Building The European Digital Library: An Insider’s Point of View

Olaf D. Janssen

Abstract
In December 2004 Google announced its plans to digitise and publish millions of books from five prestigious Anglo-American academic libraries by the year 2015. Initiated by French fears that Google’s initiative could create a bias towards Anglo-American language and culture, Europe quickly united to mobilise funds for the digitisation, preservation, and accessibility of European cultural heritage and the creation of a European Digital Library, including six million digital works from libraries, museums and archives by 2010.

Today The European Library (TEL) is a multilingual portal offering integrated access to the tens of millions of resources of Europe’s national libraries. It offers free federated searching and delivers digital objects—some free, some priced.

The EU stressed that the European Digital Library should not be constructed from scratch, but built on existing initiatives, such as TEL, because TEL has a long history of successfully implementing and using some of the vital ingredients for the European Digital Library. These include a) internal and external collaboration and cooperative organisational networks, b) a technological platform based on creating, maintaining and conforming to common standards in i) data harvesting and access protocols, ii) metadata, and iii) collection descriptions and c) multilingual access.

The reader will 1) learn what it takes to build a pan-European Digital Library, 2) find out about the history and future of this project and 3) discover that this a win-win-win project: for its users, for its builders, and for world knowledge.

1. Introduction and History
In December 2004 Google announced its plans to digitise and publish online 15 million volumes from five prestigious Anglo-American academic libraries by the year 2015. This bold initiative sparked a wave of activities across Europe.

In an article in the French newspaper Le Monde, the president of the French national library expressed his concern that Google’s initiative could create a bias towards the English language and Anglo-American culture, especially for future generations. He stressed that diversity and multilingualism are basic values of the European culture that need to be protected and preserved. His comments were widely picked up in the media, who immediately presented it as a ‘cultural war with Google.’

Things began to speed up when the French called for safeguarding the European cultural heritage got critical backing from the leaders of five countries, supporting French President Chirac in asking for coordination and funding from the European Union (EU) to create an European Digital Library. This initiative also found the support of a broad coalition of 24 European national libraries.

Making the holdings of Europe’s libraries, museums, and archives available online is not a trivial task. There is a wide range of different materials available: books, film fragments, photographs, manuscripts, sheet music, speeches, sounds, etc. Furthermore, what materials to select from around 2.5 billion books and bound periodicals in Europe’s libraries and archives and millions of hours of film and video in its audiovisual archives?

The EU recognised the vital importance to 1) digitise, 2) preserve, and 3) open up Europe’s written and audiovisual heritage on the internet. In other words, to make it usable for European citizens, innovators, artists, and entrepreneurs for their studies, work, or leisure, for now and for future generations. In March 2006 the EU announced financial, strategic, and organisational support for building a European Digital Library. The decision to co-fund the creation of a Europe-wide network of digitisation centres and to address the issues of copyright protection was welcomed by all stakeholders with great enthusiasm.

The EU proposed the following timeline:

- 2008—Multilingual access to digital collections of national libraries. The collections must be searchable and usable. A minimum of 2 million digital works (books, pictures, sound files etc.) should be accessible through the European Digital Library.
- 2010—The European Digital Library needs to be expanded to include collections of a number of archives, museums, and other libraries, and possibly publishers. A minimum of 6 million digital works should be accessible through the European Digital Library. In practice, this number could well be much higher, if cultural institutions of different types and at different levels (national, regional, local) participate.

2. The Situation Today

2.1 CENL

As is clear from this historical introduction, national libraries are the forerunners where building the European Digital Library is concerned. This is no surprise, because European national libraries—as opposed to national museums and archives—have a long and successful history of collaboration, going back as far as 1987. In that year the Conference of European National Librarians was founded. CENL aims to increase and reinforce the role of the national libraries in Europe, in particular in respect of their responsibilities for maintaining the national printed heritage.

Members of CENL are the national libraries of the member states of the Council of Europe and Vatican City. The Conference currently consists of 47 libraries from 45 European countries (Italy and Russia have two national libraries each).

