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EXECUTIVE SUMMARY

The market for services that provide information, advice or guidance on digital preservation techniques and best practice is expanding. There is more demand for support than DigitalPreservationEurope (DPE) is currently resourced to address. The sustainability of DPE is dependent on its ability to expand on existing resources to exploit this market, while meeting the requirement of grant funding.

The process of moving from a near totally grant supported operation to one that is supported through a balanced mix of funding channels will be challenging. That said, all the elements that are necessary for this to take place exist within the context of the project and it is only a matter of driving this forward under the direction of a dedicated core partner, which is likely to be the current coordinating partner. This Coordination Action serves as the foundations on which to construct the necessary funding streams to ensure the long-term viability of the support services in digital preservation. In this process, DPE can build on the strengths of its project partners, the collaborative arrangements that it has developed and is currently nurturing, and on the trust and credibility it has established within the community.

DPE has been actively working to engage in community building through developing a web of partners, creating an exchange programme for professionals and researchers, establishing a training programme, and federating repositories. DPE has designed and is constantly revising its online presence. This platform provides the first point of contact for new and existing users of DPE services. Building on these services DPE will gradually introduce new products and services that will enhance the value to the existing user community and attract new customers, extending the communities of practice and interest beyond ALM (Archives, Libraries and Museums) to include companies, public sector bodies and the broader general public.

DPE needs to ensure that it both understands its market and has a continuous stream of new products and services reflecting the changing and expanding needs of its communities. As the new range of products and services expands, placing more emphasis on advice and guidance services, pushing marketed news, and on expanding the series of seminars and workshops offered, particularly bespoke workshops for groups such as broadcasting and industrial companies, DPE will become more and more credible.

By ensuring that DPE continues to develop a strong brand awareness in the community of practice, DPE will begin to expand its reach to a wider range of communities with a vested interest in digital preservation. The first new area that DPE should explore is the community of practice engaged in serving eGovernment.

The proposed move to new products and services would be most effective if done through strategic partnerships with existing organisations offering parallel services. By cooperating in this way, the products themselves can offer better value for users and customers. Targeted marketing will stress the unique source of information, advice, consultancy and training that DPE represents.

This is not to say that DPE should abandon hope for future grant funding. For example, it might be possible, particularly with the right strategic partners, to find grant funding in the international community to support product development of individual services. Indeed, DPE should actively pursue this goal, which will be primarily the responsibility of the managing partner to undertake this process, supported by those other DPE partners that are able to donate their time and expertise.

By developing the Sustainability and Exploitation Plan in year one it is hoped that DPE will be better placed to consider the implications of this plan during its subsequent funded years and more effectively make the transition to sustainability.

DPE has major strengths that will help it on its road to success, including:

- ◆ The innovative approaches developed by the DPE team which enables them to reach out to the community;
- ◆ Its growing market profile and position, and benefits, therefore, from competitive advantage;
- ◆ The formal institutional and professional relationships that DPE has established;
- ◆ The position of trust and reliability which DPE enjoys within its targeted market, giving it a uniquely high market potential;
- ◆ Its ability to offer impartial advice and services that are not tainted by particular commercial or vendor perspectives;
- ◆ DPE services are centred on meeting the digital preservation and curation needs of its target market;
- ◆ That it has been possible to incorporate ERPANET services and tools within the DPE product family is a benefit to DPE;
- ◆ The development of repository registry and risk assessment services and tools.

The unique position of goodwill and trust enjoyed by DPE in the target market and its high profile put DPE in a strong position to exploit the business potential of first mover advantage at European level in an increasingly mainstream market.

Recommendations

The potential for sustainability of DPE depends upon exploiting all the opportunities open to it from the very beginning.

1. DPE should focus on engaging with a broader group of stakeholders in digital preservation beyond the ALM community. This should include commercial and public sector organisations and major data creators such as eScience and medical communities.
2. DPE must enhance its publicity activities to ensure that its services are more widely adopted by the community and that the positive value of those services is acknowledged by their users.
3. DPE should continue to expand its Case Studies, with greater focus on industry and areas outside Europe.
4. DPE should build chargeable services around its risk assessment toolkit, DRAMBORA.
5. DPE should follow the ERPANET example and establish a series of workshops and seminars to complement its training programme, moving beyond the cultural heritage field to other sectors with strong needs for digital preservation, particularly media houses, pharmaceutical, oil and gas, and environmental businesses.
6. DPE should explore sponsorship options both with corporate participants and with companies beyond the originally envisaged DPE community.
7. DPE should use existing Internet commercial models to develop an evolving charging strategy, following models such as SKYPE which charges for advice services.

8. DPE should continue to develop its strategic partnerships, but should ensure that these stretch beyond Europe to include a range of projects and professional organisations that have an active interest in digital curation and preservation.
9. DPE should not consider merging with other organisations or projects.
10. DPE must focus on developing income-generating services: consultancy, training, repository guidance in the area of federation, design, and development, risk assessment and support for experimentation.
11. DPE should produce high-value reports and market these for their income-generating potential.

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INTRODUCTION

DigitalPreservationEurope (DPE) fosters collaboration and synergies between national initiatives across the European Research Area. DPE addresses the need to improve coordination, cooperation and consistency in current activities to secure effective preservation of digital materials. DPE's project partners lead work to raise the profile of digital preservation, to promote the ability of Member States acting together to add value to digital preservation activities across Europe, and to ensure auditable and certificated standards for digital preservation processes are selected and introduced.

DPE is funded by the European Commission as a Coordination Action to run from April 2006 until the end of March 2009. The Partners in DPE are concerned that before the end of this period of funding strategic mechanisms should be put in place to ensure the long-term survival of DPE.

METHODOLOGY

The requirements for this document are well detailed in the document Annex I - “Description of Work”, FP6-2005-IST-2.5.10.

This study was undertaken through desk-work and telephone interviews. It also benefits from the availability of the DPE *Market and Trends Analysis Report* (D6.2). The major part of the study has been a paper exercise with sources of information drawn from DPE files and the cultural heritage and other related fields’. Relevant information was analysed and compiled, creating the background information necessary to prepare a plan for the sustainability of present and future DPE activities.

The purpose of this study was to find a viable model that will allow the key elements of the DPE initiatives and services to continue to expand and grow. The challenge in doing this is that, while some of the activities and services that DPE now undertakes may be highly valued, they may not be sufficiently attractive to a large enough community for them to be self-sustaining. Any business planning, therefore, must take into consideration the plethora of funding possibilities stretching beyond market forces.

THE MARKET FOR INFORMATION AND SERVICES ON DIGITAL PRESERVATION

The market size for advice and assistance in digital preservation can at best only be estimated. DPE, in its Advocacy and Outreach Plan,¹ has systematically analysed its potential market and identified seven sectors as potential markets for the future DPE. The first area identified is the Archives, Libraries and Museums (ALM) sector who predominantly make up the existing DPE user community, and who we will refer to as the community of practice. Following this is the Research and Education community, and Governmental institutions and local authorities, which incorporates the e-government and e-health communities. Other sectors identified are the ICT companies including data storage and the Media. The final sectors of the market for DPE have been identified in the Advocacy and Outreach Plan as not being in need of awareness-raising activities as such but rather targeted to form cooperation agreements, namely non-governmental organisations and other related projects and initiatives.

THE COMMUNITY OF PRACTICE / ARCHIVES, LIBRARIES AND MUSEUMS

Work currently undertaken by DPE to build its user community has had a consolidating role in establishing a common community of knowledge and action, unifying the needs of the Archive, Library and Museum community. It is the ability to shape and reach this community of practice that will be key to the evolution of DPE.

Building the widest possible network of participatory institutions in the DPE user community is a primary aim of our effort. However, a specific challenge to establishing and sustaining such a community within the preservation area is that involvement depends on the attitudes of individuals, but the nature of preservation efforts requires institutional involvement. Therefore DPE must ensure that it acts to maintain and develop its relationships with institutions to keep their motivation and interest high in contributing to the growth of the community in the future. DPE has a workpackage and team dedicated to ensuring that we do this effectively.

As noted in the DPE Technical Annex, demand for credible advice in this area is growing.²

A vision is emerging of Europe as an information rich society whose record is just waiting to be harvested and processed by the technology-enabled researcher of the future or by emerging e-Content industries. E-commerce and e-government initiatives continue to raise awareness of the need for reliable and trustworthy information sources and to ensure that the digital products and by-products of business activities will be accessible in the longer term. Delivering this vision depends upon the survival of digital data in accessible, usable, reliable and authentic form. As a result, curation and preservation of digital information has an impact on public bodies, memory organisations, researchers and most business sectors including aerospace, entertainment, finance and pharmaceuticals.

¹ DPE Advocacy and Outreach Plan: Raising Public Participation and Awareness available at URL:
<http://www.digitalpreservationeurope.eu/publications/>

² DPE Technical Annex, FP6-2005-IST-2.5.10, March 2006, p. 5.



This conclusion is amply confirmed by the *Market and Trend Analysis Report (D6.1)*, which DPE updated in October 2007. This study found that '[d]igital preservation is becoming one of the main strategic priorities for both memory and research institutions – they are increasingly aware of the fact that digital resources and memory are fragile and that they are at risk.'³ Thus the DPE project philosophy is completely in line with the most recent action plan of the EU according to the *Council Conclusions on the Digitization and Online Accessibility of Cultural Material, and Digital Preservation*.⁴

ARCHIVES, LIBRARIES and MUSEUMS

The DPE Market and Technology Trends Analysis surveyed over 30 national archives and found that for 78% of respondents long-term digital preservation is a key strategic priority and will be a key strategic priority in the near future for a further 19%. In addition to this, 73% have or will have a trusted digital repository⁵ (according to the criteria listed in An Audit Checklist for the Certification of Trusted Digital Repositories⁶).

The international archive community in particular is large and growing. For example, the International Council of Archives has a global network of more than 1,400 institutional members in 190 countries and over 200 archivists and records managers as individual members.⁷ It is likely that numerous individual archivists in each institution will have a vested interest in remaining up to date on digital preservation issues. If we estimate that 10 archivists in each institution would be interested, this suggests a potential market of around 14,000 worldwide.

The potential market represented by the library community is possible to estimate from the membership of a number of organisations. EBLIDA, the umbrella organisation of national library, information, documentation and archive associations and institutions in Europe, has 38 professional associations as members.⁸ We can take the professional association for the UK and Ireland as a guide for membership figures. The Chartered Institute of Library and Information Professionals (CILIP) has around 23,000 individual members.⁹ If we make the conservative estimate that each professional association has 10,000 members, that is a market potential of 380,000 individuals in Europe alone.

For the museums community, a recent study looking at the major public sector ALM institutions in Canada concluded that there were 254 full-time-equivalent (FTE) employees involved in digital product development and maintenance for an average of 36 per institution.¹⁰ In addition to this the Canadian Heritage Information Network (CHIN) has over 1,256 institutions that contribute to its

³ <http://www.digitalpreservationeurope.eu/publications/dpe-market-analysis.pdf>

⁴ Council Conclusions on the Digitisation and Online Accessibility of Cultural Material, and Digital Preservation 2006/C 297/01), Official Journal of the European Union, 7.12.2006,

http://ec.europa.eu/information_society/activities/digital_libraries/doc/culture_council/council_conclusions_nov_2006.pdf

⁵ <http://www.digitalpreservationeurope.eu/publications/>

⁶ <http://digitalarchive.oclc.org/da/ViewObjectMain.jsp?fileid=0000059075:000003279368&reqid=610>

⁷ <http://www.ica.org/>

⁸ Minutes of the EBLIDA Council Meeting, 15 May 2004, Estoril, Portugal. Available at URL:

<http://www.eblida.org/uploads/eblida/4/1167411582.pdf>

⁹ <http://www.cilip.org.uk/aboutcilip>

¹⁰ Wall Communications, (2002), A Study of Business Models sustaining the Development of Digital Content, A Study prepared for: Department of Canadian Heritage, Ottawa.



Humanities Data Base.¹¹ The UK Museum Association lists 2,500 museums in the UK experiencing around 80 million visits to museums each year,¹² and in France there are around 1,200 museums experiencing over 70 million visits a year.¹³

Based on these indicative figures, a conservative estimate places the market for DPE products and services in the museum sector at 1,000 individuals in each European country, 27,000 members in Europe alone.

A worldwide community of practice exists and in Europe can represent as much as 421,000 potential customers.

EDUCATION AND TRAINING RESEARCH INSTITUTIONS

Education is a growth market. With an annual budget of \$1,000 billion worldwide this sector employs 50 million people and governments are finding it harder and harder to satisfy demand in higher education. Between 1985 and 1992, the number of students in higher education rose by around 26% from 58.6 to 73.7million.¹⁴ In the EU-27, the student population in higher education continues to rise relatively quickly, by over 10% in 2004 compared with 2001.¹⁵ In the UK alone the number of students at HE and FE institutions rose from 2,480,145 in 2004/2005 to 2,522,035 in 2005/2006.¹⁶ The UK sector income also rose 8.4% from under £18bn in 2004/2005 to over £19.5bn in 2005/2006.¹⁷

In addition to the tertiary educational system, which needs time to readjust to offer training for new professions, a key potential market is in professional training and life-long training. In the key market segment of the ALM field, the International Council of Museums (ICOM) reports that there are 39 separate institutions giving museum professional training courses in Europe and 70 in the rest of the world.¹⁸ UNESCO reports that there are 62 educational institutions providing professional training in archival studies in Europe and 50 in the rest of the world.¹⁹ Similarly, there are 228 library training institutes in Europe and 156 in other parts of the world.²⁰ In addition to this the Italian Digital Library and the Touristic Cultural Network, a 200 million Euro activity, recently reported that it would spend 140 million Euros for manpower, professional training, education, namely 70% of its budget.²¹

¹¹ <http://www.virtualmuseum.ca/English/About/members.html>

¹² http://www.museumsassociation.org/faq&_IXPOS_=mahead7

¹³ http://www.diplomatie.gouv.fr/en/france_159/discovering-france_2005/france-from-toz_1978/culture_1979/museums_4412/index.html

¹⁴ Nico Hirtt, 'Will Education Go to Market,' UNESCO Courier, February 2000, pp. 14-16.

