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THE INTERNET LIBRARIAN

Libraries are now facing challenging times when it comes to adapting to technological change. In the past, apart from the books themselves, they have not tended to be an area where electronic professionals have been particularly active. This situation has, however, changed significantly in recent years.

The growth in electronic applications in the library environment was particularly evident at this year's Internet Librarian Conference at London's Olympia Exhibition Centre on 15th and 16th October.

Now in its 15th year it was organised by *Information Today*, publisher of *Information Today Europe* and *Online Searcher Magazine*, which collectively offer a complete coverage of the global library and information world. Its Diamond Sponsor was *Jove* journal of visualised experiments, whilst Platinum Sponsors included The British Standards Institution (BSI), Cengage Learning, Ontoforce, OpenAthens and The Royal Society of Chemistry. These were supported with around 20 Gold Sponsors and six media partners.

In addition to the Sponsor's Exhibition, the conference itself had as its theme 'Smart Solutions to Real Challenges' and featured three Keynote Presentations, three one-day workshops and over 50 presentations, which ran in three concurrent streams. Presentation topics included 'Technology Futures', 'Merging Virtual and Physical Worlds: Promoting Collections', 'Virtual Services', 'Being Smart with Technology – Creating Something from Nothing', 'Beyond Websites: New Ways to connect Users to Content', 'The Library as a Digital Publisher', 'A New Academic Landscape: The Royal Society of Chemistry on Open Access', 'Using the new Social Tools', 'Smart use of E-resources in Libraries', 'Customising Library Business Resources for delivery via iPads', 'Teaching Digital Literacy and Tech Skills' and 'How to get the best Search Results in a Big Data Environment'.

The extensive diversity of these presentations demonstrates that, unlike in the past, libraries now represent an important growth area for electronics professionals with huge scope for opportunity. In this issue of *The Electron* some of the more recent developments are reported.

DIGITAL PUBLISHING: THE NEXT LIBRARY SKILL

The presentation 'The Library as Digital Publisher' was delivered by Terence K. Huwe, Director of Library and Information Resources at The Institute for Research on Labor and Employment at The University of California, Berkeley, USA.

He argues that whilst adding a digital publishing function to a library may seem like one workflow too many, given an already full set of portfolios, the signs of experimentation with digital media are now almost everywhere, as all knowledge workers are acquiring broadly similar skills and there is a very low hurdle to launching. This said, however, it is acknowledged that digital publishing is still a relatively new concept and definitions of it may vary from place to place. In *Online Searcher*, September/October 2013, in his article 'Digital Publishing: The Next Library Skill', he states:

'Clearly, nailing down a definition is problematic when formal standards are yet to be established. But even though a lack of solid definitions can be disconcerting, it can also spell opportunity for those with a good idea.'

'Digital media challenge us to reassess how communications and core professional work are converging. The ease with which content can now migrate among formats, and even among media types, is startling.'

The author then considers the case for making digital publishing a new competency for librarians on the grounds that there is a natural synergy between the publishing process and the practice of librarianship:

'Many individual librarians have experience editing for the web and social media. As digital publishing becomes a consumer-driven process, new opportunities will open for those who can "professionalize" their editorial skills.'

Added to this is the wide availability of software such as Adobe Creative Suite, which 'invites innovation along the lines of web development', and various open access software projects that enable librarians to 'launch campus-wide repositories that are pervasive and heavily used.'

Another development is the comprehensive suites of data management tools, such as those at the California Digital Library's University of California Curation Centre (UC3), which have demonstrated the fact that library-based data infrastructures are not only very useful, but are also transferable to more general publishing ventures:

'The California Digital Library pioneered a thriving partnership with the University of California Press, and the initial common ground was the technology infrastructure. Similar joint ventures are underway throughout higher education.'

Particular reference is also made to SHARE, a joint effort between the Association of Research Libraries, the Association of American Universities, and the Association of Public and Landgrant Universities that is exploring the potential for broad alliances to

share digital media across organisational and even industry boundaries ‘at a massive level’.