2.2 The European Library (TEL)

One of the activities of CENL is the operation and development of The European Library (TEL) portal. Since 2005, it offers multilingual and federated access to the tens of millions of resources (books, magazines, journals etc.—both digital and non-digital) of currently 23 national libraries. Aimed at both professional and non-professional researchers and informed citizens world-wide, it offers free searching in a vast virtual collection of materials from all disciplines. It delivers digital objects—some free, some priced.

The current (April 2007) participants in TEL are the CENL members of Austria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Serbia, Slovakia, Slovenia, Switzerland, and the UK. The collections and catalogues of the remaining 24 CENL members will be included at a later stage. Most notably, in September 2006 an 18 month project started to include the nine remaining EU and EFTA countries in TEL. Next year the latest EU members Bulgaria and Romania will also be added.

For understanding the rest of this article, it is important to realise that The European Library is not only a very useful technical platform (in the form of the TEL portal) for the end-users, because

- of the phenomenal depth and quality of trusted deep web resources held in the national libraries.
- It gives easy access to native resources held in other countries.
- It enables types of collection-level searching which would otherwise be impossible.
- It is a major contribution to research both in making resources widely available and by making possible new connections through exploitation of a huge virtual library collection.
But it is also a very important organisational collaborative platform for the participating national libraries, because

- It provides an international showcase for their collections, products, and services.
- It gives them an increased exposure on the world stage with combined political mass providing greater marketing and negotiation power.
- It gives libraries a feedback loop on what users are expecting on a European scale.
- It is a mechanism to extend collaboration.
- It provides feedback on user demands which can prioritise institutional and national digitisation activities.
- TEL provides a cooperative framework for continuous development, sharing and innovation in metadata, interoperability and other technical standards.

2.3 Current position of TEL and CENL
A true European Digital Library should serve all types of user needs: present and future, up-to-date and historical information, science and humanities, education, research and everyday, normal information needs. It must comprise all types of media from the full range of Europe's cultural heritage institutions.

Regarding the technology of a proposed European Digital Library, it was clear from the beginning that any kind of central database will be impossible to achieve. Similar to the TEL portal, integrated multilingual access to the digitised materials of Europe's libraries, archives, museums will be more realistic. The contents of the European Digital Library will thus grow at the same speed as the underlying digital collections in the participating institutions.

In its March 2006 announcement\(^\text{11}\) the EU stressed that the European Digital Library should not be constructed from scratch, but build on existing initiatives in the European cultural heritage field. The EU explicitly stated that

[the European Digital Library] will build upon the TEL-infrastructure, currently the gateway to the catalogue records of collections in a number of national libraries, which also gives access to a range of digitised resources of the participating libraries.

Furthermore, in August 2006 the EU officially recommended\(^\text{12}\)

[the European Digital Library] would make it possible to search Europe's distributed—that is to say, held in different places by different organisations—digital cultural heritage online. Such an access point would increase its visibility and underline common features. The access point should build on existing initiatives such as The European Library (TEL), in which Europe's libraries already collaborate...

CENL supports the idea that TEL is a model platform and model organizational network for building the European Digital Library. As a group, the members of CENL own Europe's cultural published heritage; many of them according to legal deposit, many for the whole period of time of their nation's history.

From the above it will be clear that TEL—and CENL as its founding organisation—are in an extremely advantageous position where building the European Digital Library is concerned. No other organisations are mentioned so explicitly as catalysts to create a common multilingual access point for Europe's collective memory. For them however, this does not come as a surprise, as CENL and TEL have been building and experimenting with some of the vital ingredients for the European Digital Library for a long time.

3. Three Pillars for the European Digital Library
As a response to the statements and recommendations of the EU, CENL had to re-think the position of TEL within the bigger framework of the European Digital Library. This is still very much an ongoing process, but for now TEL sees itself as the key player in one of the three main pillars of the European Digital Library:

1) Providing online access to the digital materials. This means that TEL is not directly involved in the two other key areas of the European Digital Library already mentioned in the introduction.
2) Mass-digitisation of as many materials as possible.
3) Long-time digital preservation of these digitised materials.

