



Smart LibrariesTM

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Smarter Libraries through Technology: A Global Industry

By Marshall Breeding

The library technology industry increasingly functions globally, with many organizations involved in diverse countries and regions. I find it quite interesting to study the international dynamics at play among the organizations that provide technology products and services to libraries. Many of those familiar here in the United States are also active in other countries. Other companies, well known in parts of the world, would not be recognized here. As I cover the library technologies for *Smart Libraries Newsletter*, I try to provide exposure to some of companies and products that may not yet have a presence in the United States. They offer a different approach that might expand our thinking about a given area of library technology. Even if the particular products may not be currently available, some

understanding of the international scene seems beneficial.

First, a word about domestic companies. Although large global corporations tend to dominate industry conversations, small companies operating within a single country abound, often within a specialized niche. The small, regionally-focused companies fulfill the technology needs of libraries that the larger players don't find worthwhile to address. Keystone Library Systems, for example, has developed its KLAS product primarily for US libraries that provide materials for the visually disabled. It has operated steadily for more than 25 years. Many other small companies cater to the needs of other library types and likewise serve a well-defined sector of libraries. Yet, the opportunities for growth can be limited in these confined spaces. Resources for research and development may also be sparse, leaving companies vulnerable should organizations with deeper pockets take an interest in invading their niche.

Companies intent on growth continually explore new opportunities, usually by working to market their products outside the parameters of their current base. A company generally oriented to creating products for public libraries, for example, might work to attract academic or school libraries. Polaris seems to be following this strategy, as seen its sales to college libraries. The key challenge in this strategy lies in the tension between specialized functionality for a primary target audience

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and offering a general set of features well suited for all library types. I observe a trend for each of the library types to diverge increasingly in their strategic missions and operational objectives, making it ever more difficult for library technology products to satisfy a mixed customer base.

Other companies seek growth through venturing into new geographic areas. The potential for any given product in a country or region may be limited due to saturation, where most of the target libraries have implemented a product and new sales opportunities are limited. Companies often seek opportunities for growth through expansion of their products and services into other countries where the functionality of their systems has not been available to libraries. A growth strategy through geographic expansion can be extremely challenging when dealing with other languages and different expectations for functionality. The large global library automation companies are able to reach into new countries through investing in adequate business infrastructure to market and support their products in the local languages. The products of the global companies are also built with native multilanguage capabilities.

I see the new genre of library services platforms as well positioned for international deployment because they tend to have flexible workflows that can adapt to established practices and can accommodate metadata variants and cataloging practices of a country. The development capacity of the global organizations usually far exceeds that of domestic companies. New-generation systems require significant investment of development resources. Each new cycle of technologies can provide opportunities for the global companies that have developed new-generation products, at the expense of the local companies without adequate resources to make the technological leap.

Global organizations are also able to gain strategic resources through geographic expansion. Mergers and acquisitions can jumpstart a company into new geographic regions. While acquiring a company may bring new kinds of customers into the fold, it can also expand development capacity. One

As library types to diverge increasingly in their strategic missions and operational objectives, it becomes more difficult to satisfy a mixed customer base.

of the most important assets in a business acquisition can be access to its talent and expertise. We can see a taste of this strategy in OCLC's sequence of mergers and acquisition covered in this issue of *Smart Libraries Newsletter*. Many of the key individuals with OCLC today came into the organization through its acquisition of technology companies. Much of the development of OCLC's flagship WorldShare Platform has been executed in the facilities and by the development teams formed at least partially from acquired companies.

Companies can also leverage their geographic presence to gain operational efficiencies. As a company expands into new areas, it must deploy the business infrastructure needed for service and support. In some cases a company may want to establish its own office in each of the major geographic areas it serves. This approach requires an up-front investment in facilities and personnel. Alternatively, it may partner with distributors to market and support its products in specific regions. This arrangement provides the company with a cut of the revenue made by the distributor without the need for up-front investment. Ex Libris Group follows both approaches, operating some regional offices directly and working with distributors in others. A company can also use the lower costs available in some geographic areas to gain operational efficiencies. In many IT sectors, off-shore outsourcing of selected development tasks has proven to be an effective component of product development strategies. Our coverage of Innovative's launch of its new office in India reflects an interesting strategy of partial reliance on off-shore development, the ability to provide support to its customers in that broader region, and a partnership with an established global services firm.