NEW DIRECTIONS FOR LIBRARIES

In discussing new directions for libraries consultant Ken Chad makes the case for changing the thinking in libraries, away from being in terms of being library management systems, integrated library systems and library services platforms, and towards the concept of an ‘ecosystem’.

In the Chartered Institute of Library Information Professionals (CILIP) Update, September 2013, in his article ‘ The Library Management System is dead: Long live the Library Ecosystem’ he highlights the new wave of reading list systems that is currently being implemented in UK university libraries, along with the Virtual Learning Environment and the acquisition of Research Data Management systems. Yet this now ‘complex landscape’ is still fragmented, existing in the form of ‘silos’ rather than an ‘interconnected, interoperable, ecosystem’. This, he says, becomes very apparent when users try to discover resources:

‘They still have to navigate a number of systems with different search interfaces and ways of displaying and describing resources. Even a basic element such as a “name” may appear differently in the library catalogue and institutional repository.

Some libraries have managed to bring a number of these silos together under a unified discovery service umbrella but with only partial success. Harmonising metadata to provide a single central index across such diverse systems and, from a vendor’s point of view, across many institutions is not a trivial task’.

To begin with it cannot always be assumed that metadata is available to harmonise, as the author points out the current friction between content providers and discovery services providers. Content providers do not always allow discovery services providers to have the metadata to index. This then leads to the question as to how such an ‘ecosystem’ could be allowed to flourish.

Google and other search services are now cooperating to provide a common metadata ‘schema’ that is impinging on libraries and elsewhere institutions are working together to share library systems. The author concludes:

‘As technology moves to the cloud and as libraries begin to share common cloud-based “multi-tenant” library services platforms, the opportunity for a more integrated library ecosystem may grow.’

Some of these comments were echoed by Keynote Speaker Peter Morville, President of Semantic Studios, USA, who is quoted as follows (ref. Rob Green, CILIP Update, September 2013 , ‘ A Single Search Box is the right Place to start):

'Libraries must make search easier. The fragmentation of information into myriad catalogues and databases is a disaster. Users don't know where to begin. A single search box is the right place to start.....A website is not a standalone product. It's deeply intertwined with other parts of the organisational ecosystem.'

ELECTRONIC NOTE-TAKING SAVES £600,000 A YEAR

An innovative note-taking tool is helping to save The Gwent Frailty Programme £600,000 a year.

The service helps frail people to live independently in the community and involves health and social care people working together. The Anoto digital pens allow both sets of professionals to update and access records remotely so that the information is more up-to-date and available sooner than would be the case with paper notes.

The Gwent Frailty Programme utilises digital pens as a data capture system, which digitises patient notes as they are written. The community nursing team is able to transmit the notes back to the head office via Bluetooth connectivity by using Blackberry smartphones.

The savings have been achieved largely through the reduction of hospital admissions.

At the Patient Safety Awards, run by the *Health Service Journal* and *The Nursing Times*, Anoto won the Technology and IT to improve Patient Safety category.

MOBILE APP UNLOCKS 14,000 E-BOOKS

Thousands of e-books and digital resources have been made available on mobile platforms as part of a scheme to open up content to students, lecturers and researchers.

A partnership between Jisc Collections and BiblioLabs has led to the creation of a mobile app that has 'unlocked' 14,000 e-books and pages of primary source material for tablet and mobile users, as well as providing individual institutions with the capability to add content from their own repositories that can either be provided free or for sale through the BiblioBoard platform.

Content is available to research and educational organisations through subscription and the content management system BiblioBoard Library offers users access to millions of pages of high-quality content on a range of popular devices including iPad, Kindle Fire HD, Nook and Android tablets.

This is supported with BiblioBoard Creator, an authoring tool that allows libraries to add content to BiblioBoard Library.