Before looking in more detail on how TEL is giving users online access to cultural heritage now and in the future, first some brief words about 2) mass-digitisation and 3) digital preservation.

3.1 Existing digital content and mass-digitisation
In the present TEL portal there are some rich seams of digitised materials, such as photographs, maps, music scores, manuscripts and posters. However, there is an
emphasis on catalogue records, rather than digital resources. Given the fact that currently only five to ten percent of the metadata is enriched by digital objects, there is a desperate need for more digital content on TEL.

Part of this problem can be solved relatively easy, as a recent survey across 25 CENL members has shown that large numbers of digitised objects are readily available to be made accessible. The National Library of Spain, for instance, has some 40 million scanned newspaper pages waiting to be OCR-ed and put online. This survey also showed that many institutions are starting or are already running their own digitisation programmes, mainly focusing on special sets of materials (e.g. rare books, manuscripts, incunabula, old newspapers).

Because of this, CENL has set an overall goal for the coming years to digitise more content more quickly and to make sure that access is as complete as possible. This also includes investigating what means are already, or could become, available within and across the libraries to make more efficient use of existing content-rich collections and investigating ways to facilitate the creation of virtual content-rich collections across (and within) the libraries.

However, all these fragmented activities are just drops in the ocean of 2.5 billion books and bound periodicals available in Europe's libraries. What is really needed—and forms the current debate between European cultural heritage stakeholders—is a coordinated large scale mass digitisation and preservation programme where the following challenges are addressed:

1) The economic challenge of who will pay for the digitisation and preservation. The EU made clear\[13\] it will not pay for the actual digitisation work; this is left to national and institutional levels. However, it will co-fund the creation of a Europe-wide network of centres of competence for digitisation and preservation. These centres will house the skills and expertise needed to achieve excellence for digitisation and preservation processes. They will integrate and build on existing know-how in technology companies, universities, cultural institutions, and other relevant organisations.

2) The organisational challenges of how to create synergies and avoid duplication of effort in cultural institutions and how to secure public-private collaboration.

3) The challenge of content selection. What to choose from the thousand of kilometres of books, newspapers and periodicals and millions of hours of film and video?

4) The technical challenge of how to lower costs for digitisation and preservation while maintaining a high quality.

5) The legal challenge of how to deal with the copyright aspects in cooperation with right holders in order to ensure coverage of protected works.

3.2 Digital preservation
As is clear from 3.1, most of what has been said about the challenges of digitisation equally applies to the hurdles of long-term digital preservation. Several EU-funded projects are currently dealing with the specifics of digital preservation in the scope of the European Digital Library. The most important initiatives are:

- CASPAR—Cultural, Artistic and Scientific knowledge for Preservation, Access and Retrieval\[14\]
- PLANETS - Preservation and Long-term Access through NETworked Services\[15\]
- DPE – Digital Preservation Europe\[16\]

4. Ingredients for Success in the European Digital Library
The rest of this paper will concentrate on three of the vital ingredients CENL and TEL are using currently to successfully provide online access to the holdings of the European national libraries and on how these same building blocks can be used and expanded to give users access to the wider cultural heritage of libraries, museums and archives in the European Digital Library by 2010.

4.1 Internal and external collaboration, and cooperative organisational networks
At the very core of the current success of CENL lies its 20 year history of internal and external collaboration. Since 1987 European national libraries have been building a firm cooperative organisational network in which they have set aside their differences and focused on their commonalities. They have streamlined their international policies, have experimented with improving online access to their catalogues and collections, and have developed and shared innovations in standards for metadata, interoperability, and access mechanisms.

Participants in TEL have been able to take advantage of this internal cohesion to create a combined political mass that has widened their exposure on the European and world stage and increased their negotiation and marketing powers. As there still is no such thing as a “CENL/TEL for museums or archives,” the EU had
not much difficulty in finding the best starting point for their plans to build the European Digital Library.