¹⁵ Key Data on Higher Education in Europe, Eurostat, 2007 edition, Luxembourg, 2007.

¹⁶ <http://www.hesa.ac.uk/index.php/content/view/803/161/>

¹⁷ Ibid.

¹⁸ ICOM International Committee for the Training of Personnel, ICOM.

<http://www.icom.org/ictop/>, <http://ictop.f2.fhtw-berlin.de/content/view/38/46>

¹⁹ UNESCO Archival Portal,

http://www.unesco.org/webworld/portal_archives/

²⁰ UNESCO Libraries Portal.

http://www.unesco.org/cgi-bin/webworld/portal_bib2/cgi/page.cgi?d=1&g=Training/Institutions/index.shtml

²¹ Giorgio Dori, 'The Italian Digital Library and Touristic Network', Presentation at Presto Workshop, St Petersburg, 2003.

Furthermore, the DPE Market and Technology Trends Analysis surveyed 54 research institutions across Europe and found that 83% stated that long-term digital preservation is currently or will be a key strategic priority for their institution.²² In addition to this, 57% stated that they have, or will have, a trusted digital repository (according to the criteria listed in An Audit Checklist for the Certification of Trusted Digital Repositories).

E-GOVERNMENT

The potential market size of governmental institutions and local authorities, incorporating the e-government and e-health communities, is difficult to estimate. E-Government initiatives, where access to government records and services have been streamlined, standardised and made more widely available electronically, have given great impetus to the drive for digitisation, and the need for advice and information on its use in policy and practice. The following organisations give us an idea of the size of this community of interest where the need for this type of information is set to grow.

The Congress of Local and Regional Authorities of Europe comprises 315 members from the 41 member states²³ and the Council of European Municipalities represents some 100,000 local and regional authorities.²⁴ Another example organisation, the Assembly of European Regions, has more than 250 member regions from 33 countries and 14 international member organisations.²⁵

A study in 2004 for the Alberta Government found there are over 80 organisations, projects, sites and journals internationally involved in the public sector digital preservation field.²⁶ The complete list of organisations involved in digital preservation is provided in Appendix II.

Furthermore, an AIIM survey of information management practices, this time in Ireland and Northern Ireland, found that eGovernment in central government, local government, health care, public services and defence sectors were spending more than £500,000 on preservation activities.²⁷ Budgets for these projects are increasing with the development of the eGovernment agenda. Drivers in central government are efficiency and risk management, while in local government and agencies the driver is better service. The most interesting finding is that this sector needs help with understanding, justification, specification and implementation, precisely the advice that DPE provides.²⁸

E-COMMERCE AND THE WORLD MARKET

In e-Commerce the driver for demand for preservation tools and advice has largely been liability protection, as corporations are generally seen to be poorly equipped to deal with digital preservation.

²² <http://www.digitalpreservationeurope.eu/publications/>

²³ <http://www.coe.int>

²⁴ <http://www.ccre.org/>

²⁵ <http://www.a-e-r.org/>

²⁶ Information Management Branch, Digital Preservation Resource Guide, Edmonton, Government and Program Support Services Division, Alberta Government Service, 2004.

<http://www.im.gov.ab.ca/publications/pdf/DigitalPreservationResGuide.pdf>

²⁷ Roger Crumpton, 'Europe Information Management in Ireland', AIIM White Paper 2004.

²⁸ Ibid.

The situation is broadly the same for corporations in Europe and America. As the Association of Records Managers and Administrators (ARMA) notes:

In a recent survey of 2,200 records managers, 47 percent said their company does not include electronic records in its retention and destruction schedules. Nearly six in 10 companies (59 percent) reported having no formal policy concerning the retention of e-mail.

Even more disturbing, 46 percent of companies reported having no system for placing holds on records in the event of pending litigation or a regulatory investigation – leaving open the possibility that records critical to a legal matter could be destroyed. Moreover, 65 percent said their company's hold order policy, if one existed, did not include electronic records.

Unlike paper records being overseen by certified records managers, the information technology department handles oversight for electronic records in 71 percent of companies, the survey found. Yet two-thirds (67 percent) of records managers surveyed said their colleagues might be computer experts, but they don't understand the concept of life cycle management....²⁹

It is difficult to get precise figures for the potential market for DPE products and services in the e-commerce sector. This survey shows that a majority of companies have taken no action towards implementing digital preservation. By targeting this community with awareness-raising activities, DPE can expect to create a large market for its tools and services.

Again world market information is difficult to derive, but there are some figures that are informative. The United Nations Education, Science and Culture Organization's (UNESCO) Memory of the World Programme to encourage the preservation of the valuable archive holdings and library collections has signatories and national committees in 56 countries³⁰ (22 in Europe and North America, 15 in Latin America and the Caribbean, 11 in Asia and the Pacific, 6 in Africa and 2 in the Arab States). We can conclude that at least one and more likely about a dozen potential customers exist in each of these countries, giving a total of over 672.

The market potential in e-Commerce, business and industry is much larger. The United States based ARMA has over 10,000 information management professionals in the United States, Canada, and over 30 other nations as members.

In industry, the Work Flow Management Coalition (WFMC) has over 300 member organisations worldwide, representing all facets of document workflow, from vendors to users, and from academics to consultants.³¹

As a result it must be concluded conservatively that there is a potential market of between 4000 and 15,000 in the e-commerce and world market..

REPOSITORIES, LIFECYCLE AND DATA STORAGE

²⁹ ARMA International, 'American Companies Failing to Address Retention of E-mail, Electronic Documents', Press Release, New York, 4 March 2004.

<http://www.merresource.com/whitepapers/survey.htm>

³⁰ http://portal.unesco.org/ci/en/ev.php-URL_ID=6541&URL_DO=DO_TOPIC&URL_SECTION=201.html

³¹ <http://www.wfmc.org/>



The growth in the repository market and the trend towards service provision of data management services demonstrates another sector that DPE could exploit. The OpenDOAR project, for example, lists 476 repositories in Europe and a further 510 worldwide.³² The Information lifecycle management (ILM) and specifically the data storage industry and their users provide a more general market for the valuable information, advice and guidance that DPE provides, and the market is growing. According to the Association for Information and Image Management (AIIM) in its 2003 Annual report, this growth is related to concerns for digital preservation of documents, as compliance with regulation and as a defence against litigation. There is also increased interest in factual information and advice related to digital preservation³³ particularly in public administrations and institutions.

Further proof of this growth comes from a recent Yankee Group study, which found that the digital preservation problem is growing, accounting for 18% of enterprises' total storage capacity in 2002 and projected that this would grow to 39% in 2006. Beyond the need for compliance discussed above there is growth in ... *storage systems targeting content in production or delivery, where content is changing or moving...* such as email, patient records, blueprints and mechanical drawings. The Yankee Group projected that this \$160 million USD business (2002) would grow to \$1.3 billion in 2006. They said:

Content storage is part of a much larger enterprise-driven need to comply with regulations that mandate data preservation.... Financial services, healthcare, biotech, and government agencies are likely early adopters of digital content technology because of industry-specific regulations. All public corporations also will be under pressure to preserve more financial data required for financial statement accounting, thanks to the Sarbanes-Oxley Act of 2002.

This US Act effectively mandates that those foreign corporations who trade in the American market be driven by this same imperative. The Yankee Group goes on to say:

One cannot ignore the second driver of content storage systems: digital content itself. This includes data such as large video, audio, and other files available over a high-speed connection. This part of the market segment focuses much more heavily on performance, since the data here is not fixed, it is data in production or delivery that must be made available and accessible very quickly.³⁴

MEDIA

The media is another arena that is growing dramatically. The emerging digital landscape is fast becoming driven by the publishing, entertainment and broadcasting landscape.³⁵ All these service providers require digital preservation services.

³² <http://www.opendoar.org/find.php?format=charts>

³³ AIIM, Annual Report 2003.

<http://www.aiim.org/documents/standards/C22-2002-annual-report.pdf>

³⁴ Yankee Group, Compliance and digital-content growth drive content-storage market, May 2003. http://searchstorage.techtarget.com/tip/0,289483,sid5_gci906341,00.html

³⁵ Screen Digest Ltd, CMS Hasche Sigle, Goldmedia GmbH, and Rightscom Ltd Interactive content and convergence: Implications for the information society (Luxembourg: DG Information Society and Media, 2006). http://ec.europa.eu/information_society/europe/i2010/docs/studies/interactive_content_ec2006_final_report.pdf and the annexes http://ec.europa.eu/information_society/europe/i2010/docs/studies/interactive_content_ec2006_annexes.pdf



The latest sales figures available for the publishing industry come from the 2004 survey undertaken by the Federation of European Publishers. Annual sales revenue of book publishers in 2004 in the EU and the EEA totalled approximately 22,268 million Euros. A total of 620,133 new books of new editions were issued by publishers, and the FEP estimates that throughout Europe the number of available titles was not less than 3,959,000(FN).³⁶

These figures show that there is a substantial market for DPE services. DPE, if it expands its perspective and its information base, can rightly serve this growth sector beyond its base in the ALM community. Once again this demonstrates that we can look broadly into wider market sectors. The European Commission, in its statement 'i2010: digital libraries' (30 September 2005), set out a vision and strategy for promoting digitisation, fostering online availability, and enabling the long-term preservation of the collective memory of Europe.³⁷ Beyond broader concerns about promoting economic competitiveness and growth, social concerns about public access to culture, monetary concerns about the place of culture in the emerging knowledge economy, and worries related to the place of culture in the emerging intellectual landscape were some of the motivating factors behind 'i2010.' A broad range of Commission promoted activities from funding programmes to Decisions and Recommendations encouraging action by Member States has resulted in the release of this strategy. Moreover, the recommendations in this digitisation policy ensure that the IMC will play an effective role in helping Ireland to contribute to the objectives laid out in the European Commission's Recommendation on the digitisation and online accessibility of cultural material and digital preservation.³⁸ The timeliness and urgency for taking this policy forward was confirmed on 22 March 2007 when the European Commission took the decision to set up a Member States Expert Group on Digitisation and Digital Preservation:

to monitor progress and assess the impact of the implementation of the Commission Recommendation of 24 August 2006 on the digitisation and online accessibility of cultural material and digital preservation and of the Council Conclusions of 13 November 2006 on the digitisation and online accessibility of cultural material and digital preservation.³⁹

³⁶ <http://www.fep-fee.be/eframprinc.htm>

³⁷ http://ec.europa.eu/information_society/activities/digital_libraries/doc/communication/en_comm_digital_libraries.pdf

³⁸ (2006/585/EC), 24 August 2006.

http://ec.europa.eu/information_society/activities/digital_libraries/doc/recommendation/recommendation/en.pdf

³⁹ http://ec.europa.eu/information_society/activities/digital_libraries/doc/commission_decision_on_mseg/mseg_en.pdf

MARKET STAKEHOLDERS

There are many ways to view the stakeholders in the digital preservation field. One of the most useful analyses was that used in the InterPARES Project conducted by Kevin L. Glick, Rebecca Hatcher and Andrew Ashton. In the InterPARES Project *Stakeholder Analysis* stakeholders worthy of consideration included:

- ◆ The Archival Community with its broad focus on preservation.
- ◆ Records Managers are differentiated from archivists because they are concerned with the active stages of the records life cycle and ... *focus on fulfilling legal and financial requirements, rather than preserving inactive records for reasons of historical and social value.*
- ◆ The Legal Community ... *has a legitimate interest in the development and implementation of electronic records preservation practices. ...Electronic evidence is typically collected in the discovery phase, and is subject to the same processes as other evidence. However, the legal community has relatively little experience and few precedents to guide the handling of electronic records as evidence.*
- ◆ The For-Profit Sector – *As soon as businesses fully understand that an inability to preserve electronic records will cost them money, they will begin to pay much more attention to the subject. While almost all industries already deal with digital information or electronic records in some form, certain types of industries will be more concerned with the research than others. ... (F)ive industry categories are significant potential stakeholders. These include: manufacturing; information; professional, technical, and scientific services; banking, finance and insurance, and arts, entertainment and recreation.*
- ◆ *Of these, the manufacturing sector, which includes chemical, pharmaceutical, and consumer packaged goods, food and beverage, oil and gas, and computer technology manufacturing, is the most concerned with preserving authentic records in electronic systems. DPE has looked closely at the key sectors outside the ALM community that have crucial digital preservation needs. These are the Publishing sector, Telecommunications, Broadcasting, Pharmaceuticals, Retail and Banking.*
- ◆ The Educational Community – *Records and information management are rarely recognized as a priority.... There is no person, real or juridical, who holds authority over the retention function. Few staff members are familiar with the legal requirements for records retention and protection, and many lack the necessary technological skills.*
- ◆ Librarians and the Digital Library Community – *Both archivists and librarians are information professionals and share a commitment to organize their collections properly and make them available for use... Librarians are*

interested in increasing access to digital objects...rather than preservation per se.