Scott Gibbs, Service Representative for Jisc Collections states:

“Jisc Collections considers this product a unique service to users, allowing them to access resources via an interface expertly designed for mobile devices.”

Mitchel Davis, representing BiblioLabs, adds:

“BiblioBoard is a low-cost alternative to historical databases from more traditional publishers. It allows university libraries to significantly increase their e-book collections and easily support growing demand for high fidelity tablet and mobile content. Historical books, articles, images, photographs maps, pamphlets and documents, as well as streamlining audio and video content have been expertly organised into anthologies. We are excited to be offering such a comprehensive tool set to push forward the Digital Humanities within UK institutions.”

OPENATHENS SP CASE STUDY: PUBLISHING TECHNOLOGY GROUP

OpenAthens Service Provider (SP) is a standards-compliant software platform enabling secure management of access to products. It includes, notably, options for SAML (Shibboleth), and enables subscribing organisations to access provided content through a variety of established technologies and open standards. It has been designed primarily for publishers, organisations requiring a single sign-on for internal systems, commercial organisations and collaborative projects.

The OpenAthens service currently authenticates and authorises four million users from over 2,000 organisations worldwide and because OpenAthens SP can be used in any trust federation using open standards it has the potential to connect to tens of millions of users across the world.

The Publishing Technology Group is one of the largest providers of software and services to the publishing industry, covering online, information commerce, back office and marketing services. The Group serves eight out of ten of the world’s largest publishers and its online hosting services deliver over 70 million page views per year.

The Publishing Technology Group has two main product platforms to enable publishers to deliver information and content online:

- (i) ingentaconnect – a fully outsourced e-publishing package through which around 255 publishers host their content.
- (ii) pub2web – a content agnostic solution that provides publishers with their own branded, semantically enabled site, and supports sites for OECD, ICE Publishing, United Nations, The World Bank and The American Institute of Physics, amongst others.

For the Group one of the most critical aspects of developing online publishing solutions is the provision of a robust, reliable and standards-based method of authentication and, more specifically, supporting federated solutions. The Group’s strategy therefore is to partner with industry experts for one aspect of authentication i.e. federated access in order to add value to its services.

A long-standing partner of the Group is Eduserv, whose Identity and Access Management software has been used by the Group for many years, but with the development of new authentication standards like SAML (Shibboleth) a way to support them had to be found. This led to the Publishing Technology Group becoming the first service provider to adopt OpenAthens SP, such that subscribers could access content via either Athens or Shibboleth.

Rose Robinson, Product Manager for Publishing Technology's Online Solutions commented:

“What particularly attracted us was the ability for OpenAthens SP to support both Athens and SAML authentication from one system and the fact that it gave us a ready-made, robust and proven solution from a trusted partner. We're always looking ahead to the next big thing that will enhance the user experience - such as future opportunities around the potential use case of using OAuth within a scholarly space. It was vital for us to work with a partner who already has this covered, enabling us to add single sign-on quickly and easily.”

The benefits reported from the project are:

- A proven and highly trusted federated authentication solution.
- Assistance to publishers to open up new markets by applying additional Access Management Federations quickly and easily.
- Easier and faster deployment of new federated authentication – enabled services and websites for customers through the component and modular structure of OpenAthens SP.
- Future-proofing ability to provide customers with the latest federated authentication changes.
- Enabling Publishing Technology Group to quickly introduce new federated authentication standards such as OAuth.

OpenAthens may be contacted on 01225 470 412 or at openathens@eduserv.org.uk.

OPENATHENS LA 2.0 CASE STUDY: BATH SPA UNIVERSITY

OpenAthens Local Authentication (LA) is a username and password system that allows librarians and information specialists to manage access to online resources. Installed locally, it links with the internal user directory, providing users with single sign-on access to both internal and external web-based resources.

At Bath Spa University a desire for a single sign-on solution to make it easier for its 6,000 students and staff to access electronic resources led to it becoming one of the first universities in the UK to implement OpenAthens LA.