External collaboration has always been a priority for CENL. Most relevant for this paper is its ongoing dialog with the Federation of European Publishers (FEP).\textsuperscript{17} FEP represents 25 national associations of book and learned journal publishers in EU and EFTA member states. Other cultural and scientific heritage associations and networks CENL is cooperating with include eIFL,\textsuperscript{18} IFLA,\textsuperscript{19} LIBER,\textsuperscript{20} and UNESCO.\textsuperscript{21}

To define and reinforce its position for building the European Digital Library, in 2006 TEL started working together with a number of relevant initiatives in the European cultural heritage field. Among these are

- **DELOS—Network of Excellence on Digital Libraries.**\textsuperscript{22} This network intends to conduct a joint program of activities aimed at integrating and coordinating the ongoing research activities of the major European teams working in Digital Library-related areas with the goal of developing the next generation Digital Library technologies. The cooperation between DELOS and TEL focuses primarily on the integration of DELOS-provided functionality into the existing TEL portal and ensures that duplication of activity does not take place.

- **MICHAEL—Multilingual Inventory of Cultural Heritage in Europe.**\textsuperscript{23} This project focuses on the integration of national initiatives in digitisation of the cultural heritage and interoperability between national cultural portals to promote access to digital contents from museums, libraries and archives. TEL is collaborating with MICHAEL to find ways of building on each others knowledge using the expertise within the networks and finding ways of jointly presenting content to the user.

- **BRICKS—Building Resources for Integrated Cultural Knowledge Services.**\textsuperscript{24} TEL is also in contact with BRICKS. This project works with museums, libraries and other organisations and aims to maximise the impact for the construction of a shared digital heritage, which nevertheless respects the European cultural diversity. Its peer-to-peer approach maximises the use of existing resources and know-how, and, therefore, national investments.

Dr. Elisabeth Niggemann, Chair of CENL, says\textsuperscript{25} the following about cooperative networks in the European Digital Library:

A European Digital Library will consist of highly diverse materials held by institutions with different professional backgrounds and traditions in countries with different institutional structures, responsibilities and financing. It will therefore be nearly impossible to organise a central, comprehensive super-structure. Instead, very similar to TEL, a networked structure is required, allowing faster and slower partners to proceed at their own speeds, while all benefit from the process.

The ‘hub’ of the network should be a central entry point to all the participating gateways. This network of networks must be scalable, and will rely heavily on common rules, standards, and procedures. On the other hand, it must be built with diversity and heterogeneity in mind. Partner networks need not be homogenised, but can continue to be organised in many ways. They will create among themselves a network of subnetworks, with nodes and substructures, that reflect the diverse needs of the different user communities, media types, institution types, and eventually also reflect legal frameworks.

Since the Europe of the future will be larger than it is now, it is important that all European countries are taken into consideration from the very beginning, not only today’s EU/EFTA states. The European Digital Library should also—from the very beginning—try to build bridges to those global or regional networks outside Europe that provide additional resources for Europe’s citizens and researchers.

### 4.2 Technological platform based on common standards

The current technological platform for The European Library—the TEL portal—is based on creating, maintaining and conforming to common standards in

A. data harvesting and access protocols,
B. metadata, and
C. collection descriptions.

Because of the network of the 47 CENL member libraries there is already a large-scale, working and proven implementation of these standards at an international level; one more reason why the EU is looking at TEL/CENL as one of the catalysts for the European Digital Library.

An explanation of the TEL technical architecture is given by Van Veen and Oldroyd in the February 2004 issue of *D-Lib Magazine*.\textsuperscript{26} Although the portal has been considerably revised and extended over the last 3 years, the basic principles have remained the
same. Some relevant points from this paper have been extracted here.

A: Common standards in data harvesting and access protocols. One of the sources of bibliographic records for the TEL portal is a central repository of metadata obtained by harvesting national library collections via the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH). The catalogue records are harvested and indexed to form the so-called TEL Central Index. This is comparable to how for instance Google works.

For small static collections (i.e., few new records are added and records are not changed often) harvesting via FTP is also an option, although this method is currently used for only a handful of TEL collections.