- ◆ *Cultural and Artistic Institutions ...are faced with the prospect of the loss of cultural and artistic memory because of the lack of clear preservation policies and practices aimed at preserving electronic records in visual, aural, and multimedia formats. Without a clear strategy for the preservation of authentic copies of these works, the retention of an authentic and accurate evidence of this work is endangered.*
- ◆ *Scientific and Research Organisations ... are subject to stringent records requirements; but also prone to 'repurposing' their data content. This group is a potential stakeholder because scientific disciplines generally place relatively little importance on the long-term management of data, information and records.*
- ◆ *IT Professionals... are perhaps the most powerful stakeholders of electronic records preservation. This group was responsible for designing, implementing, and maintaining the past and present electronic systems that pose problems for long-term preservation. They will likely also be responsible for the future systems that will attempt to address the problems.*
- ◆ *Auditors – This group's concern with risk avoidance and efficiency of communication and information technology makes this stakeholder group very similar to records managers...Both groups are primarily involved with active records and their primary concern with minimizing organizational risk can bring them into direct conflict with archivists.*
- ◆ *Charitable and Non-Profit Organisations – (N)on-profit status means that they are subject to unique treatment with regard to taxation, employment, and investment. Strict government standards require that careful record keeping provide accountability and documentation of the organization's practices.*
- ◆ *Professional Organisations are interested in the electronic records ...only if and because their constituencies are interested and/or affected.*
- ◆ *Standards Bodies for ... communications standards...from the International Telecommunications Union (ITU) and ... computer standards... from the International Organization for Standards (ISO) are vitally interested*

To this we might usefully add two other classes of users:

- ◆ *The Citizen. With the more active use of digitised content, citizens will understand the importance of digitisation and preservation quality. Their choice of sources will depend on the trust in a specific document repository.*
and
- ◆ *The Repository and Data management community which currently focuses on short-term service architectures but who will need to take longer-term views if they are to achieve competitive advantages.*

As we can see from the above, there is a market for digital preservation information in virtually all sectors. But these stakeholders vary greatly in their ability to be able to pay for those services. Accordingly, it is more likely that a re-positioning of DPE to capture the for-profit stakeholders would be the strategy most likely to create income.

In that context the sectors that should be targeted and the ones that are most affected by the implications of preservation and its challenges are those of publishing, telecommunications, pharmaceuticals, broadcasting, retail and banking. These sectors are all described in great detail in the erpaStudies and Appendix I borrows heavily on that source.

CURRENT MARKET OBJECTIVES AND PERFORMANCE INDICATORS

If we have to define one marketing goal for DPE that will present the most important current task, it would be establishing the foundation for self-sustainability of DPE services in the future (in terms of products and services offered; customer base and organisational structures).

An important current task is the positioning of the DPE products and services brand.

From the non-financial market metrics we would like to offer for consideration the following.

Table 1: Non-Financial Market Metrics and DPE Options

Market metrics	Activities and performance metrics for developing DPE sustainability plan
<p>Market share</p> <p>Total</p> <p>Currently its size is estimated at 600 organisations and 4000 individuals, but this should be fine-tuned</p> <ul style="list-style-type: none"> – by segments (community of service, community of interest, vertical segment) – by outreach methods used for services and products 	<p>Additional market research to define more precisely the market share</p> <ul style="list-style-type: none"> – studies initiated – studies completed
<p>Users (current <i>users</i> of DPE services and products should be retained as future <i>customers</i>)</p> <ul style="list-style-type: none"> – total number – this still has to be estimated – classification of users – criteria for classification such as intensity of preservation activities, intensity in repository creation should be clearly defined, in order to offer in future different memberships and ‘bundles of products/services’ matching the organisational needs – number/percentage new users – number/percentage retained users 	<p>Additional market research on users</p> <ul style="list-style-type: none"> – studies initiated – studies completed – establishing key partnerships

<p>Requests for services and products (current <i>requests</i> will be future <i>purchases</i>)</p> <ul style="list-style-type: none"> – rate of requests (by services and products) – size/volume/frequency of requests 	<p>Additional market research on the dynamics of requested services and products</p> <ul style="list-style-type: none"> – studies initiated – studies completed – R&D of new products
<p>Promotional objectives</p> <ul style="list-style-type: none"> – level of recognition of DPE – website intensity of use – products and services presentations (demonstrations) – future sales capability (this still has to be estimated) – administrative costs, customer visits 	<ul style="list-style-type: none"> – development of partnerships contributing to level of recognition – choice of website promotion techniques – establishment and implementation of a strategic plan on product and services presentations – evaluation of sales capability
<p>Outreach objectives. Here we should take into account how the DPE successor network will be structured in order to ensure the most effective contact with users.</p> <ul style="list-style-type: none"> – promoters * total number * number/percentage new * number/percentage retained – order processing and delivery – what business model will be applied 	<ul style="list-style-type: none"> – choice of organisational structure for the successor of the DPE consortium – choice of business models

Since the entry into force of the work on sustainability, the key performance indicators should be evaluated regularly, with measurements of the current level and the target for every factor. Benchmarking values cannot be used; with time DPE performance will become a benchmarking source.

The key factors that should be monitored could include, in addition to those in the table above, the following:

- ◆ ROI (Return on Investment)
- ◆ Customer satisfaction
- ◆ Rate of introduction of new products and services
- ◆ Capacity utilisation
- ◆ Growth against market

DPE IN THE DIGITAL PRESERVATION MARKET

Digital Preservation Europe (DPE) has three main objectives, each of which has one or more sub-goals.⁴⁰

1. To create a coherent platform for proactive cooperation, collaboration, exchange and dissemination of research results and experience in the preservation of digital objects.
 - a. To identify and raise awareness of sources on the issues surrounding the curation and preservation of digital objects across the broad spectrum of national and regional cultural and scientific heritage activity in Europe.
 - b. To contribute to the elimination of the duplication of effort of research activities by researchers at different institutions and to enable identification, collection and sharing of knowledge and expertise.
 - c. To create a conduit between the research community and practitioner community that will foster collaborative approaches to preservation needs.
 - d. To stimulate further research on digital preservation in key areas and encourage the development of standards where gaps and opportunities have been identified; this will include promoting and developing research agendas.
2. To increase prevalence of preservation services and their viability and accountability.
 - a. To support the development of a European-wide approach to the audit and certification of digital repositories as an essential stage in creating content management and delivery services and to repository federation.
 - b. To stimulate ICT companies and software developers to incorporate some of the curation and preservation thinking into new generations of software.
 - c. To relate the digital preservation research agenda more directly to the development of exploitable product opportunities and to develop links with the industrial sectors.
3. To improve awareness, skills and available resources.
 - a. To examine core issues that will deliver essential guidelines, methods and tools to enable preservation action with European public and private sectors.
 - b. To implement a suite of training seminars based on best practice and to identify where and what further practitioner training and staff development initiatives might be undertaken.

In virtually all instances so far DPE has been successful in achieving these objectives. *The problem for DPE is that this success is not necessarily transferable into long-term sustainability for the project in spite of the demonstrated need in the cultural heritage sector and indeed in other sectors for information, advice and guidance in the digital preservation of records.* DPE must build on this success and expand both the community of practice in digital preservation and the community of interest, where it must do much more to promote good practice in business, industry and public institutions. The strength of market position, established customer relationships and competitive advantage must not be underestimated. As we have seen both here and in the *Market and Trends Analysis Report (D6.1)*, the market for DPE's products and services is there, and it will be the actions of DPE that determine its future success and sustainability.

⁴⁰ DPE Technical Annex, FP6-2005-IST-2.5.10, March 2006, p. 5.

DPE COOPERATIVE AND MARKETING STRATEGY

States vary greatly in the work already undertaken in digital preservation, as well as in the resources available for the task. The degree and focus of leadership for digital preservation varies from state to state, as do the specific priorities for immediate preservation attention. This variation comes in part because there is currently no consensus view about how states (or other organisations) should carry out digital preservation. The challenge is both so new and so large that everyone is still trying to determine the best methods.⁴¹

DPE depends on the cooperation of contributing experts for its success. Many of these experts attend workshop events because they want to share their experience, ideas and knowledge with a broader community. As the Principal Director of DPE has noted, this community participates for many reasons:

Maybe because they are altruistic, because they want others to recognise the significance of the work that they have done and how others might benefit from it, because they can achieve fame through sharing their ideas at our workshops, or because they would like the profile to get a new job. Essentially most folks take part because the concept of mutualism plays strongly.

DPE INTELLECTUAL PROPERTY

DPE has a good reputation in the cultural sector as the successor of ERPANET; it appears to be wanted by the community and provides good quality information. DPE acts as a stock exchange for the IP of others. It depends upon the good will of highly respected experts in the field to contribute information, reports and assessments, and participate in seminars and workshops where the results form part of this stock exchange of IP. DPE organises this information and makes it available publicly, providing the vehicle to collect and to store this stock of IP. The vehicles are the think tanks or workshops and the conferences where the holders of this IP gather. The derivatives of those vehicles are the most important source of information for DPE, who compiles the information into reports.

The main advantages that DPE has in the market place of ideas are the workshops and the website where this collective IP can be posted and disseminated. DPE does not invent anything itself, and, if people stop 'feeding it', there will be nothing new to look at.

The question is whether there is defensible IPR in DPE. If the IP belongs to someone else it is unclear that they would contribute in the knowledge that DPE was then 're-selling' their IP. At the very least DPE would have to compensate those individuals. DPE should find a way to clear IPR issues with its contributors.

⁴¹ Pardo, T. *et al.*, 'Building State Government Digital Preservation Partnerships: A Capability Assessment and Planning Toolkit', Centre for Technology in Government, University at Albany, SUNY.

DPE STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT)

Here we present the three features that are most characteristic of DPE's strengths, weaknesses, opportunities and threats.

Table 2: DPE SWOT Analysis

STRENGTHS	WEAKNESSES
<p>Unique holistic view in the EC Consortium of key players</p> <p>Movement to self-sustainability in the digital preservation sector is a necessity.</p>	<p>The consortium does not include a true business partner who can offer easy solutions.</p> <p>The project will apply specific solutions related to the business environment – this is a weakness because there is no experience from which the consortium can learn directly.</p> <p>A project can offer, but does not have complete freedom to implement, all the necessary activities. While working towards self-sustainability, there will be activities that have not been foreseen and should be supported from other sources.</p>
OPPORTUNITIES	THREATS
<p>The project implementation is a step towards the creation of a preservation-related research infrastructure in the ERA.</p> <p>Created with the idea of assuring future self-sustainability</p> <p>Work on the project can be applied to other sectors (not only to the cultural and scientific heritage sector).</p>	<p>A serious effort is needed to move towards self-sustainability; this requires excellent communication and common action.</p> <p>The project will apply a business approach to activities of organisations, which could be rigid in accepting such novelties.</p> <p>The success of the effort depends on the quality of planning and solutions offered.</p>

In preparing this report we have identified a range of services and other areas of weakness that we need to move actively to address:

- ◆ Success may not necessarily be transferable into long-term sustainability for DPE, in spite of the demonstrated public, cultural, scientific and commercial sector need for information, advice, guidance and continuing professional development in digital preservation and curation.
- ◆ The problem for DPE is how the project can evolve from an activity funded by the European Commission into a self-sustaining business.
- ◆ DPE must build on its success and expand both the community of practice, in digital curation and preservation, and the community of interest, where there are opportunities for it to do more to promote good curation and preservation practice in business, industrial, scientific, academic and public institutions.
- ◆ DPE will need to adopt a commercial approach to creating and marketing products and services.
- ◆ DPE will need to find a balance that enables it to exploit without compromising the trust and credibility that the community has for its products and services.
- ◆ DPE has weaknesses in technique and organisation. It needs a body whose primary task would be to take care of the continuation of the activities.

- ◆ DPE depends upon the goodwill of highly respected experts in the field to contribute information, reports, assessments, and to participate in its seminars and workshops.
- ◆ DPE has to meet challenges posed by Intellectual Property Rights in the content it creates, as well as that created by participants in its events and activities.
- ◆ DPE's ability to build its income streams may benefit from further developing rights clearance and royalty payment models.

DPE may need to develop payment models for contributors to its services, if it moves to a commercial model. DPE will need to improve its penetration of the public and commercial sectors and more explicitly demonstrate its focus on information lifecycle management (ILM).