OCLC Acquires the Dutch ILS Provider HKA

OCLC has acquired Huijsmans en Kuijpers Automatisering BV (HKA), a vendor of library automation systems in the Netherlands. This acquisition further expands OCLC's already extensive involvement with cataloging and discovery services in the Netherlands. It also brings another for-profit ILS company into its organizational structure and brings a new set of products into its portfolio of technologies.

Huijsmans en Kuijpers Automatisering Background.

HKA was founded in May 1983 by Hendrikus Kuijpers and Jozef Huijsmans. The company developed an integrated library system, known as bicat for public libraries in the Netherlands, based on the FoxPro relational database management system. Continu-

ally enhanced and re-engineered during its 30-year development history, bicat is now based on the MySQL database engine, with recent versions following the service-oriented architecture.

The bicatWise integrated library system has been designed specifically for the needs of public libraries in the Netherlands and is not widely used in other countries. It is a mature and full-featured ILS that includes modules to help libraries manage their physical collections, including the integration with RFID self-service equipment and payment systems. It also supports the virtual library and integrates into a library's website, offering features such as user-generated content (such as tags, reviews, and ratings,) title carousels, and social media in addition to the standard online catalog capabilities.

In addition to its flagship bicatWise ILS, HKA also offers automation systems for school libraries (schoolWise). Its theaterWise helps organizations such as theaters manage events and issue tickets to support libraries that offer ticketed events. And payWise provides point-of-sale payment capabilities for its products. HKA offers Tristan, a self-service solution for public libraries, which was developed through a partnership with the Overijsselse Bibliotheek Dienst.

HKA Acquisition Details

Beginning October 1, 2013, OCLC through its OCLC EMEA BV division, holds 100 percent of the shares of HKA. Henk Kuijpers, Jos Huijsmans, and Paul Lucassen will continue as directors of HKA as it becomes part of OCLC. The value of the transaction has not been released, but is expected to be made available in OCLC's 2013/2014 Annual Report. The company's 29-person workforce will become OCLC employees.

The Dutch Library Automation Arena

In the Netherlands, libraries tend to automate through relative large-scale implementations, often through province-wide initiatives, large municipal systems, or in consortia. HKA leads the ILS arena, reporting that 66 percent of Dutch public libraries use bicatWise. Infor Library and Information Solutions is the next largest, supplying the Vubis Smart ILS as well as the Iguana portal for website management. A new company, CiB-LIS, which is a spin-off of the Belgian company CIPAL BV, has recently begun to offer its Brocade ILS in the Netherlands, expanding from its established customer base in Belgium and South Africa.

There have been some recent transitions in ILS implementations among Dutch public libraries. The Bibliocenter consor-

tium in the province of Limburg has recently selected Brocade to replace its current HKA bicatWise system. The Public Library of Rotterdam, with more than 25 branches, recently selected bicatWise to replace its OCLC Sunrise ILS.

OCLC EMEA Organizational Background

OCLC EMEA B.V. operates as a for-profit business wholly owned by OCLC, a non-profit organization headquartered in Dublin, Ohio. OCLC EMEA BV traces its origins to Stichting Pica, an organization initiated in 1969 by the National Library of the Netherlands and Dutch university libraries, to create a shared cataloging system. In 1999, the Pica Foundation established PICA BV, a for-profit company and sold 35 percent of its shares to OCLC in December 1999, another 25 percent in 2006, and the remaining 40 percent of the shares in July 2007. In January 2002 OCLC formed OCLC EMEA BV through a merger of PICA BV with OCLC Europe, Middle East and Africa division. OCLC owns 100 percent equity in OCLC EMEA BV, which currently operates six offices, primarily in the facilities of its acquired businesses and employs around 300 personnel (see <http://www.oclc.org/en-europe/about.html>). OCLC EMEA BV owns 100 percent of OCLC BV, its operating company in the Netherlands.

