011)
- Reiner Diedrichs, Director VBZ / GBV, Göttingen, Germany (meeting 24/1/2011)
- Roy Gundersen, Director BIBSYS, Trondheim, Norway (meeting 10/02/2011)
- Kristiina Hormia-Poutanen, Deputy Director General National Library of Finland, Helsinki, Finland
- Ole Husby, Project manager, University Library of Trondheim, Norway (meeting 10/02/2011)
- Graham Jefcoate, Director University Library at Radboud University Nijmegen, The Netherlands (meeting 8 February 2011)
- Dr. Axel Kaschte, Strategy Director Europe Ex Libris, Hamburg, Germany (meeting 26/1/2011)
- Eric van Lubeek, Managing Director OCLC Europe, Middel East and Africa, Leiden, The Netherlands (meeting 20/1/2011)
- Dr. Marion Mallmann-Biehler, Director Bibliotheksservice-Zentrum Baden-Württemberg (BSZ), Germany
- Marylène Micheloud, Director Réseau des Bibliothèques de Suisse Occidentale RERO, Martigny, Switzerland
- Arve Olaussen, Head of Product Center, BIBSYS, Trondheim, Norway (meeting 10/02/2011)
- Thomas Place, innovation manager Library and IT Services Tilburg University, the Netherlands (meeting 19/1/2011)
- Esther Straub, IDS Verbundskoordination, Universität Zürich Hauptbibliothek, Zürich, Switzerland
- Lisbeth Tangen, Director University Library of Trondheim, NTNU, Norway (meeting 10/02/2011)