RISKS TO DPE SUSTAINABILITY

Table 3: Table of risks to DPE sustainability

RISK	Probability 1-5	Severity 1-5	Score P x S	Action to Prevent/Manage Risk
Lack of consensus with community on direction.	2	4	8	<p>The future success of DPE depends heavily on the level of community participation and acceptance.</p> <p>DPE also places great emphasis on the importance of engaging communication with the community.</p> <p>DPE will work to ensure that its deliverables reflect the developing needs of its community.</p> <p>DPE will establish a user focus group from the user community and associate partner network to help us understand which of our services are most valuable to the community and inform us of valuable services we could develop for the future.</p>
High membership drop-off with the introduction of membership fees.	3	4	12	<p>DPE will ensure that the added benefits that come with membership fees are effectively communicated in advance of the introduction of such fees.</p> <p>DPE will conduct a marketing campaign to recruit new members to negate the initial drop-off.</p>
DPE is not able to clear Intellectual property ownership issues with its contributors.	1	4	4	<p>Develop fair and transparent rights clearance and royalty payment models in communication with the highly respected experts on which DPE depends.</p>
By incorporating commercial sponsorship, DPE is no longer considered an impartial source of advice and training in the eyes of its community.	1	5	5	<p>Ensure DPE does not endorse one commercial solution but continues to present a balanced and impartial assessment of the digital preservation problems and possible solutions.</p>

ANALYSIS OF DPE PRODUCTS AND SERVICES

DPE products include communication materials, training materials, networking, risk assessment toolkits and support aspects. DPE services include audit and risk assessment services, solutions/services for digital repositories, professional guidance (consultancy) and legal guidance. The DPE Portal is both a product and a service.

Table 4: Analysis of DPE Activities and Market Prospects

Activity	Potential – proactive use for the self-sustainability of DPE	Contribution to a product/service
<i>Task 1.2: Briefing Papers and Fact Sheets</i>	<p>These materials should address the different market shares (communities of service and communities of interest).</p> <p>A key message should be that preservation is not a matter of choice; it is a matter of necessity.</p> <p>The materials should provide a good overview of the products and services offered by DPE.</p> <p>The image of DPE should be built in a way that will easily be perceived when its activities go to its successor.</p>	Product: promotion materials
<i>Task 1.3: FP6 Preservation Showcase Annual Conference & Awareness Workshops and Presentations</i>	This is a typical dissemination action that should be used not only to present the current activities, but also future plans.	Product: promotion materials, training materials Service: training
<i>Task 1.4: Coordinate and develop collaborative mechanisms for current awareness across Europe</i>	<p>The aim is to develop European input to and dissemination of the European Preserving Access to Digital Information (PADI) Quarterly Preservation digest.</p> <p>Links and cooperation with the Member States Experts Group in the Lund Principles framework supported by the European Commission, with particular reference to the new Dynamic Action Plan (action line IV on digital memory preservation) proposed by the EU Presidencies NL-LUX-UK to the Council of Ministers for approval.</p>	Product: promotion materials
<i>Task 2.1: Creation of a Trainer and Training Materials Repository</i>	These resources should become well known and trusted sources for the various groups of stakeholders.	Product: pool of training materials

Activity	Potential – proactive use for the self-sustainability of DPE	Contribution to a product/service
<i>Task 2.2: Coordination Framework for Training and Education</i>	<p>The needs of the different stakeholders should be met. University programmes should be approached in order to include proper preservation training. The potential of the professional training programmes should be used to offer specialised courses.</p> <p>The creation of a federation of preservation trainers would contribute to building a specialised training infrastructure in the preservation field within the ERA.</p> <p>In order to enhance the professional community, a European Certificate in DP could be introduced.</p>	<p>Products:</p> <p>(networking)</p> <p>Federation of preservation trainers</p> <p>Alumni network (certification)</p> <p>European Certificate in DP</p>
<i>Task 2.3: Coordinate and Deliver DPE Training Programme</i>	<p>Good coordination and keeping records on the training organisations, as well as an alumni network, are important for the outreach of other DPE activities.</p>	<p>Product: training coordination framework</p>
<i>Task 3.1: Inventory of Repository Activities and registration scheme</i>	<p>DPE will identify more comprehensively the repositories that are being established, their focus and their skills set. Repositories will be encouraged to register with the inventory and a benefits scheme will be defined to make this possible.</p>	<p>Solutions/Services for digital repositories</p>
<i>Task 3.2: Development Workshops for key Repository Guidance Documents</i>	<p>Facilitating Repository Development Workshop to deliver guidance on best practices in repository design, management and federation.</p> <p>Report on the Legal Framework</p>	<p>Products: training materials (solutions for digital repositories)</p>
<i>Task 3.3: Facilitating the collection of Repository Experiences</i>	<p>DPE will define a common data collection instrument and conduct interviews with a sample of key repositories.</p>	<p>Products: professional guidance materials</p> <p>Input for consultancy services</p>
<i>Task 3.4: Repository Planning Checklist</i>	<p>Tools that will help organisations with various levels of knowledge to implement a digital repository.</p>	<p>Products: solutions for digital repositories</p> <p>Services: consultancy services</p>
<i>Task 3.5: Unique Identifiers and a Resolver Service</i>	<p>The provision of Unique Identifiers and their resolution is a key challenge in the management of digital materials over long periods of time. There are a variety of technical approaches currently</p>	<p>Products: solutions for digital repositories</p>

Activity	Potential – proactive use for the self-sustainability of DPE	Contribution to a product/service
	available, but these all require an organisational framework to make them effective. DPE will establish a Unique Identifier issuing and resolving service in conjunction with its Partners and this will form a key element in its sustainability strategy.	
<i>Task 3.6: Establishing a generic memorandum of cooperation</i>	Repositories will benefit from being part of cooperating units including other near and distant repositories. Establishing these agreements is difficult. The process could be facilitated through the availability to the community of generic memorandums of understanding	Services: legal guidance
<i>Task 4.1: Collaboration Agreements</i>	Draft and gain acceptance of consortial agreements between the organisations with a current active interest in repository audit and certification at national levels.	Services: legal guidance
<i>Task 4.2: Define audit and certification practices</i>	Construct the protocols for conducting audits at different levels of granularity resulting in certification at different levels.	Services: legal guidance
<i>Task 4.3: Create Self-Audit Tool</i>	Develop tools to enable those organisations that do not wish to subject themselves to full external audits to be able to conduct self-audits and to register the results.	Services: legal guidance and specialised consultancy
<i>Task 4.4: Piloting of the DPE Audit and Certification Scheme</i>	DPE intends to make available a repository auditing service building on work that RLG, CRL, NARA and the DCC are currently undertaking in this area. This will involve a number of pilot audits to demonstrate the efficacy of the scheme and to gain a precise profile of the costs.	Service: audits
<i>Task 4.5: Certification Result Repository</i>	Develop a publicly accessible online self-audit and certification repository database, which would be essential to ensure that the public is aware of those organisations that have good audit practices in place and have achieved certain levels of certification.	Service: audits
<i>Task 4.6: Repository Validation Scheme</i>	Develop, test and roll out the scheme for conducting silver and gold level audits for repositories requiring external validation of their practices.	Products: bronze, silver and gold certificates
<i>Task 5.1: Pilot Research and</i>	The research groups in digital preservation have begun to cooperate	Products: R&D contribute to developing

Activity	Potential – proactive use for the self-sustainability of DPE	Contribution to a product/service
<i>Industrial Exchange Programme</i>	where possible under DELOS' Digital Preservation Cluster, but this cluster looks at preservation in the narrow context of digital libraries and we need to be much broader. We need to exchange researchers across a wider range of domains and to ensure that there is a greater cross-fertilisation of the different technologies that might be of value if they were integrated into the work of the preservation community. The Project will use an open public call for these exchanges. Industrial partners often have difficulty drawing the attention of the research community to their needs in the area of digital preservation. Placements by researchers within the industrial setting often expose them to research opportunities. We will aim to balance these exchanges across these two communities.	training materials, professional guidance and consultancy services
<i>Task 5.2: Creation of a Research Database</i>	While there is much activity in the area of digital preservation and curation, there is no single resource that a researcher can turn to to find out what is going on. This is urgently needed.	Products: (networking) – researchers' network
<i>Task 5.3: European Digital Preservation Challenge</i>	To design and implement an annual European Digital Preservation Challenge as a means of raising awareness among researchers of the aspects of digital preservation.	Service: professional certification
<i>Task 5.4: Next Generation Opportunities</i>	In the vision of FP7, national competence centres are seen as an integral way of ensuring effective development of expertise and services. The design, methods of working and European-wide integration of competence centres will be central to their success. DPE will look at how competence centres might benefit digital preservation and digitisation activities and propose models for their design and integration on a European level.	Product: (networking) – national competence centres
<i>Task 6.1: Partnership Building</i>	This task will focus on business planning and models, and the evaluation of governance, legal, organisational and financial issues and options to achieve long-term collaboration across Europe and sustainability of the activities.	Service: consultancy
<i>Task 6.2: Market</i>	This task will focus on market analysis	Internal products:

Activity	Potential – proactive use for the self-sustainability of DPE	Contribution to a product/service
<i>and Technology Assessment</i>	and the systematic consultation of stakeholders on the benefits (access to joint materials and training, licensing of products, etc.) and the scale of individual national contributions or individual institutional contributions to joint collaboration on a European basis.	market analyses
<i>Task 7.1: Website Launch and Maintenance</i>	This task covers the launch of an interactive virtual point of presence website.	Product and service: web portal.
<i>Task 7.2: Publicity Materials</i>	Creation of logo and design guidelines; Production of project leaflets, press releases, folders, posters and brochures, and conducting of a press awareness campaign; Creation of a standardised project presentation background (e.g. PowerPoint template) and exhibition stands.	Product: communication materials
<i>Task 7.3: Preservation Research Roadmap</i>	Over the past five years there has been much discussion of the kinds of research that are needed in the area of digital preservation, but this has not resulted in a concise and well-developed strategy that represents the views of a broad community. Future research depends upon the availability of such a view. DPE proposes reviewing existing preservation research agendas and publishing an interim cross-walk and review of them in June 2006. This review will be accompanied by a questionnaire and opportunity for public comment during July and August. The final outcome will be the release in October of a Research Roadmap in Preservation.	Product: professional guidance
<i>Task 7.4: Production of a Dissemination Plan</i>	<ul style="list-style-type: none"> • Plenary meetings, workshops, conferences and concertation events will be organised in order to raise awareness and demonstrate the European added value of the transnational cooperation. • Articles and information material will be published in journals, newsletters and the popular press. • Information on the Coordination Action outcomes will also be made available on the Internet, through the development of common web pages and using national and European websites that already exist. 	Product: promotion materials

Activity	Potential – proactive use for the self-sustainability of <i>DPE</i>	Contribution to a product/service
	<ul style="list-style-type: none"> • A set of publications will be produced to present the Coordination Action's outputs in a wider context. This will include an annual report summarising the main achievements and the impact of the Coordination Action in the different partner countries (mainstreaming). • The Coordination Action will establish close relationships with other projects covering similar problems within the IST and other EU-funded or national programmes. Special focus will be placed on developing a working relationship with the National Representatives Group, which plays a core role in ensuring synergy of activity at Member States level and filters down from the Member States' representatives to hundreds of institutions across Europe. 	

FUNDING OPTIONS FOR DPE

There are only four real options for DPE:

- ◆ First, it can seek new sources of grant funding.
- ◆ Secondly, it can seek sponsorship funding.
- ◆ Thirdly, it can seek to take on a commercial model.
- ◆ Finally, it can also seek to merge with other organisations. It will be argued that DPE can combine elements of these first three models to its benefit. Merger, it will be seen, is more problematic.

There are promising approaches that, in combination with existing funding models, could provide DPE with potentially sustainable alternative sources of funding. These approaches include: increased reliance on partnerships aimed at sharing costs and gaining access to content; corporate and private sector sponsorships; and user fees.

GRANT FUNDING

Grant funding can be of two types, grants from foundations and grants from local, national and EU level governments. First, DPE can seek funding from specific foundations such as the Mellon Foundation, which has funded the DSpace Federation Project in the United States. Another example is Lottery funding in the UK. In all cases the preparation of the grant applications are 'studies in heroics'. Donors typically fund programme innovation and improvement, not usually core operations. In this instance DPE has some opportunity. But while it might be possible to have some multiyear funding, for the most part grant funding of this type is one-time-only. This solution also requires a very long period of lobbying and preparation and there is no guarantee of success even if foundations would fund a European project with international application. Key contacts have not recommended this approach for DPE.

Funding from the EU or from local and national governments requires the same long period of lobbying and preparation and again there is no guarantee of success. Each country, in fact each administration, will have different rules and regulations for grants, and the time periods will be different, so the process is complicated. As for DPE getting an extension from the IST programme, this is perhaps more possible. However, since the objective of the study was to seek ways in which it could be self-sustaining, it is not a powerful argument to go back to the Commission and say it cannot be so. A more viable way to deal with the Commission is to seek them as a customer in a semi-commercial model, as described below.

The major problem in the grant model is likely competition for resources. It is extremely unlikely that DPE will be able to convince the Commission that another round of funding is legitimate. There do not seem to be the requisite calls that it can address itself to, nor is there an evident will to increase investment in the activity.

The only way that this approach might work is to mobilise support around the issue of the value of historical data, both economic and societal, using the arguments that the preservation and re-use of this information is the basis of future economic growth and the foundation of the Memory of Europe, an argument that is well presented in the original DPE project proposal.

While these arguments are persuasive in the abstract, it is difficult to pursue them in the particular. Examples of the cost of failure or simulations of crises described later in this report are likely to be

increasingly important to mobilise support. Without an active campaign of awareness raising DPE is unlikely to gain increased grant funding in its present form or in a new iteration. It might be possible to find funding from foundations such as lotteries and perhaps grant foundations but such subventions are almost always one-time-only. While these funds are difficult to access with complicated application procedures they should not be ignored, particularly if some of the new accession states might find themselves in contravention of EU eGovernment regulations through lack of good practice in archiving public administration records.