According to financial reports obtained through Kamer van Koophandel Nederland (Chamber of Commerce of the Netherlands), OCLC EMEA brought in revenues of 35,723,563 in 2012, up from 30,702,384 reported for 2011.

OCLC ILS Involvement

Pica developed two major library automation platforms, the Central Bibliotheek Systeem (CBS) to support this centralized cataloging service in the Netherlands, which was subsequently implemented in other European projects and the Lokaal Bibliotheek Systeem (LBS), an ILS for individual libraries, library systems, or consortia. CBS has been implemented for projects such as the Libraries Australia, the ABES project for French Universities, and multiple implementations in Germany. LBS continues to be used by many academic libraries in the Netherlands and elsewhere in Europe.

Beginning in the mid-2000s, OCLC PICA has expanded through the acquisition of a number of library automation companies:

- June 2005: OCLC PICA acquired Sisis Informationssysteme, which offered the Sunrise ILS used in Germany, Austria, and other parts of Europe.

- November 2005: OCLC PICA acquired Fretwell-Downing Informatics, a UK company that created the OLIB integrated library system, the OL2 link resolver, the VDX resource sharing platform, and other products.
- September 2008: OCLC EMEA acquired the Australian company Amlib Pty. Ltd, which produced the Amlib ILS.
- April 2011: OCLC EMEA acquired BOND GmbH, a German company that created the Bibliotheca2000 and Bibliotheca.Net ILS used by many public libraries in Germany and neighboring countries.
- October 2013: OCLC EMEA acquires HKA, whose bicatWise ILS is used by a majority of the public libraries in the Netherlands.

Through its original products and those of its acquired businesses, OCLC develops and supports seven major integrated library systems, and a variety of other products related to resource sharing, discovery, and other library functions.

In addition to the support of these well-established products, OCLC has also developed the WorldShare Platform as the basis of its WorldShare Management Services (WMS), its new-generation library services platform. The development for WMS is carried out in its European offices as well as in its Dublin, Ohio headquarters. Tilburg University in the Netherlands was one of the first European libraries to implement WMS.

OCLC Services and Technologies in the Netherlands

OCLC EMEA has a very strong connection to libraries in the Netherlands with strategic involvement in a variety of automation and resource sharing initiatives. The organization originated and operates its headquarters in Leiden. OCLC technologies and services provide the infrastructure for the Dutch national cataloging environment, interlibrary loan, and the national union catalog. OCLC now takes on a major role in the ILS arena.

OCLC manages the Gemeenschappelijk Geautomatiseerd Catalogiseersysteem (GGC), the shared cataloging system in place since 1978 and originally developed by Pica. Libraries throughout the Netherlands rely on GGC for catalog records as they acquire items for their collections. The GGC operates on the CBS platform, and its records are also synchronized with the WorldCat.org database.

OCLC is also involved with initiatives to create a national catalog for the Netherlands. In March 2010 Bibliotheek.nl contracted with OCLC to create a publicly available collective catalog for the Netherlands, called Nationale Bibliotheekcatalogus,

or NBC. This initial project provided access to the collection of the national library, the academic libraries in the Netherlands, some special libraries, and 14 of the largest public libraries, representing about 80 percent of all of the titles available in the country. In this phase NBC was not a comprehensive national catalog because it did not include all the holdings of the 170 library services in the Netherlands.

In March 2012 Bibliotheek.nl, the foundation that coordinates many of the activities of libraries in the Netherlands, signed a contract with OCLC to extend the collections represented in the Dutch Shared Cataloging System. Through this agreement, OCLC will extend the platform with the capability to include the holdings of all of the remaining public library collections. This new system includes a synchronization component that extracts and synchronizes the databases of the local ILS implementations with the GGC shared cataloging system. Data must be exported and synchronized from the ILS implementations of the library services throughout the country.

The synchronization requires cooperation and technical implementation by the developers of the local ILS implementations. HKA has completed the synchronization for libraries using its bicatWise ILS. Currently about 75 percent of the public library collections are synchronized with NBC. The full launch of the project has been delayed by a few months until January 2014 to accommodate the remaining libraries.