Matt Durant, Information Manager for Bath Spa University, explained:

“OpenAthens LA offered SAML compliance with out-of-the-box statistics that would help librarians calculate the value of each resource delivered to the university. This is only available through Shibboleth by accessing complicated log data – something our librarians wouldn’t appreciate.”

The University also recognised that OpenAthens LA would not just benefit end users, but also the wider infrastructure of university staff:

“Computing services at the University were worried they did not have the time or the expertise to program and support the open source software offered by Shibboleth. We were therefore excited at the option of a fully supported service from an organisation that has played such a massive part in authentication for academia in the UK.”

Benefits of the implementation are quoted as follows:

- 35 per cent increase in logins in the first three months.
- 95 per cent reduction in access queries from students and staff.
- Ability for users to access 55 electronic resources through the system, including databases and e-journals.
- Improved ability for library staff to manage the system.
- Staff able to recommend resources to students more frequently.
- Ability to install new version releases more quickly and easily without having to draw on significant IT resources.
- Excellent feedback from end users.

Matt Durant concluded:

“Implementing OpenAthens LA has been ground-breaking; it has really created a culture change within the University. Staff find it much easier to use, so they recommend resources more frequently as they know they will be able to access them easily.”

The project started off with the title ‘Shibboleth’ because we thought this was the only option available to us. The title quickly changed to ‘Single sign-on’ once we had seen a demonstration of OpenAthens.”

BBC MONITORING CASE STUDY: SATELLITE JAMMING

Gold Sponsors of Internet Librarian International BBC Monitoring presented an interesting case study concerning the practice of satellite jamming, which has become more acute in recent years. Once an almost unheard of phenomenon, it is now routine for BBC Monitoring to observe satellite jamming on a daily basis.

The problem first came to widespread attention following the Iranian presidential election in 2009, when the BBC's Persian TV channel, as well as other broadcasters beamed to Iran, was jammed.

In 2011 the Arab Spring brought a fresh wave of jamming that affected numerous outlets. Satellite operators subsequently identified jamming emanating from a number of countries, especially Iran and Syria, with Iran also being identified as being a target of jamming.

Owing to the clandestine nature of jamming, and the reluctance until recently of some of its victims to say much about the problem, hard facts have been difficult to find in the public domain. Consequently, for many interested parties, understanding the subject has been hampered by rumours, unsourced accusations and loosely-worded reporting.

BBC Monitoring responded to the challenge with a variety of approaches to what had by now become a sensitive subject. In many cases BBC Monitoring described instances of jamming from the point of view of an informed viewer, limiting reporting to observed facts, without speculating as to the causes or perpetrators, while at the same time explaining relevant background such as the ownership or affiliation of the satellites and the channels affected.

The approach adopted by BBC Monitoring has placed them in the position of being a 'go-to-point-of-reference' on the subject.

BBC Monitoring state:

'Our observations and opinions on satellite jamming are routinely canvassed by BBC and HMG customers.'

In their literature BBC Monitoring present some of the media observations and news items that have related to satellite jamming. An example is the interference spike on 9th August that suggested possible jamming of Egypt's pro-Morsi TV station:

'At around 10.00 gmt on 9 August [2013] BBC Monitoring observed an interference spike to satellite transmissions of the Egyptian pro-Muslim Brotherhood television channel Al-Ahrar 25, indicating apparent jamming [deliberate interference]. After that, BBC Monitoring's reception of the channel was intermittent for about an hour, with the video frequently freezing or cutting out completely. Reception appeared to return to normal at around 11.00 gmt.'

Further details concerning the ongoing work of BBC Monitoring may be obtained on 01189 948 6289. Email: marketing@mon.bbc.co.uk.

MENDELEY SETS NEW STANDARDS IN RESEARCH COLLABORATION

Researchers and students around the world are turning to reference management software Mendeley to manage citations and organise work.