MEMBER STATES GOVERNMENT AS A CUSTOMER

A more reasonable approach for both national and local governments as well as the EU is to actively seek them as customers. DPE will have to have its national members lobby their local and national governments offering access to DPE services via membership, suggesting that specialised workshops and regional seminars be undertaken. While there will not be total success in this endeavour it is not impossible that some of these will be receptive to the message, especially if the advocacy side of DPE has built the case for this.

DPE could use its expertise to support the development by Member States of National Preservation Plans in response to the Commission's Recommendation *on the digitisation and online accessibility of cultural material and digital preservation*.⁴²

EU AS A CUSTOMER

DPE should also actively seek to have the European Commission as customer, with two niches, 1) where the EC will subscribe to information, and 2) as a target partner within the implementation of the action plan on online accessibility and preservation. For the first niche, while this argument is difficult, especially in the short term where the Commission will naturally view that they had already paid for this information, as new information develops and as DPE increases its lobbying effort it may be possible to argue that other Directorates in the Commission need this advice. *There are enough databases throughout the Commission that they might be the right subjects for this type of information*.⁴³ The lobbying should begin immediately but DPE should understand that it is probably looking at a two-year sales cycle. It is only after the new semi-commercial DPE has already cited other administrations or companies as customers that the Commission could see that the information from the 'old' DPE is out of date and it would be advantageous to subscribe, perhaps with multiple memberships.

The second niche is the natural customer for products and services produced and supported further by DPE (networking, professional guidance, legal guidance, certification services). The situation regarding national preservation policies differs, and there are still EU member states that do not have such programmes. DPE is in the ideal situation to offer consultancy and solutions that cover the complete lifecycle of preservation programme on different strategic levels.

Of special importance are those services for the repositories – generation and retrieval of unique identifiers and certification services – that are uniquely offered by DPE. To assure their wide acceptance, DPE should take care to assure their recognition by the EU.

⁴² (2006/585/EC), 24 August 2006.

http://ec.europa.eu/information_society/activities/digital_libraries/dpc/recommendation/recommendation/en.pdf

⁴³ Costas Dallas, personal communication.

In addition to these two natural niches, DPE should seek to use its potential in other vertical segments (preservation in eGovernment, commercial organisations from different sectors – all sectors that produce and have to maintain vast amounts of documentation in electronic form).

SPONSORSHIP FUNDING

A recent IDC report showed digital preservation escalating to 23.3 % in 2004 with a total turnover of \$1.85B USD, with the largest suppliers being EMC (27%), Veritas (24%), CA (9%), IBM (8%), HP (7%). As a result there is increasing activity in the business sector that could be interested in promoting business opportunities for both software and hardware. This is a marked change from the previous year's market conditions. The digital storage market is 'back on the radar'.

Prior to the economic downturn, the storage market held the attention of suppliers, customers, partners, and Wall Street as one of the highest-growth areas in the IT market. The market has recently returned to positive growth in the United States, and once again eyes are on the storage market. This growth has been fueled by a variety of factors, including consolidation to drive efficiency, product refresh, growing demands from applications such as email, migration from analog to digital records, and regulatory compliance.⁴⁴

With such growth in the sector it might be possible to find sponsorship. Let us now look at whether DPE has the necessary requisites to make it a good candidate for that sponsorship.

First, there is the question of whether DPE has achieved true Name Recognition in the community. It appears that that is the case. DPE does have a respectable number of hits on the Google search engine. With 12,000 on 23 October this is reasonable performance. Industry experts suggest that more than 2000 is used as a benchmark of success.⁴⁵

Regarding the frequency of visits to the DPE website current industry practice is that with 2,000 members a visiting frequency of 1,000 a month would be very good and could be a solid argument for sponsorship to companies and vendors.

The DPE community of practice is about 600 in Europe, and with potential growth to around 4,000. There are potential communities of practice in North America of up to 10,000 and pockets around the world, i.e. an estimated 500 in Asia, 500 in Canada etc.

DPE is already doing quite well in garnering participation from companies, but it must focus on continuing to develop associate partners and user community members. Perhaps these members will become paying customers. At AIIM, corporate sponsorship for the digital storage industry is \$1000USD. DPE has similar potential. DPE should explore sponsorship options with both corporate participants and with companies beyond the DPE community.

COMMERCIAL MODEL

If DPE wishes to move to a user pay model it has to undertake the following strategy, but with the caveat that the key to that strategy is having a new and improved dynamic website.

⁴⁴ IDC, Separating the Hype from Reality: Identifying Opportunities for Partners in the Storage Market. IDC Research Report 31173, April 2004.

⁴⁵ Rufus Lidman, personal communication.

Assuming that there are sufficient visitors to the site as discussed above, advertising support can be anticipated. But there must be the 'honey' that draws those visitors. There must be a very compelling environment where experts, in both the community of practice and the community of interest, who would be of interest to advertisers⁴⁶ find essential information that makes regular visits to the site essential. DPE must find some function that will bring in the decision makers, to use that credibility to then seek support from major businesses. The question then becomes why is there any reason to go to this site? And what are the functions that are 'honey'?

While two or three years ago it was not possible to get people to pay for services on the Internet, today in Sweden, one of Internet's earliest adopters, this is now happening. Nevertheless, a site has to be interesting from a business point of view and attractive for the decision makers to create that kind of synergy and allow both to agree to meet there.

As previously mentioned, users in Sweden will accept usage fees. This change is being felt in both the business to business and the consumer market place. There are over twenty services in Sweden that have now taken this approach and are finding success. Examples are sites where people pay to write articles. This is analogous to the vanity press, where people pay to have their '15 minutes of fame'. Other examples are weight loss sites, where users pay to be part of a community of online 'Weight Watchers'.

A successful example of a site charging for additional value-added services in English is Classmates.com. They offer a free core service that links you to the names of old school friends (who themselves have registered). The site then continually prompts users with email messages - 'you have a new classmate'...you are given the name but if you want to find out more or contact them then you need to subscribe to a Gold Pass costing \$29.95 USD a year.

The real success for this approach is in professional networking services like LinkedIN. Here you are able to find professionals involved in the same field in your local area. A recent analysis showed that over 80 per cent of the important people in the (health telematics) community of interest were LinkedIN. LinkedIN is still at a development stage and is providing its service free, but it is very likely that it will charge in the future.

Should DPE take this approach, it is clear that it will take time. The movement from a free service to a usage fee service is a four-step process:

- ◆ First establish credibility.
- ◆ Then build up a critical mass.
- ◆ When people are accustomed to the site, you add new services with added attractions for existing users, leaving all the free services in place.
- ◆ Then charge for the new services.

DPE should use existing Internet commercial models to develop an evolving charging strategy.

COMMERCIAL SPONSORSHIP

Commercial sponsors can be of assistance in a number of ways. The website has advertising space that can be sold to support its continued operation. However, it is likely that the number of users will need to grow in order to attract such sponsorship.

⁴⁶ For example HP, IBM.

DPE publications can also utilise discreet advertising. This can take the form of banner ads on the DPE website, pop-up advertisements, which while increasingly being deleted by pop-up killers can still be used successfully without irritating the DPE user, and hot links between the mother website and the sites of the sponsors. To interest sponsors DPE will have to market the demographic profile of its user population, both the community of interest and the community of practice, to target potential sponsors. This databank of users will then become a strategic resource for DPE.

But...without very significant traffic volumes and strong brand recognition, the prospect of generating sufficient advertising revenues to sustain the development of online digital content is very limited.⁴⁷

In addition to this, DPE can consider having sponsors for workshop and seminar events, where there is discreet advertising and sales tables available for information purposes for the workshop participants. Commercial sponsors should be encouraged to have trade shows alongside yearly events that DPE will undertake either by itself or in conjunction with other organisations, for example the DLM Forum.

In the area of cross-promotions, vendors with a keen interest in particular technologies, techniques or approaches might be approached to help fund particular reports that can then be made available free of charge to the DPE community of interest and community of practice along the lines of AIIM's approach. These same vendors may also contribute their mailing lists to DPE to improve the reach of the community of practice and the community of interest.

DPE should consider web advertising and sponsorship for workshops and seminars as well as cross-promotions with vendors.

⁴⁷ Wall Communications, 53.

STRATEGIC PARTNERS FOR DPE

Cooperation has been a characteristic of research libraries for the last 50 years, primarily through interlibrary loan. We no longer can afford to build and house redundant print holdings. The national energy grid manages the entire energy resources of the nation. Why can't we do that for research materials? We need a national knowledge resources grid. This would enable the strategic management of our knowledge resources. The UK and Australia are launching national distributed knowledge management systems. We already have implicit last copy repositories for newspapers. Depository libraries for federal documents also could be part of the grid. We should create a preservation federation. We will need to form agreements and enter into contractual relationships to make this federation happen. We should form a standing selection committee to guide the selection and preservation of foreign newspapers. Ownership and control will move away from local loci. Gradually libraries are getting used to providing access to things they don't own. Funding and governance are crucial issues. How to focus the will of the community on such a long-term effort and commitment?⁴⁸

One approach for DPE is to work with other organisations strategically on common goals while maintaining its identity.

*Partnering organizations succeed when they actually achieve results, develop a close, almost seamless, relationship, and have an articulated, shared view as to what they can accomplish together. In short, it is when impact, intimacy, and vision come together that partnering works.*⁴⁹

It is possible to create strategic partnerships with organisations in both North America and Asia to jointly offer new services or to share the costs of workshops and other new applications that are discussed in more detail in this section. It could be anticipated that, if a two-year sales cycle was agreed upon, DPE could at the very least create one strategic partnership for a significant product and undertake some of the activities such as summer schools.⁵⁰

In addition to this, Japanese and Chinese versions of DPE studies could be developed as well as versioning the workshops in those languages, bearing in mind the likely high demand there exists but the real barrier that language presents.

DPE is concerned with building a community of practice in cultural heritage through its workshops and seminars. But to be truly successful and to be self-sustaining, the gatekeepers of community must view DPE as truly value added. Although it is the professionals in the digital preservation field that might value the products and services, it is the business managers that approve the expenditures of the heritage conservation professionals. To make that decision easy, DPE must be perceived as the single most useful source of information. To do that, they need to compete with a number of other services and activities. The best choice is some cooperation agreement between them, otherwise there will be decisions taken to either fund DPE, fund DLM Forum or indeed CHIN, if it moves to a fee-for-service model for extra-Canada users.

⁴⁸ Bernard Reilly, Centre for Research Libraries, Chicago, Preservation Conference Notes 2002–03, University of Michigan, 7–8 March 2002.

<http://www.lib.umich.edu/conferences/preservation/presconfnotes2>

⁴⁹ Ibid.

⁵⁰ Particularly for the European community of practice and community of interest in North America and Asia (Australia).

The table ‘Possible strategic partners for DPE’ summarises data on over 150 bodies that were identified as possible and viable strategic partners or collaborators for DPE. Brief profiles of these organisations are presented in Appendix II.

For convenience, we grouped the organisations into several clusters which flesh up the target markets for DPE around three key activities: **outreach, professional excellence and practice.**

DPE OUTREACH

One of the key tasks for DPE is its better **positioning** in two senses: wider geographical outreach and improved coverage of relevant professional sectors.

To address this key task, our emphasis in identifying strategic partners was on **professional networks, not on single bodies.**

We collected data on organisations in three segments: (1) ALM institutions, (2) professional communities in the preservation/conservation/restoration sector and (3) other professional communities (in particular, eGovernment which also has to approach the task of preservation of vast amounts of data, and knowledge and information management specialists).

ALM Institutions. Here we included associations and coalitions of memory institutions (**archives, libraries, museums**; plus institutions from the sectors of **audio-visual heritage and immovable heritage**).

In this group we concentrated on professional networks. While it is obviously impossible to list here the thousands of individual ALM institutions, we have provided some examples of such institutions that already have shown commitment to preservation.

The professional networking organisations are of four types:

- ◆ Networks of individuals
- ◆ Networks of institutions
- ◆ Networks of networks
- ◆ Mixed networks (individuals, institutions, networks)

DPE should use a different marketing mix in approaching them.

- ◆ For the *networks of individuals*, the approach of presenting DPE should have a highly personal touch – these professionals should upgrade their knowledge on preservation activities, and fully understand what DPE could offer to them as representatives of the community of practice or the community of interest.

To reach the members of networks of individuals, DPE could offer awareness events, distribution of messages through the mailing lists of these bodies, publications in their newsletters, and presentations at their annual fora.

DPE could offer these professionals individual membership in DPE, participation in distance learning courses, subscription to dpeNEWS and dpeBREAKING_NEWS.

It is important to maintain contact with these professionals and distribute information on a regular basis that would help them to contribute to the development of digital preservation in their institutions.

- ◆ For the *networks of institutions*, DPE should find the right professional messages tailored to the community and its experience in preservation. While working with individuals might in the first instance appear too much effort with small outcomes and contributes to individual awareness, this group gives the promise of identifying institutions that would be interested in DPE services and product. Thus the messages of DPE should cover the whole spectrum of preservation activities: from “If you do not do anything about preservation, we could help you to establish your preservation programme” to “If you already have an excellent preservation programme, we would assist you through our audit certification and thus you would raise the level of trust in your resources”.