This new generation of the national library catalog, known as NBC+, will also include a variety of digital collections of cultural heritage materials in addition to the extended GGC library collections. At its launch, NBC+ will include 28 million digital objects, though it is expecting to reach 35 million in subsequent phases. The catalog also will be enriched with content from a variety of other sources, including NBD/Biblion for book cover images and reviews and Centraal Boekhuis for summaries. The Public Library of Amsterdam will be the first library to test NBC+ and make it publicly available. (See: <http://zoeken.bibliotheek.nl/>)

The acquisition of HKA extends OCLC's position even further, now taking on the role as the provider of the library management systems used by 66 percent Dutch public libraries. In addition to the public libraries running the bicatWise ILS, the National Library of the Netherlands relies on OCLC's LBS Lokaal Bibliotheek Systeem for the management of its collection.

AquaBrowser in the Netherlands

The AquaBrowser Library discovery interface, originally developed by Medialab Solutions, based in Amsterdam in the Netherlands, has been adopted by libraries around the world. AquaBrowser

Library provides relevancy-based search results, faceted browsing, a visual cloud of related terms, and a variety of other features that result in a user-friendly interface for searching a library's collection. Although its use in the United States has dwindled, it remains extremely popular in public libraries in the Netherlands.

In December 2012 ProQuest was awarded a contract to adapt AquaBrowser Library as an interface for NBC, includ-

ing its extension to include digital and electronic materials in addition to the print materials. For libraries already using AquaBrowser as their local catalog, they will be able to make a smooth transition to the NBC+ in conjunction with the AquaBrowser Library (ABL+). AquaBrowser is intended as only one of the interfaces through which the NBC+ collection can be accessed.

Innovative Opens Office in India

In a move that expands its international presence, Innovative Interfaces, Inc. has opened a new services and support center in India, to be fully operational by the beginning of 2014. Innovative reports that this office will be staffed by around 60 personnel, who will supplement the development and services carried out in its Emeryville, CA headquarters and its office established in Dublin, Ireland in January 2013. This new office, Innovative India, will be involved in software development and provide services to the company's customers in Asia. Libraries in the United States will continue to receive support primarily from its Emeryville facility. Innovative will use its international facilities in alternate time zones to field support calls outside of standard business hours.

The business activities of Innovative India will be divided roughly equally between software development activities and services, such as product support and sales within its geographic region. Innovative has a strong presence in Asia, which will benefit from sales and support services.

Globally Expanded Workforce

The shift of some development to India will result in the elimination of some positions in Innovative's Emeryville headquarters, which is—and will continue to be—the primary development center for the company. Innovative reports about 20 development and support positions will be shifted to India, with some of the personnel reassigned to other activities.

According to the latest Automation Marketplace (*Library Journal*, April 2013), Innovative employed a total of 341, with 89 involved in development as of the end of 2012. The company reports that it currently employs 360, including the 25 associated with its new office in Ireland. The 58 employees planned for its India office will represent further expansion of its global workforce.

Partnership with GlobalLogic

The new India facility will be operated in partnership with GlobalLogic, a company that specializes in product development services. Although GlobalLogic will employ the staff and help establish and coordinate its office in India, employees will be fully integrated into Innovative's organization.

GlobalLogic characterizes its business as “full-lifecycle product development services.” The company was founded in 2000, with its global headquarters in McLean, VA, its US headquarters in San Jose, and sales offices in Paramus, NJ, San Diego, CA, and Bellevue, WA. It operates engineering centers in many global regions, including five facilities in India, located in Noida, Bangalore, Nagpur, Gurgaon, and Hyderabad. GlobalLogic employs more than 6,600 worldwide and provides development and product support services for dozens of companies in a variety of industries, including business technology, communications, retail, and medical technology.

GlobalLogic experienced a transition in ownership in October 2013, through its acquisition by Apax Partners, a global private equity firm, through its subsidiary ODSA Topco Limited. GlobalLogic was previously backed by a group of investors including WestBridge Capital, New Atlantic Ventures, New Enterprise Associates, and Sequoia Capital.