With more than 1.5 million users Mendeley has rapidly transformed the academic research landscape, creating a unique, user-led environment that encourages and facilitates collaboration among peers.

Mendeley Institutional Edition powered by Swets connects libraries and their collections directly with researchers thereby setting new standards for user-led, library powered research.

Swets state:

'You can easily monitor, guide and facilitate the research undertaken at your organisation, supporting researchers at a more detailed and customised level than ever before.'

Users can choose from over 1,500 citation styles or use a library's custom style and collaborate with researchers in similar fields of study worldwide:

'Mendeley Institutional Edition powered by Swets places the library at the centre of the digital workflow of research. It combines the knowledge, guidance and expertise of the library with Mendeley's powerful reference management and social collaboration tools. The result is a unique and powerful online environment that will support the future of academic research.'

More details are available on the website www.swets.com/mendeley.

DOUGLAS COUNTY LIBRARY: BREAKTHROUGH IN E-BOOK LENDING

The question as to whether libraries have the tools to receive an e-book, integrate it into a catalogue and check it out is explored by Monique Sedze and Laurie van Court in *Computers in Libraries* (September 2013), ref. 'Own your own E-book Lending Service'.

This article highlights the enormous growth in e-books as presented by the Association of American Publishers, i.e. over 160 per cent between 2009 and 2010, from \$166.9 million to \$441.3 million. It then also highlights one of the big problems faced by the e-book industry, namely the fact that mainstream publishing is dominated by six publishers who tend to refuse to sell outright content to libraries. Furthermore, where such sales are possible prices many times those for the same titles

in print are demanded or, as with HarperCollins, the econtent sale comes with a use restriction of 26 loans per book.

An econtent provider called OverDrive appeared to offer a solution, except that OverDrive insisted on retaining ownership of its econtent titles, leasing them to libraries for use only through OverDrive's own platform. Those who sought econtent had to search an entirely separate OverDrive interface. Kansas State Library learnt the hard way when discontinuing the relationship with OverDrive led to the loss of all the content for which it had paid.

Another problem came in the form of self-published books, the fastest growing segment of published content, which rose from 29,000 in 2004 to 2.7 million in 2010. This econtent was basically unavailable.

These problems led one library, Douglas County Library, in a public library district located between Denver and Colorado Springs, to set about the task of building a completely new model for e-lending, whereby in concept a library should own rather than lease their collection's content:

'Wherever possible, DCL purchases e-book files and hosts them on its own Adobe Content Server, applying digital rights management where it is required by the publisher. E-books are integrated into DCL's catalogue and are discoverable through a customised version of the open source VuFind discovery portal. DCL-owned e-books have defined circulation periods, just like print materials. They can be read online or downloaded to mobile devices. DCL e-books circulate on a "one-user-per-copy" basis, and the library buys additional copies in response to reader demand, at the rate of one copy purchased per four hold requests. E-books are promoted through large-screen discovery displays and DCL website features. Public catalogue e-book listings include links to purchase, so patrons always have the option to buy their favourite or hold-listed titles.'

This project required development not just of new technology, but also of new legal, collection development, acquisition, promotion and marketing processes:

'DCL staff built new relationships with vendors, investigated new markets, created new discovery paths, and found new ways to promote e-books.'

An Adobe Content Server was installed, including configuration for econtent purchase, digital rights management, search, circulation, holds and reporting. The model's architecture also includes a fulfilment server and a media server. The Adobe Content Server integrates with an HTML5 reader developed by DCL's IT staff so that content can be read online by the browser system, directly from the server.

The open source discovery layer, VuFind, was heavily modified to handle econtent management and circulation and the library's econtent made manageable through a combination of VuFind, Solr full-text indexing, a MySQL database for Creative Commons content, and Adobe Content Server for digital rights management.