To reach the members of networks of institutions DPE could offer awareness events, distribution of messages through the mailing lists of these bodies, publications in their newsletters, and presentations at their annual fora. It could also consider agreements on special discounts for members of networks.

DPE could offer institutional membership in DPE, organisation of professional training, spread of information on DPE competitions, identification and presentation of best practices through DPE events, consultancy and audit certification services.

It could also acknowledge the active role in promoting cooperation with DPE, giving special awards or making individuals who contributed to the establishing of institutional cooperation with DPE honorary individual members of DPE.

In the DPE successor there should be an administrator who would take care of the maintenance of activity logs for such cooperation between institutions and DPE.

- ◆ For the *networks of networks*, DPE should offer messages of most general interest that would inform the large professional communities of the most recent developments at DPE. The difficulty in contacting such bodies is that they are not very focused.

As in the previous group, to reach the members of networks of networks DPE could use awareness events, distribution of messages through the mailing lists of these bodies, publications in their newsletters, and presentations at their annual fora. It could also consider agreements on special discounts for members of networks.

According to the standing of these networks in the professional communities, DPE could pose such networks as distinguished partners, if this would contribute to its credibility.

- ◆ For the mixed networks (individuals, institutions, networks) DPE should find the right balance of the approaches discussed above.

Below we present a summary of the individuals and organisations that can be reached through the identified networks. Since some specialists/institutions might be members of different networks, these numbers represent the volume of possible contacts and are not claimed as precise measurements.

Table 5: Projected Possible Size of DPE Membership Community

Coverage – Network Types	Through networks of individuals	Through networks of organisations
Institutions		
Archives	3,400	over 350
Libraries	31,000	over 120,000
Museums	n.a.	over 19,000
Audiovisual heritage	750	over 1,100
Immovable heritage	n.a.	over 40

In the cases where institutions from the preservation sector are still not applying digitisation programmes, DPE could be a key partner in establishing and implementing appropriate solutions. It should also play one more key role, *to promote the understanding of digitisation as a new method for scientific documentation and the necessity of long-term preservation.*

Collaboration with these professional communities might include awareness campaigns, specialised seminars, surveys of the standing of preservation activities, agreements for service provision.

A special membership with clauses on cross-awareness campaigns between DPE and the respective professional coalition will be offered.

Other professional communities (eGovernment, knowledge and information management)

eGovernment-related projects have to solve the issue of long-term preservation of vast amounts of data. For a certain part of the knowledge and information management specialists, long-term preservation is an issue that is an inevitable part of their professional competence.

With its expertise, DPE could be a key partner to institutions from both sectors. It could offer professional consultancy, training and solutions. At this stage, it is important to raise awareness and build up high professional recognition of DPE, its products and services.

DPE AND PROFESSIONAL EXCELLENCE

Another key role of DPE is to contribute to the **advancement of the profession**. To strengthen this process, we identified current competence centres in digital preservation, as well as training programmes that develop the future specialists in this area.

Competence centres in digitisation – These usually have their own preservation programmes, but DPE will play a key role in improving the quality and executing audit and certification services.

Through the MINERVA project, almost 100 organisations in Europe were identified as competence centres in digitisation.⁵¹ These should all be approached as DPE strategic partners. For those not dealing with preservation, it should be introduced as an inevitable element of their future development and DPE could play the role of a consultative body.

Those thirteen centres that are currently dealing with preservation (see the table ‘Possible Strategic Partners for DPE’) could become national contact points or points of specific competence and thus might be considered as future affiliates, although to date such centres are listed only for Austria, Finland, France, Italy and Sweden.

DPE should design special agreements with both types of competence centres, with an emphasis on consultancy and services in the case of the centres without preservation programmes.

Specialised Training Centres/University programmes. Collaboration with these organisations would be training-oriented. Through such centres DPE courses can reach wider audiences of future professionals and establish standards for professional quality.

One option for DPE would be the development of distance learning courses that would offer transferable credits and make agreements with the universities that offer cultural heritage programmes but do not offer preservation courses.

For professional trainings, DPE might offer a course that is recognised by such professional networks as The Chartered Institute of Library and Information Professionals in the UK (CILIP).⁵²

DPE IN PRACTICE

The third key task for DPE is the **constant improving, widening and sustaining of its products and services**. DPE should assure good working connections with large projects in the digital preservation field on the one hand and on the other with the progress-moving force, the companies that offer innovative solutions.

Companies

Companies that develop tools and services for the digital preservation sector could become DPE partners, but all such cases should be considered on an individual basis.

On the one hand, some of the tools could be integrated or re-used in the DPE products and services, with careful consideration of business relationships. On the other hand, DPE might announce an award for the best tools with a specific challenge on each award round which might improve the level of tools offered.

Project repositories, portals

The issues of preservation of content of repositories and portals become of vital importance. DPE can collaborate with portals and repositories providing consultancy on long-term preservation strategies and solutions. Those that have preservation programmes are good candidates for audit certification.

⁵¹ <http://www.minervaeurope.org/competencecentre.htm>

⁵² <http://www.cilip.org.uk/default.cilip>

DPE could consider the creation of a special bundle of services and products for portals and repositories.

EC as a customer

We place the European Commission separately, because of its standing as a possible key client. Its administration produces an immense amount of documentation. Thus it is a natural customer for DPE products and services.

In addition, the expertise of DPE is extremely well suited to serving the EC, with a number of tasks for 2007 and 2008 within the current action plan in the area of online access and long-term preservation of cultural material.

Member States as customers

DPE needs to work with Member States to develop a portfolio of activity that will ensure that it can provide service directly to government agencies, in particular services related to preservation strategic planning and implementation at national level.

Table 6: Possible Strategic Partners for DPE

Institution	Type	Geographical scope	Outreach	Possible collaboration with DPE
ALM INSTITUTIONS				
ARCHIVES				
Archives of Australia network	national	Australia	40 archives	Positioning DPE products and services in Australia/New Zealand Specialised training Joint services in preservation of digitised archival collections Introduction of audit certification services Support for application of audit/certification services
L'Association internationale des archives francophones (AIIF)	Quebec-based, international	world, francophone community	49 institutional members from 47 countries	Promotion of DPE products and services Specialised training Joint services in preservation of digitised archival collections
The Australasian Digital Recordkeeping Initiative (ADRI)	international	Australia, New Zealand	10 public archives from Australia and New Zealand	Positioning DPE products and services in Australia/New Zealand Specialised training, workshops Joint services in preservation of digitised archival collections
Australian Society of Archivists	national	Australia	n.a.	Awareness campaign with a personal touch Training and consultancy to the members of the society
Danish Data Archives	national	Denmark	single organisation	Positioning DPE products and services in Denmark Specialised training Joint services in preservation of digitised archival collections
DLM Forum	international	Europe	43 members	Services to DLM Forum members: repository services, audit certification Joint training events
Electronic Records Archives (ERA)	national	USA	n.a.	Consultancy Joint development of ERA as a service for NARA

Institution	Type	Geographical scope	Outreach	Possible collaboration with DPE
Program				
Encoded Archival Description (EAD)	n.a.	n.a.	n.a.	Further development of EAD to meet the development in digital preservation Cross-promotion
International Council on Archives (ICA)	international	World	over 210 countries and territories	Positioning of DPE in the archival community worldwide Joint training and consultancy services Repository and audit certification services
National Archives of Australia	national	Australia	single body	Positioning of DPE on the Australian market Joint training and consultancy services Repository and audit certification services
National Archives of Denmark	national	Denmark	single body	Joint training and consultancy services Repository and audit certification services Research on data preservation issues
The National Archives, UK: Digital Preservation Department	national	UK	department	Joint training and consultancy services Repository and audit certification services Participation in joint research projects
National Archives and Records Administration Center for Electronic Records	national	USA	department	Joint training and consultancy services Repository and audit certification services Participation in joint research projects
National Digital Archive of Datasets (NDAD)	national	UK	department	Consultancy Participation in joint projects
Open Archives Initiative	international	global	n.a.	Consultancy Specialised training Positioning DPE in the open archives community

Institution	Type	Geographical scope	Outreach	Possible collaboration with DPE
				Development of a set of rules for audit certification of open archives
PRONOM	national	UK	n.a.	Possible use or re-use of DROID tool and PUID service
Society of American Archivists (SAA)	international	USA	USA + 30 countries, over 3400 members	Positioning DPE products and services in USA Specialised training Joint services in preservation of digitised archival collections Introduction of audit certification services
State Records Authority, New South Wales	state	Australia	single body	Consultancy in the area of preservation policy and digital record keeping
UNESCO Archives Portal	international	global	n.a.	Consultancy Joint training programmes

LIBRARIES					
Alliance of Libraries, Archives and Records Management (ALARM)	National	Canada	estimates the sector of information management as 200,000 specialists	Joint training Studies on the current level of preservation programmes in Canada Positioning DPE products and services in Canada	
Association for Library Collections & Technical Services (ALCTS)	US-based, international membership	world	5,000 members (individual and institutional)	Joint development of standards Awareness campaigns Specialised sessions/workshops at ALCTS events	
The British Library	National	UK	single body, serves as an example of national libraries worldwide	Audit certification services Consultancy	
Canadian Association of Research Libraries (CARL)	national	Canada	27 libraries	Joint training/workshops Studies on the current level of preservation programmes in Canada Positioning DPE products and services in Canada	
Canadian Initiative on Digital Libraries (CIDL)	national	Canada	n.a.	Joint training/workshops Studies on the current level of preservation programmes in Canada Positioning DPE products and services in Canada	
Canadian Library Association	national	Canada	2,134 individual members, 471 institutional members	Joint training/workshops Studies on the current level of preservation programmes in Canada Positioning DPE products and services in Canada	
The Chartered Institute of Library and Information Professionals (CILIP)	national	UK	23,000 individual members	Joint professional training programme Offering a new professional certificate	
Conference of Directors of National	international	global	n.a.	High-level awareness campaign	

Libraries (CDNL)				
The Council of Federal Libraries (CFL)	national	Canada	148 member libraries	Joint training Positioning DPE products and services in Canada
Council on Library and Information Resources (CLIR)	national	USA	n.a.	Studies on the state-of-the-art in digital preservation Joint publications
Digital Library Federation (DLF)	international	global, mostly USA	35 partners, 4 allies	Key international digital library partner Joint programme on digital preservation Audit certification Repository services
Florida Center for Library Automation	local	USA	single body	Following the development of local practice Audit certification services
Harvard University Library, USA	local	USA	single body	Following the development of local practice
IEEE Technical Committee on Digital Libraries (TCDL)	international	world	n.a.	Awareness campaigns Training, workshops
International Federation of Library Associations (IFLA)	international	global	1,700 members (associations, institutions, individuals) in 150 countries around the world	Better positioning of DPE products and services in the library community. Joint sessions at IFLA events, training, workshops Negotiation for inclusion of DPE services at promotional rates for IFLA members
Library of Congress, Digital Preservation	federal	USA	single body, national programme	Awareness of best US practices
The Institute of Museum and Library Services (IMLS)	federal	USA	122,000 libraries	Promotion of DPE products and services Joint programmes for training Joint services in preservation of digitised library collections
National Library of Australia: Preserving	national	Australia	single body	Awareness of best Australian practices

Access to Digital Information (PADI)				
National Library of Canada	national	Canada	single body	Awareness of best Canadian practices
National Library of Finland	national	Finland	single body	Awareness of best Finnish practices Audit certification services
National Library of New Zealand	national	New Zealand	single body	Awareness of best New Zealand practices
Online Computer Library Center (OCLC)	international	global	57,000 libraries in 112 countries and territories around the world use OCLC services to locate, acquire, catalogue, lend and preserve library materials	Positioning DPE products and services in the library community Joint programmes for training Joint services in preservation of digitised library collections
The Southeastern Library Network (SOLINET)	regional	USA	2,600 member libraries	Awareness campaigns Training, workshops Audit certification services for member libraries
Wellcome Library	local	UK	single body	Preservation programme for a specialised library collection Audit certification services
MUSEUMS				
European museum forum	international	Europe	45 member states, continent of Europe; connection with 1,400 assessed museums for the European Museum of the Year Award	Awareness campaign Organisation of a seminar for the member institutions with an emphasis on digital preservation of museum collections Study of state of preservation among the members Pilot audit services Repository services offered to members Holistic solution offered to the organisation for a general repository
Finnish Museum Association	national	Finland	384 museums	Awareness campaign Seminars for the member

				institutions with an emphasis on digital preservation of museum collections Pilot audit services Repository services offered to members
Institut für Museumskunde (Institute for Museum Research)	national	Germany	single body	Cooperation on research issues related to preservation Formulation of perspective research trends on preservation in digitisation for museums
The Institute of Museum and Library Services (IMLS)	federal	USA	17,500 museums	Promotion of DPE products and services Joint programmes for training Joint services in preservation of digitised museum collections
Museum Documentation Association (MDA)	national	UK	single body	Joint development of standards
Network of European Museum Organisations (NEMO)	international	Europe	representatives of 32 member states	Awareness campaign Training Solution/services agreement
AUDIOVISUAL HERITAGE				
The Association of European Cinémathèques (ACE)	international	Europe	30 national and regional film archives in Europe	Awareness raising Consultancy Registry services Audit certification Training with an emphasis on moving image materials
The Association of Moving Image Archivists (AMIA)	international	global	especially strong in the USA, Canada, 750 institutional members	Awareness raising Audit certification Training Surveys on the current state and needs of the moving image community
The Association for Recorded Sound Collections (ARSC)	international	global	Over 1,000 members in 23 countries	Awareness raising Audit certification Training Surveys on the current state and needs of the sound

				preservation stakeholders
The Image Permanence Institute (IPI)	national	USA, but this is the largest independent institution of its kind in the world	single body	Cooperation on preservation-related research Formulation of perspective research trends on preservation of images
The International Federation of Film Archives (FIAF)	international	global	Over 130 institutions in 65 countries	Awareness raising Audit certification Training Surveys on the current state and needs of the moving image community
National Film Preservation Foundation	national	USA	Film archives from all US states	Awareness raising Audit certification Training Surveys on the current state and needs of the moving image community
IMMOVABLE HERITAGE				
Archaeology Data Service	national	UK	n.a.	Study of preservation specifics for archaeological data. Preservation services to the community of archaeologists Repository service Audit certification for preservation programmes
International Committee for Architectural Photogrammetry (CIPA)	international	global	national representatives from 46 countries.	Awareness raising campaign Training, workshops at the regular CIPA forums Surveys on the current state and needs of the architectural photogrammetry community.
PROFESSIONAL COMMUNITY IN PRESERVATION				
Arts and the Humanities Data Service (AHDS)	national	UK		Services (repository, audit certification) Joint training programmes
The Canadian Heritage Information Network (CHIN)	national	Canada	1,231 institutions from Canada	Joint services (repository, audit certification) Joint training programmes Positioning of DPE in Canada