A Global Company in a Global Industry

Innovative, though based in the United States, has library customers in many international regions. The company's products are implemented in 52 countries worldwide.

Since Innovative came under the ownership of JMI Equity and HGGC (formerly Huntsman Gay Global Capital), it has demonstrated aggressive strategies in product development, partnerships, and global expansion. This new facility not only helps the company reach current and new library customers in

Asia, it will also increase the company's software development capacity at a lower cost, resulting in accelerated product development possibilities.

Innovative competes with a variety of companies and projects that rely at least partially on internationally-sourced development:

The **Kuali OLE** project to develop an open source enterprise-oriented library services platform contracts with HTC Global Services. Headquartered in Troy, MI, the company operates development centers in Chennai and Hyderabad. For Kuali OLE, HTC uses development personnel in both its domestic and international facilities.

Ex Libris Group operates as a global company 11 wholly owned subsidiaries in diverse geographic regions; it works with 12 distributors that market and supports its products in other areas. The company's products are used 82 countries. Most of the company's software development is performed in its corporate headquarters in Israel, where salaries for software engineers can be 10 to 20 percent lower than those in the United States.

OCLC operates as a global organization with 21 offices throughout its three global regions: Americas, Asia Pacific, and Europe, Middle East, and Africa. Technology development takes place in many of its facilities.

Library Technology News

3M Cloud Library introduces Buy and Donate program supported by Kobo

St. Paul, MN – Oct. 9, 2013 – 3M Library Systems announced a new “Buy and Donate” feature supported by Kobo. The new program gives libraries the option to add a Buy and Donate button to their 3M Cloud Library website. When patrons click the button, they will be taken to the Kobo Bookstore to finalize their digital book purchases. 3M will donate a portion of sales to the library for use in purchasing additional eBooks from the 3M Cloud Library.

Now in use at approximately 400 libraries around the U.S., the 3M Cloud Library is a turnkey system of digital content and in-library hardware, along with apps for borrowing and reading.

The Buy and Donate feature will roll out in November to participating libraries.

EBSCO Information Services and GBV in Germany Develop Partnership

IPSWICH, Mass. — September 24, 2013 — EBSCO Information Services (EBSCO) and the Common Library Network in Germany (GBV), one of the biggest library services in Germany, have signed an agreement to enable integrated access between EBSCO Discovery Service (EDS) and GBV's VuFind service. GBV serves more than 250 academic libraries in Germany in the states of Bremen, Hamburg, Mecklenburg-Western Pomerania, Saxony, Saxony-Anhalt, Schleswig-Holstein, Thuringia, and the Prussian Cultural Heritage Foundation.

GBV recently launched a new service based on the Open Source search interface, VuFind. EBSCO's collaboration with the GBV creates a seamless integration of VuFind and EDS. Any library choosing GBV's VuFind solution with EDS will be able

to access an expanded selection of content and have the ability to acquire materials from one comprehensive source.

OCLC partnership with Plum Analytics uses WorldCat to measure impact of research

DUBLIN, Ohio, 19 September 2013. OCLC has established a partnership with Plum Analytics, an altmetrics organization that develops analytical tools for scholars and researchers, to leverage WorldCat data to help researchers better analyze and measure the impact of their work.

Plum Analytics provides a set of tools and services that capture, aggregate and synthesize the big data created from resources, including journal articles, books, videos, presentations and datasets, to characterize how research is used and referenced in various communities.

Plum Analytics has integrated the WorldCat Search API into its PlumX analytics dashboard to retrieve aggregate library holdings information from the WorldCat database, the largest collection of bibliographic data in the world. Access to this data is enabled by OCLC WorldShare applications, which expose Web services and data for use and reuse by third party partners. Scholars will now be able to see how well their published works are included in the collections of libraries globally to help measure the impact of their research.