Not all ±100 million records available in TEL today are held in the Central Index. As explained in the Van Veen and Oldroyd paper, the TEL portal is a distributed search engine: remote collections that are not (yet) OAI harvestable (thus whose metadata is not available in the Central Index) are searchable on-the-fly via the SRU protocol. In case the remote target supports SRU this is a direct and seamless process. However, if the remote system only ‘speaks’ Z39.50, communication has to go via a Z39.50/SRU gateway, which acts as a protocol, query language and character set translator. Although somewhat less powerful than OAI, the support of these protocols by the TEL portal ensures interoperability between disparate collections.

The advantages of having OAI harvested cross-collection metadata in one central database are numerous:

• Searching in one Central Index delivers the results to the end-user much faster than it can be done via distributed searching in remote collections.

• In user studies on federated searching in digital library portals it is shown again and again that end-users are 'Google-minded': they don’t understand the fact that they first have to select the collections they want to search in before they can make a query. They expect to search in one single Google-like blob. Having all TEL metadata in a Central Index solves this problem.

• The TEL portal can do on-the-fly background searches in the Central Index and suggest to the end-user potentially interesting objects or related collections he did not actively search for. Furthermore, ranking, merging, and de-duplication of search results becomes possible.

• Personalization services, multilingual information access, and other functionalities are very hard to implement, if possible at all, on a distributed search model. They rely on having the metadata stored centrally.

• All in all, for most patrons of the TEL portal, OAI brings a much better user experience.

The OAI protocol, its purpose, and advantages are known in many, but not all European national libraries. Mostly because it is a fairly recent technology, it does not have a long history, unlike e.g., Z39.50, that has been around in libraries for decades. Currently an OAI promotion campaign is running aimed at those libraries that are not yet fully aware of what OAI can mean for their collections. Other libraries are working towards OAI-compatibility of (part of) their collections. This includes:

a) building new or adapting existing infrastructure/hardware to support OAI access to collections, and

b) making metadata OAI-compliant; i.e., cross-walking and converting to TEL Application Profile.

OAI is widely regarded by most European cultural heritage institutions as the way forward to promote digital content to portals and search engines. Thus OAI-PMH and its inherent central storage of metadata will inevitably become cornerstones of the European Digital Library.

B: Common standards in metadata. The TEL portal relies on a common metadata application profile, which is based on the Dublin Core Metadata Element Set, and the DC-Library Application Profile. This means that all currently ±100 million objects (in 250+ collections) available in TEL share a common metadata format. Libraries that want to offer collections via the TEL portal have to make sure the records 1) are formatted in XML and 2) comply with the TEL Application Profile for Objects. For certain record formats, e.g. the MARC-family, this means cross-walking or conversion of metadata before it can be included in the portal. To assist libraries in this process, automatic conversion tools are available in the portal architecture.

Understanding that the TEL portal will evolve over time and that new functionality will be required as new collections of different types of media become available, means that the TEL Application Profile is not static. TEL has a mechanism to enable the metadata model to evolve over time in a controlled way: the TEL metadata registry.

This registry is a database that records all the metadata activity associated with TEL. It therefore contains not only all the elements that are part of TEL Application Profile, but also elements that have been proposed
by different partners but have not yet been accepted for the application profile, and those elements that have been rejected.

Whilst the registry is an essential part of TEL, it can also serve the much wider—and for the European Digital Library essential—purpose of sharing metadata definitions outside the TEL service. It can form a mechanism for the European national libraries to share metadata functionality with other European cultural heritage institutions, such as museums and archives. Extending this idea leads to the proposal of a European Metadata Registry.

In an article in *ERCIM News* 66, László Kovács, András Micsik and Jill Cousins discuss the idea of a European Metadata Registry:

The need for this type of joint European registry is obvious: National Libraries in Europe apply different legacy metadata schemas, The European Library uses the TEL Application Profile to ensure interoperability when performing a search across libraries and collections.

The European Metadata Registry would provide a set of services:

• It would describe different metadata schemas and/or application profiles, as well as the aims, target audiences, application circumstances and scope of the schemas.

• It would represent internal semantic structure, the hidden model of schemas. Model descriptions aim both to understand and document the terms hierarchy. Because the metadata schemas of partners are based on different background semantical models, model mappings are non-trivial and require further scientific investigations.

• It would register tools and/or on-line services available for mappings, inferencing, translations, versioning and access.