Application programming interfaces were developed for the DCL VuFind system to enable additional product integration, such as the Virtual Powerwall display, and a DCL-branded e-reading application that was created on top of the VuFind platform.

A new recommendation engine, using patron's own reading histories, was created to increase exposure to the digital collection and an iDCL Reader mobile e-reader app was created from a commercial white label product (BlueFire Reader) and accepted for distribution on the Android (Google Play) and iOS (iTunes) platforms.

In June 2012 the DCL e-book model, with all components working, was fully functional and loaded with 25,000 e-book titles, which later rose to 35,000 with the addition of Smashwords, the largest distributor of self-published e-books. Scrum (a form of agile project management) is used as a tool to constantly maintain and improve VuFind and related e-book model functions.

NINETEENTH CENTURY COLLECTIONS ONLINE

Gale Cengage Learning have announced that as of this year 'the most compelling digital product ever conceived', Nineteenth Century Collections Online, is interoperable on a single platform that is loaded with tools, services and research aids.

Nineteenth Century Collections Online took two years to compile, involving experts from the library world and academia, who assisted in the creation of a revolutionary research platform that can manage all types of content.

Nineteenth Century Collections Online is now in some 200 institutions and supports Gale's Eighteenth Century Collections Online, which was released in 2003.

More information is available from Gale Cengage Learning, Cheriton House, North Way, Andover, Hampshire SP10 5BE. Telephone: 01264 332 424. Email: emea.enquiries@cengage.com.

RECOMMENDED READING FOR THE ELECTRONIC LIBRARIAN

Recently published books in the field of electronic applications in libraries include:

- *The Handheld Library: Mobile Technology and the Librarian* (Edited by Thomas. A. Peters and Lori Bell, published by Libraries Unlimited, ISBN 978-1610693004, 218 pages, \$65).
- *E-Learning in Libraries: Best Practices* (Edited by Charles Harmon and Michael Messina, published by Scarecrow Press, ISBN 978-0810887503, 134 pages, \$45).

- **Web Analytics Strategies for Information Professionals** (Tabatha Farney and Nina McHale, published by ALA Techsource, ISBN 978-1555708979, 232 pages, \$70).

The first of these highlights the increased use of hand-held devices to access library information and presents 19 chapters by 22 authors covering mobile use in libraries. After considering trends in mobile use the book provides specific examples of mobile users and how the technology can be used to teach and market library services. It then discusses how mobile technologies can be used to access library content and how the technology can be implemented inexpensively and used for professional development. Mobile technologies in academic, public and medical library settings are covered.

The second book presents nine projects to illustrate different ways in which libraries have used e-learning. These individual case studies, mostly but not exclusively from academia, describe in each case how the programme was started and why choices were made as they were. The case studies include online credit-based literacy instruction, digital reference support for e-learning, instructional screencasting, streaming video, creating open source tools, promoting faculty adoption of e-learning and educating librarians online.

The third book contains seven chapters that lead the reader through the processes and tools for web analytics, defining the many terms involved, and explaining how to select software, create customised reports, convert data into action and communicate website usage. Most of the descriptions use either Google Analytics or Piwik (both free software). There then follow four case studies providing examples of how web analytics are used in particular situations.

NETLOAN ENHANCES SELF-SERVICE OPTIONS

Many netloan customers have already taken advantage of a new self-service combination, with netloan PC booking and print payment/release integration available on the Bibliotheca smartserve 400 kiosk. This allows for on-site PC booking and identification of available PCs together with payment of print jobs or PC session charges at the same single access point for making book-related transactions.

These self-service features are being made available to library non-members with the optional setting of a new self-registering guest function on the kiosk. At the same time library administrators retain control of guest access with flexibility over registration setup and access privileges.

Benefits are reported as follows:

- Saving of staff time with guests being able to self-register for PC sessions and/or Wi-Fi access.
- Enabling of self-service print or PC charge payments for guests.