Cornell University Library	national	USA	single body	Joint training and consultancy services Contact with organisations which might be interested in repository and audit certification services
Digital Curation Centre	national	UK	single body	Training and consultancy Audit certification Repository services
Digital Preservation Coalition (DPC)	international	global	13 full members, 14 associate members, 3 allied institutions coverage: UK, Ireland, USA, Australia	Joint training and consultancy programme Research Surveys of preservation sector needs and expectations in the UK Offering DPE services
European Commission on Preservation and Access (ECPA)	international	Europe	observes 41 countries	Training and consultancy for ECPA members delivered by DPE Publication of DPE studies and recommendations jointly with ECPA Joint awareness campaigns Official acknowledgement and recommendation of DPE audit certification by ECPA
Global Information Locator Service	international	World	global service	Might be important for the registry services
Information Management Forum	national	Canada	Canada	Key contacts with members of the Archival community in Canada Positioning of DPE in Canada
International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM)	international	global	110 member states	Joint training and consultancy services Contact with organisations that might be interested in repository and audit certification services Promoting digitisation and digital preservations as a new means of scientific documentation on cultural heritage

Internet Archive	national	USA	n.a.	joint preservation programmes audit certification
National Preservation Office	national	UK, Ireland	n.a.	Joint training and consultancy services Contact with organisations that might be interested in repository and audit certification services
The Long Now Foundation	national	USA	n.a.	Joint training and consultancy services Contact with organisations that might be interested in repository and audit certification services
The Museums, Libraries and Archives Council (MLA)	national	UK	national	Joint projects, surveys which aim to cover broader institutional scope in the sense of types of institutions Audit certification programme
National Digital Information Infrastructure and Preservation Program	national	USA	federal	Being informed about the largest projects on access to digital content in the USA Presentation of DPE - positioning in the USA
National Initiative for a Networked Cultural Heritage	national	USA	n.a.	Collaboration on digital preservation products and services Awareness campaign Training, seminars, workshops for research officials
nestor	national	Germany	7 participating institutions	Joint training and consultancy services Joint research Application of repository services and certification audit
Northeast Document Conservation Center (NEDCC)	local	USA	single body	Joint training, seminars, workshops Positioning of DPE in the US community of conservators and curators
Records Management Association of	local	Australia	offices in all territories of Australia	Training, seminars, workshops Positioning of DPE in

Australia				Australia
UKOLN	local	UK	single body	Joint programme on digital preservation Awareness campaigns for the UK Training, seminars, workshops
UNESCO - Memory of World	international	global	national committess in 53 countries	Programme on digital preservation with an emphasis on Africa and Latin America Awareness campaign Training, seminars, workshops
The World Conservation Union	international	global	83 states, 110 government agencies, more than 800 non-governmental organisations (NGOs), and some 10,000 scientists and experts from 181 countries	Joint training and consultancy services Contact with organisations that might be interested in repository and audit certification services Promoting digitisation and digital preservations as a new means of scientific documentation on the cultural heritage
OTHER PROFESSIONAL COMMUNITIES – Knowledge and Information Management; Electronic Publishing				
Association of Learned and Professional Society Publishers (ALPSP)	international	global	350 members, 36 countries, publishes over 10,000 journals	Discussion on preservation options for the electronic publishing market Pilot preservation projects which could then be offered as best practices for this sector Positioning of DPE in the electronic publishing sector
Association of Public Sector Information Professionals (DPI)	national	Canada	n.a.	Awareness campaign
Association of Records Managers and Administrators (ARMA)	international	global	10,000 professionals from USA, Canada, 30 other countries	Positioning of DPE in the records management community Awareness campaign
Canada Institute for Scientific and	national	Canada	single body	Consultancy on the preservation of CISTI's

Technical Information				electronic funds
Coalition for networked information (CNI)	international	global, but mostly USA memberships	222 institutions	Awareness campaign Training, seminars, workshops for research officials
Collaborative Electronic Notebook Systems Association (CENSA)	local	USA	over 35 collaborating institutions	Awareness campaign Training, seminars, workshops
Dublin Core Metadata Initiative (DCMI)	international	global	n.a.	Maintaining work contacts Contribution to content of metadata related to preservation
The Enterprise Content Management Association (AIIM)	international	global, US and UK branches of AIIM	70,000 professionals, 150 countries	Joint training and consultancy services in the specific sectors of DPE Contact with organisations that might be interested in repository and audit certification services Outreach to a wider community that needs preservation services
The European Patent Office (EPO)	international	Europe	32 member states	Programme on digital preservation of patent information Awareness campaign Training, seminars, workshops for standardisation body officials
Finnish Social Science Data Archive	national	Finland	single body	Programme on digital preservation of scientific heritage Training, workshops
Global Knowledge Partnership	international	global	members from about 100 countries	Awareness campaign Training, seminars, workshops for research officials
International Council for Science (ICSU)	international	global	members from 80 countries; partnerships with 13 international organisations	Positioning of DPE in the top governance circles of academies of sciences worldwide Programme on digital preservation of scientific heritage

				Awareness campaign Training, seminars, workshops for research officials
International Council for Scientific and Technical Information (ICSTI)	international	global	50 members	Awareness campaign
Institute for Scientific and Technical Information (INIST)	national	France	single body	Preservation programme for publications in electronic form
International Association of Scientific, Technical and Medical Publishers	international	global	about 100 publishers	Positioning of DPE in the publishing industry Awareness campaign
ISO 'Archiving Standards' (Open Archival Information System)	international	global	n.a.	Collaboration on standards
International Records Management Trust	UK registered	international projects	n.a.	The Trust is a model for a continuous support organisation Some overlap in community of interest Repository services and audit certification might be an option
Joint Information Systems Committee (JISC)	national	UK	n.a.	Preservation programme for its documentation and projects
Records Management Society	national	UK	n.a.	Positioning of DPE in records management society Awareness campaign
Society for Imaging Science and Technology (IS&T)	international	global	2,000 members in 36 countries	Joint sessions at IS&T events Training programmes offered to IS&T members Establishing a joint research programme on issues of image quality and compression

Supporting Institutional Records Management	national	UK	single body	Awareness campaign
Technical Advisory Service for Images (TASI)	national	UK	single body	Joint training and consultancy services on preservation-related matters Research on issues of image quality and compression
Workflow Management Coalition	international	global	285 member institutions	Positioning of DPE in the workflow management community Awareness campaign
The World Summit on the Information Society	international	global	n.a.	DPE should find suitable forms to be present at the subsequent forums and publications
OTHER PROFESSIONAL COMMUNITIES – eGovernment				
<p>Access to Information and Privacy, Justice Canada</p> <p>Association of Public Sector Information Professionals (DPI)</p> <p>Centre for Technology in Government, New York</p> <p>Centre for Collaborative Government</p> <p>Chief Information Officer Branch (CIOB)</p> <p>The Commonwealth Centre for Electronic Governance</p> <p>Department of Defense (DoD) Standard: Records Management Application</p> <p>DG.O (Digital Government)</p> <p>Digital Opportunity Task Force</p> <p>FedWorld U.S. Government Information Locator Service</p> <p>FDTF Frequently Used Sites - U.S. Government Information</p> <p>Government of Canada Core Subject Thesaurus</p>				<p>This is a mixture of organisations, task forces and initiatives.</p> <p>These are seen as ways to promote the importance of digital preservation within the eGovernment community and to help in the positioning of appropriate products and services for governmental agencies</p>

<p>Government of Canada Internet Guide, Treasury Board of Canada, Ottawa</p> <p>Govtalk-initiative</p> <p>The Institute for Government Information Professionals - Public Works and Government Services Canada</p> <p>National Archives - IM Product list for the federal government</p> <p>Protection of Personal Information and Electronic Documents Act</p> <p>Records, Document and Information Management System (RDIMS)</p> <p>Records Management Society</p> <p>UK Central Government Web Archive</p> <p>World Bank (Evidence based Governance)</p>				
COMPETENCE CENTRES IN DIGITISATION (especially in digital preservation)				
The Centre for Internet Research	national	Denmark	Denmark	<p>Possible national contact point for DPE successor in Denmark, with expertise in preservation of Internet content</p> <p>Joint training and consultancy services</p> <p>Contact with organisations that might be interested in repository and audit certification services</p> <p>Joint research in the field of preservation of digital content</p> <p>Outreach to organisations outside the cultural heritage field</p>
Centre for Microfilming and Conservation, Helsinki University library	national	Finland	Finland	<p>Possible national contact point for DPE successor in Finland, with expertise in preservation of digitised library collections</p> <p>Joint training and</p>

				<p>consultancy services</p> <p>Contact with organisations that might be interested in repository and audit certification services</p> <p>Joint research in the field of preservation of digitised printed material and preservation of web content</p>
The Finnish Film Archive	national	Finland	Finland	<p>Possible national contact point for DPE successor in Finland, with expertise in preservation of audiovisual content</p> <p>Training and consultancy services</p> <p>Contact with organisations that might be interested in repository and audit certification services</p> <p>Joint research in the field of preservation of recorded sound and moving images</p>
Istituto Centrale per la Patologia del libro (ICPL)	national	Italy	Italy	<p>Possible national contact point for DPE successor in Italy, with expertise in preservation of library materials</p> <p>Training and consultancy services</p> <p>Contact with organisations that might be interested in repository and audit certification services</p> <p>Joint research in the field of preservation of digital content perspectives in digital media preservation</p>
Joanneum Research (Graz)	national	Austria	Austria	<p>Possible national contact point for DPE successor in Austria, with expertise in preservation of audio-visual material</p> <p>Training and consultancy services</p> <p>Contact with organisations that might be interested in repository and audit certification services</p>

				<p>Joint research in the field of preservation of digital content</p> <p>Outreach to organisations outside the cultural heritage field</p> <p>Research on preservation and restoration of digital audio-visual material</p>
Koninklijke Bibliotheek – KB	national	The Netherlands	The Netherlands	<p>Possible national contact point for DPE successor in the Netherlands, with expertise in long-term preservation</p> <p>Joint training and consultancy services</p> <p>Contact with organisations that might be interested in repository and audit certification services</p> <p>Joint research in the field of digitisation of library collections, long-term preservation, and storage of websites.</p>
Kungliga Biblioteket Sveriges (Royal library of Sweden)	national	Sweden	Sweden	<p>Possible national contact point for DPE successor in Sweden, with expertise in preservation of Internet content</p> <p>Training and consultancy services</p> <p>Contact with organisations that might be interested in repository and audit certification services</p> <p>Joint research in the field of preservation of digitisation of printed material and preservation of web content</p>
Lantmäteriet (Swedish Land Survey Authority)	national	Sweden	Sweden	<p>Possible national contact point for DPE successor in Sweden, with expertise in preservation of maps</p> <p>Consultancy and training services</p> <p>Contact with organisations that might be interested in repository and audit</p>

				<p>certification services</p> <p>Joint research in the field of preservation of maps on the web</p> <p>Conduit to the community working with various types of maps</p>
National Archives (Finland)	national	Finland	Finland	<p>Possible national contact point for DPE successor in Finland, with expertise in long-term preservation of archival collections</p> <p>Consultancy services</p> <p>Contact with organisations that might be interested in repository and audit certification services</p> <p>Joint research in the fields of digitisation of archival material, long-term preservation of digital material</p>
National Archives – NA (The Netherlands)	national	The Netherlands	The Netherlands	<p>Possible national contact point for DPE successor in the Netherlands, with expertise in long-term preservation of archival records</p> <p>Consultancy and training services</p> <p>Contact with organisations that might be interested in repository and audit certification services</p> <p>Joint research in the fields of digitisation of archival records, records management, long-term preservation</p>
National Audiovisual Institute for sound and audiovisual documents (INA)	national	France	France	<p>Possible national contact point for DPE successor in France, with expertise in preservation of audiovisual archives</p> <p>Consultancy services</p> <p>Contact with organisations that might be interested in repository and audit certification services</p>