• Finally, it would register semantic connections and relations between different schemas, thereby fostering the reuse of profiles, terms, elements and encoding schemas.

With these services the EMR will support the production of relevant crosswalks between legacy metadata schemas and/or The European Library schema...[ ]. The registry can grow organically on the basis of functional granularity and bilateral mappings. The scope and scalability of the registry are also under study, since the number of registered schemas and mappings cannot be predicted.

We intend the EMR to be a standardized, yet flexible and user-friendly tool. It will administer European metadata from different European cultural heritage communities including libraries, museums and archives, and its aim is to ensure transparency, access and interoperability.

**C: Common standards in collection descriptions.** Collection descriptions allow libraries to provide information about the existence and availability of their collections, not only to direct end-users, but also e.g. to the big search engines like Google. Describing collections is vitally important for federated searching. The TEL portal provides access to many heterogeneous collections, therefore, in order to perform more focussed searching, standardised collection descriptions have to be available for each of the currently 250+ collections. Collection descriptions enable users to narrow down the list of collections, which at the second step become targets of a (more precise or focused) search.

Collection descriptions in TEL are XML files that comply with the TEL Application Profile for Collection Descriptions. They also comply with the NISO Collection Description Specification and the related NISO Metasearch Initiative Collection Description Schema. TEL member libraries are required to provide rich, complete, high quality descriptions—to foster multilingual access (see 4.3) at least in their native language and in English, but preferably in all European languages. They must make sure that the descriptions are written with end-users in mind, so for instance give meaningful, ‘non-librarian’ names to their collections.

Similar to the TEL metadata element set, collection descriptions in TEL are not static, but can evolve over time where needed; not only to reflect new functionality or new types of access, but also to cater for a wider variety of organisations. Most of what has been said under 4.2.B about metadata thus equally applies to collection descriptions. Museums and archives have their own specific traditions and requirements for describing their collections, backgrounds to be respected in the European Digital Library. However, sharing and re-using TEL collection descriptions outside the scope of TEL will have huge potential benefits for interoperability of European cultural heritage. MICHAEL is currently gathering collection descriptions from a range of non-national-library institutions.
4.3 Multilingual access

From the beginning the TEL portal has been set up as a scalable system. This not only means technical scalability, but also functional scalability: it must be able to deal with all the European languages with their different character sets. This is also a vital requirement from a more abstract point of view: multilingualism and thus cultural diversity are core values of European culture. As the Europe of the future will be larger than it is now it is also very important to address from the very beginning all European countries, not only those that are today’s EU Member States. Whilst English is effectively the lingua franca of Europe, constructing a single-language portal would seriously obstruct many potential clients from using the portal in a way they are entitled to. Despite the fact that many are catching up quickly, not all Europeans speak English, especially older populations in most EU New Member States.41

The current TEL portal gives users multilingual access to collections and objects in the following ways:

• The full user interface has been translated into 20 European languages; this number will grow to ±30 by 2008. Although this set will still not cover all official languages of Europe, it will include the native or secondary languages of over 99 percent of (potential) TEL clients.

• As stated in 4.2.C, TEL partner libraries are required to describe their collections in at least their native language and English. To increase multilingual access, TEL members are presently working on a coordinated effort to translate all 250+ descriptions into all 20 currently supported languages. The resulting approx. 5,000 collection descriptions will help the vast majority of users in better finding what they are looking for.

• The TEL system is (nearly) Unicode compliant. In the past diacritics have caused some problems, particularly in the display of results, but now UTF-8 has been implemented across all TEL infrastructural components and (most of) the metadata.

The present set of multilingual tools is still a far cry from how a fully multilingual European Digital Library needs to function. Obviously, the ideal scenario will need to be developed step-by-step, probably by different teams of different disciplines in different countries. A first step is currently being taken by investigating cross-language access to bibliographic subject data (e.g., in controlled vocabularies). A selection of cross-language approaches to subject data, including MSAC42, MACS and its child CrissCross43 will be tested in the TEL portal.