- Configuring of guest PC and Wi-Fi access permissions as a separate user group.
- Option to allow guest accounts to expire automatically at the end of each day.
- Ability to decide which personal information fields are mandatory for a guest registration.

The new self-registering guest function allows library services to become more widely and easily accessible.

More information is available from lorensbergs Limited, 28 Castle Street, Hertford, SG1H 1HH. Telephone: 01992 415 505. Email: enquiries@lorensbergs.co.uk.

WITHDRAWAL OF NETLOAN SUPPORT FOR WINDOWS XP AND WINDOWS 2003

Lorensbergs have announced that from 1st February 2014 netloan software installed on Windows XP or Windows 2003 operating systems will no longer be supported.

Some additional support for Windows 2003 customers is available on netloan v5 SR6 and connect 2 v2.11.

The move follows scheduled changes in Microsoft's support.

More information as above.

ACCESS TO LEARNING AWARD GIVES BRAZILIANS FREE INTERNET ACCESS

The Bill and Melinda Gates Foundation, via its Global Libraries initiative, has announced that its 2013 Access to Learning Award of \$1 million has been granted to Acesa Sao Paulo, with the aim of ensuring that all residents of Sao Paulo will be able to enjoy free and easy access to computers and the internet.

One of the project's innovations has been to locate over 700 technology stations in train and subway stations, bus terminals, hospitals, government service centres and libraries.

Microsoft, as a foundation partner, has pledged to donate around \$8 million in software to the project.

Acesa Sao Paulo has said that it will use the Award to expand its network of stations, hire and train more monitors to run them and develop more projects to meet community needs.

E-BOOKS BOOM IN RUSSIA

The Russia Beyond the Headlines (RBTH) website has published details of a reading survey in Russia that shows that 70 per cent of those surveyed read e-books, whilst 69 per cent say that they buy fewer hard copy books than in the past. Some 65 per cent of those polled said that the availability of e-books was the main reason for buying fewer hard copy editions, with 27 per cent saying that it was the cost of hard copy books that had prompted the switch.

Around 92 per cent said that they had downloaded e-books for free, with 36 per cent saying that they copied e-books held by friends and just 15 per cent said that they had bought econtent from specialised websites. RBTH have suggested that illegal downloading may make up to 90 per cent of the Russian e-book market.

The survey is based on a poll of 1,000 Russians aged 16 to 60 who live in cities with over 100,000 population.

The figures are based on research by Moscow-based Romir Research Holding, which claims to be Russia's largest independent research company.

EUROPE'S BIGGEST LIBRARY OPENS IN BIRMINGHAM

The biggest library in Europe, The Library of Birmingham, opened its doors to the public for the first time on September 3rd

At a cost of £189 million it is expected to attract some 3.5 million visitors a year.

The library has nine floors, some 200 Public Access PCs and around a million books. It also has several event and learning spaces, and rooftop gardens where visitors can enjoy panoramic views of the city while reading.

Public Access Wi-Fi is available throughout, with netloan Wi-Fi used to manage member authentication.

BECOME A SPONSORING ORGANISATION FOR THE INSTITUTION OF ELECTRONICS

The Institution of Electronics seeks to represent the broadest possible range of electronics professionals in the UK. In order to reflect this The Electron aims to present a different theme of interest with each quarterly issue. Organisations that would like to continue to have further publicity in The Electron are invited to become sponsoring organisations for a cost of just £50 per annum. The Institution of Electronics is a not-for-profit organisation that seeks to promote learning in the field of electronics throughout industry and educational establishments. Topics that are covered are therefore designed to supplement degree and other courses by providing

knowledge of subjects that would not typically be taught on such courses, but nevertheless might be expected to be of interest to students, lecturers and course providers.

**THE INSTITUTION OF ELECTRONICS WOULD LIKE TO WISH
EVERYONE A VERY MERRY CHRISTMAS AND A HAPPY AND
PROSPEROUS NEW YEAR 2014**