OverDrive announces new APIs for Library Circulation

October 1, 2013. Overdrive announced that the all-new Circulation APIs are available on the OverDrive Developer Portal. The Circulation APIs will allow approved partners to request check-

outs, downloads, holds, and returns from within their own discovery interface. This means users will now be able to browse and search their library's digital collection, see what's available and check out a title or place a hold all without ever leaving the library OPAC. Critical to this new technology is OverDrive's Patron Authentication API which will enable partners who can authenticate patrons to interact with OverDrive services to execute circulations and to acquire OverDrive account details (i.e., "bookshelves") about their patrons. Patrons will also be able to access their OverDrive accounts, while remaining at their library's website, alongside all of the other materials on their library account. Libraries and vendors can apply for use of the APIs at the OverDrive Developer Portal.

Publishers around the world partner with OCLC to improve library workflows for electronic content

DUBLIN, Ohio, October 10, 2013—OCLC has finalized agreements with international content providers to add more electronic collections to the WorldCat database.

Incorporating these databases into WorldCat and the WorldCat knowledge base will improve access to these collections and simplify administration for libraries that use OCLC WorldShare Metadata services. The following new publisher agreements have been signed since June 2013. These collections will be added to WorldCat over the next few months.

Al Manhal, Dubai, UAE, is the leading Arabic electronic content service provider. It is the industry's only provider of full-text, searchable electronic databases of peer-reviewed and copyright-protected Arabic publications. Al Manhal combines publishing and library industry expertise with best-in-class technology to enable academics, researchers and library users to efficiently discover and access thousands of electronic publications from the Arab world's leading publishers and research institutes.

Confidential Concepts, Inc., Newark, Delaware, USA, offers hundreds of fine art titles about artists, art genres, photography and more. These books contain hundreds of high-resolution images and are available in English, French, German, Spanish, Portuguese and other languages.

Ecological Society of America (ESA), Washington D.C., USA, publishes to make broadly available the most significant results of ecological research, particularly those that increase

the understanding and applications of general ecological concepts. ESA publishes a suite of journals, in suitable forms, that address the interests of all appropriate readers, including scientists, students, educators, resource managers and other users of ecological knowledge.

Henry Stewart Talks Ltd, London, UK, provides access to world-class seminars by leading thinkers and authorities from around the globe, in one online resource—wherever, whenever and as often as it is wanted in the subject areas of biomedical and life sciences, and marketing and management.

Internet Scientific Publications (ISPUB), Sugar Land, Texas, USA, is a collection of more than 80 peer-reviewed, open access medical and scientific journals covering a wide range of topics, disciplines and specialties, with authorship from around the world. Recently published articles are available on ISPUB's website and access to previously published articles is made available through ISPUB's library of archived journals.

New York University Press, New York, New York, USA, is committed to publishing, in both electronic and print format. The organization's publishing program includes general interest or trade books, scholarly monographs, regional books, reference books, college texts, paperback reprints and e-texts. It now publishes 110 new books each year.

SciELO, São Paulo, Brazil, is known and respected globally for indexing and publishing peer-reviewed, open access academic e-journals and, most recently, for SciELO Books, which promotes the advancement of research by facilitating the communication of its results. SciELO publishes more than 1,000 journals with more than 417,000 journal articles from 17 countries, mainly from Latin America and the Caribbean region, and also including Portugal, Spain and South Africa. SciELO Books is a collection of quality peer-reviewed, open access and commercial e-books in the humanities, social sciences and public health from selected university presses and other academic publishers in Brazil.

The ciando GmbH, Munich, Germany, is one of the major e-book aggregators for academic libraries in Germany. The ciando library offers universities more than 250,000 books, most of which are German, from 1,300 publishers, and include nonfiction and literature from all relevant scientific disciplines: economics, management, law, computer, technology, medicine, psychology, education, culture, politics, history, philosophy and religion.

For more information on current content lists, see the WorldCat Local and WorldCat knowledge base pages on OCLC.org.



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Marshall Breeding's expert coverage of the library automation industry.

Editor

Marshall Breeding
615-343-6094
marshall@breeding.com

Managing Editor

Patrick Hogan
312-280-3240
phogan@ala.org

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