The MACS project44 aims to provide multilingual subject access to library catalogues. It enables users to simultaneously search a number of catalogues in the languages of their choice. These include the most used first and second languages in European: English, French, German and Spanish. This multilingual search is made possible thanks to the equivalence links created between the four indexing languages: SWD/RSWK (for German), RAMEAU (for French), LCSH (for English) and the Spanish subject headings language.

Work is also being done in the field of name authority control. The results of projects such as LEAF,45 VIAF,46 and ONESAC47 are used to design and test a name authority control tool, enabling the TEL portal to locate and use in a query any known variations of person, corporate body or geographical names.

The ideal European Digital Library would need to offer true multilingual search and retrieval, particularly where full-text corpora are concerned. This means searching for a particular phrase in (for instance) English and finding not only documents that contain that exact English phrase, but also (probably non-English) documents containing the translated equivalent of the original query. It would also need to include non-Latin European languages, such as Cyrillic. Evidently, for full-texts digital objects, both the object itself and its descriptive metadata would need to be queried to give the most satisfying and useful search results. For non-text digital items (maps, photos, sounds etc.) one would need to particularly rely on metadata, as content-based retrieval for such objects is—similar to true multilingual full-text search and retrieval—still in its very early stages.

4.4 Other ingredients for success

So far three major components have been discussed that ensure the current success of TEL and will contribute significantly to the eventual success of the European Digital Library. To finish this section, two further ingredients needed for a fruitful end result are briefly mentioned:

1) IPR issues—issues concerning intellectual property rights need to be solved in order to fully facilitate the forthcoming digitisation process and online accessibility of works protected by copyright and related rights. Voluntary contractual arrangements between representatives of cultural institutions and rights holders are proposed as part of the Commission Recommendation on the Digitisation and Online Accessibility of Cultural Material and Digital Preservation.48
2) Marketing and Communication—A big and ongoing effort will be needed to market, promote and communicate the assets of the European Digital Library to its (potential) end-users. To a certain extent this should be done via traditional offline marketing and communication methods (newspapers, radio, TV, trade press, conferences etc.), but it should largely focus on online methods (search engine optimisation, linking programmes, targeted emailing, etc.). Not only should this involve a central effort on behalf of all participating institutions, but far more should it concentrate on local, more bespoke marketing and communication efforts, so promoting the European Digital Library from within the partners countries and institutions, in the native language, according to local best-practice methods, and targeted at the specific local audiences.

5. And Finally…the European Digital Library versus Google
The entire idea of building a European Digital Library was sparked off by Google’s announcement to digitise millions of books from four American and one English academic library. By various media this was presented as a ‘cultural war with Google’. So far the European cultural institutions have never had this notion of a competition. They have always been pragmatic: they stress their own strengths, realise their weaknesses, and are aware of how private enterprises impact their worlds.

Libraries, museums, and archives have spent thousands of man-years giving structure to data and separate the wheat from the chaff. Pre-qualified structured (meta)data has a very important role to play where accurate and reliable search and retrieval in trusted sources are concerned. This is not something Google can (yet) handle with its mass market search engine approach. So for the time being being heritage institutions seem to beat Google at its own mission to ‘organize the world’s information’—at least that of the cultural world.

For centuries Europe’s collective memory has been collected, maintained, and safeguarded by specialised, dedicated, sustainable, respected, trusted, non-commercial, public institutions. Cultural heritage preservation has never been—and, for the sake of global learning, should never become—a solely commercial enterprise. Why should this be different for the digital age?

Eventually the real truth will be somewhere in between, with well-working public-private partnerships, with useful, easy-to-find, accurate and trustworthy information and—most importantly—with happy customers. Obviously, building the European Digital Library—already called one of the greatest digital construction efforts ever undertaken—is really a win-win-win project: for its users, for its builders, and for world knowledge.

Notes
10. TEL. See Note 7.
13. “European Commission steps up efforts…”


31. Ibid.


35. The European Library Application Profile for Objects.


40. MICHAEL. See Note 23.

41. New Member States of the EU: Estonia, Latvia, Lithuania, Cyprus, Malta, Poland, Hungary, Slovakia, Czech Republic, and Slovenia.


Suggested further reading