				Joint research in the field of preservation and management of audiovisual archives
Riksarkivet (National Archives of Sweden)	national	Sweden	Sweden	<p>Possible national contact point for DPE successor in Sweden, with expertise in preservation of archival material</p> <p>Consultancy and training services</p> <p>Contact with organisations that might be interested in repository and audit certification services</p> <p>Joint research in the field of long-term preservation of archival material in digital form</p>
Statens ljud- och bildarkiv (The National Archives of Recorded Sound and Moving Images, Sweden)	national	Sweden	Sweden	<p>Possible national contact point for DPE successor in Sweden, with expertise in preservation of audio-visual content</p> <p>Training and consultancy services</p> <p>Contact with organisations that might be interested in repository and audit certification services</p> <p>Joint research in the field of preservation of recorded sound and moving images and databases on these items</p>
SPECIALISED TRAINING CENTRES				
HATII		UK	single body	<p>Joint training programmes/courses</p> <p>Distance learning courses</p> <p>Offering case studies for the study programmes</p> <p>Offering of internships through the network of DPE partners</p> <p>DPE student award</p> <p>DPE student grant for attending a DPE international event</p>

International Academic Projects Ltd (IAP)		UK	single body	
Università di Urbino		Italy	single body	
University College Dublin		Ireland	single body	
University of British Columbia		Canada	single body	
University of Illinois at Urbana-Champaign		USA	single body	
University of Manitoba		Canada	single body	
University of Toronto		Canada	single body	
COMPANIES and PROACTIVE-ORIENTED RESEARCH				
Digital Knowledge Ventures	commercial company	USA	n.a.	Joint training and consultancy services Joint projects Certification of company's customers
EDP Sciences	subsidiary of learned societies	UK	n.a.	Developing a preservation strategy Joint training and consultancy services Joint projects Audit certification services
Electronic Publishing Initiative at Columbia (EPIC)	local initiative	USA	USA	Joint training and consultancy services Developing a preservation strategy Joint projects Certification of company's customers
Institut francophone des nouvelles technologies de l'information et de la formation (INTIF)	international	global	Francophone community	Developing a preservation strategy Joint training and consultancy services Joint projects Audit certification services
Iamusediffuse	n.a.	n.a.	n.a.	Developing a preservation strategy

Records Continuum Research Group, Monash University, Melbourne	national	Australia	n.a.	Developing a preservation strategy Joint training and consultancy services Positioning of DPE in Australia Joint projects Audit certification services
Research Libraries Group (RLG)	international	global	150 member institutions	Developing a preservation strategy Joint training and consultancy services Joint projects Audit certification services
PROJECTS, WEB REPOSITORIES				
American Memory	website	USA		Study as possible good practice Suggest improvements to preservation concept applied Audit certification
America's Library	website	USA		Study as possible good practice Suggest improvements to preservation concept applied Audit certification
Birth of the Dot Com Era	website	USA		Study as possible good practice Suggest improvements to preservation concept applied Audit certification
CAMiLEON	project	USA		Learn from the experience Organise joint awareness events
CURL Exemplars in Digital Archives (CEDARS)	project	UK		Learn from the experience Organise joint awareness events
Data-PASS (Data Preservation Alliance for the Social Sciences)	project	USA		Learn from the experience Organise joint awareness events
DAVID- Digital Archiving in Flemish Institutions and Administrations	project	Belgium		Learn from the experience Organise joint awareness events

Digital Preservation Project, University of Edinburgh	project	UK		Learn from the experience Organise joint awareness events
Early Canadiana Online (ECO)	website	Canada	global (users)	Training and consultancy services Repository and audit certification services
ECHO DEPository – Exploring Collaborations to Harness Objects in a Digital Environment for Preservation	project	USA		Learn from the experience Organise joint awareness events
The European Digital Library Project (EDLProject)	project	EU	17 national libraries	Learn from the experience Organise joint awareness events
The European Library (TEL)	portal	EU	47 national libraries	Learn from the experience Organise joint awareness events
The FEDORA project	project	USA	n.a.	Learn from the experience Organise joint awareness events
Forum for Metadata Schemas Implementors	project	EU	n.a.	Learn from the experience Organise joint awareness events
Harmony	project	USA, Australia, UK	3 institutions	Learn from the experience Organise joint awareness events
International Research on Permanent Authentic Records in Electronic Systems (InterPARES)	project	Canada	n.a.	Learn from the experience Organise joint awareness events
KADO Korea Knowledge Portal	portal	Korea	n.a.	Learn from the experience Organise joint awareness events
The Metadata Engine Project	project	EU	n.a.	Learn from the experience Organise joint awareness

				events
Metaarchive	project	USA	n.a.	Learn from the experience Organise joint awareness events
National Geospatial Digital Archive (NGDA), North Carolina GDA project	project	USA	n.a.	Learn from the experience Organise joint awareness events
The National Science Digital Library (NSDL)	portal	USA	n.a.	Training and consultancy services Repository and audit certification services
National Scientific Data Management: Applications with Electronic Records	project	USA	n.a.	Learn from the experience Organise joint awareness events
North Carolina Geospatial Digital Library	project	USA	n.a.	Learn from the experience Organise joint awareness events
Pandora Archive - Preserving and Accessing Networked Documentary Resources of Australia	web archive	Australia	n.a.	Study as a possible good practice Suggest improvements to preservation concept applied Audit certification
Portail international archivistique francophone (PIAF)	portal	Francophone world community	global, francophone community (users)	Training and consultancy services Repository and audit certification services
Portico	infrastructure	US	n.a.	Learn from the experience Organise joint awareness events
Preserving Digital Public Television	project	US	n.a.	Learn from the experience Organise joint awareness events
Preserving the Electronic Records Stored in a Records Management	project	US	n.a.	Learn from the experience Organise joint awareness events

Application				
Renardus Project	project	international	n.a.	Learn from the experience Organise joint awareness events
SCOLA	project	US	n.a.	Learn from the experience Organise joint awareness events
State of Victoria Electronic Record Project	project	US	n.a.	Learn from the experience Organise joint awareness events
Testbed Digitale Bewaring (the Netherlands)	project	The Netherlands	n.a.	Learn from the experience Organise joint awareness events
Web-at-Risk – A Distributed Approach to Preserving Our Nation's Political Cultural Heritage	project	USA	n.a.	Learn from the experience Organise joint awareness events
World Digital Library	project	international	n.a.	Work on the preservation strategy (distributed international repository) Perform certification of preservation programmes of participants
TOOLS				
CROSSREF				Learn from the experience Incorporate products/services if needed Regularly update the available information on their products and prepare comparative fact sheets
DOI system				
Global Digital Format Registry Project				
JHOVE				
KB Preservation Manager				
LOCKSS, CLOCKSS				
National Library of New Zealand Metadata Extractor				
PANIC				
Typed Object Model				
Virtual Remote Control				
EC				
EC's Audiovisual Service				Training and consultancy services Repository and audit certification services
Digital Library Initiative				Contribution to policy building

	Participation in policy implementation
Information Society	Participation in projects Identifying ICT sectors in need of improvement or introduction of preservation programmes

NEW SERVICES FOR DPE

DPE Advocacy

An important new product that DPE could develop is DPE ‘Advocacy’ where a combination of online forums, newsletters and push marketing will make decision makers aware of the real dangers of ignoring the issues of digital preservation. The strategy is to build on DPE’s real success in mobilising the community of practice to mobilise a broader community through information on the need for legislation or the installation of best practice approaches in public administrations at the local, national and EU level as well as relevant corporations with significant digital preservation issues to resolve.

DPE Advocacy would probably work best by versioning two of the existing products to form Advocacy Chat and Advocacy Forum. These tools can be a powerful force if DPE can find moderators that are highly interested in the topics and take it upon themselves to educate European and indeed world opinion leaders.

The second new service is DPE news that will be push marketed to the world community. This is a vehicle to greatly expand the reach of DPE and to identify both practitioners and decision makers in local governments, national governments, corporations and public bodies that have a keen interest in digital preservation. It will be directed more to the implication of a lack of action than to the issues of how to. The ‘toolbox’ is well represented in other DPE products. This newsletter will draw users to the site, both in Europe and internationally.

It would be best to have two types of news. The first would be a weekly newsletter called *dpeNEWS*. When potential users ask to subscribe, it is entirely legitimate for DPE to ask some questions about the user and to add this information to its database and names to the community of practice, which can now move from being Euro-centric to worldwide.

Focused advertising can take the usual forms of free publicity, sending copies and announcements of the new products to all the known projects, associations and centres of interest in the digital preservation arena, using the Directory as a basis for this mailing list.

The second product is *dpeBREAKING NEWS*. Here the DPE project decides each morning if there is anything important enough about which to inform its community of practice. This is where DPE uses a tool that is both informative and also a tool for advocacy building. It can be a powerful mobilisation force to involve the community in lobbying at the local, national and EU level, and indeed in communities outside Europe.

DPE should institute two new electronic products in the context of increased advocacy: *dpeNEWS* and *dpeBREAKING NEWS*.

DPE Solutions-on-demand

To address the current development trends, DPE can offer solutions on demand, which combine products, consultancy and certification according to organisational needs. This is an important component of the DPE positioning since the emphasis is that it has all the necessary knowledge, solutions and credibility and saves time and money for its customers.

DPE Simulation and Experimentation Services

DPE can collect a series of testimonials from important leaders in the field as to the critical importance of digital preservation and the need for concerted government and industrial action before there is a major disaster. It is a matter of pre-positioning so that, when there is evidence of a scandal in records keeping or the occurrence of an unfortunate flood or fire, DPE can be seen as a leader. One strategy might be for DPE to work with commercial sponsors to organise the simulation of such a digital disaster as a demonstration project.

DPE should consider sponsoring simulations of digital disasters or crises.

Charging for New Services

The new services that DPE can charge for are of three types. First, it can make decisions similar to the OECD model⁵³ that certain, highly valued studies are only available as charged items. Secondly, DPE can charge market rates for its highly valued Seminars and Workshops. Thirdly, DPE can undertake customised workshops on digital preservation for specific companies, industrial groups and for public administrations focusing on their specific needs.

Charging for Highly Valued Reports

Other organisations with highly respected reports and publications such as the OECD take the approach of making most documents available free of charge but charging for flagship publications. This is not to say that this is an easy process. DPE has to be careful how this is employed and to develop a clear policy as to which of its publications warrant this approach.

DPE must develop a policy on the compensation of its contributors. Authors should either be paid a sign-off fee or compensation. (See the section of Intellectual Property below.)

DPE can then begin charging for new high-quality reports, sharing the income with the authors along the model used by the Organization for Economic Cooperation and Development (OECD). Decisions will have to be made on the level of charges, but the model that OECD uses offers short reports, i.e. fewer than 200 pages, for between 24 and 50 Euros, and large reports for 65 to 76 Euros, with CDR collections for 180 Euros.⁵⁴

DPE should consider charging for new high-value reports.

Charging Market Rates for Workshops

Currently, in most cases DPE workshops break even; however, in some cases it appears that the revenue from registrations only covered half of the direct costs. This also assumes that in most cases the hosting organisation has accepted the venue costs. If we assume that DPE would need to have between 35 and 50 per cent mark-up for overheads and for profit, then the real charges for participation would not be 100 or 150 Euros but 300 to 450 Euros, which is more consistent with current industry practice.

The seminars and workshops are DPE's basis of success and are greatly appreciated by participants particularly because they have high-profile speakers.⁵⁵ If these workshops and seminars are being

⁵³ <http://www.oecd.org>

⁵⁴ <http://www.oecdbookshop.org/oecd/index.asp?lang=e>

⁵⁵ Interview with Wendy Duff, June 2004.

undertaken at market cost, it is more problematic for DPE to attract the same quality of speakers even if they are paid and especially if DPE was to tailor its workshops to particular clients in industry and public administrations. Speakers may not be willing to undertake the work necessary to prepare for this sort of activity and in fact it might be construed as a conflict of interest with their existing organisations. This approach would affect the ability to get the 'big names' involved. These individuals would have to be paid for their presentations.

There are a number of considerations for DPE in this decision, not least of which is the consideration whether it can still attract the quality of speakers it has in the past. One thing DPE cannot accept is to lower the quality of its products if it charges commercial rates.

The market tends to discount a seminar with a price that is too low, regarding it to be of low quality. There might be a compelling argument for DPE to begin to charge market rates, especially since the evaluations suggest high levels of satisfaction and general agreement that they are good value for money. Therefore there might be room for increasing the cost.

DPE can charge a more equitable market rate for its workshops, perhaps not raising the rate to 450 Euros in one fell swoop, but perhaps over a three-year period, first raising charges to 250, then a year later to 350 and finally moving this to 450 Euros. Consideration could be given to varying the rate depending on the cost and scope of the workshops, i.e. workshops at 100, 150, 200 etc. If workshops are charged at full commercial rates it may be necessary to offer an honorarium of 500 to 1,000 Euros to contributing speakers.

DPE should gradually increase charges for workshops to market rates over a three-year period.

Undertaking Bespoke Workshops for Industry and Institutions

Another approach is to deliver tailored workshops for individual companies, organisations and administrations. In this situation DPE would approach a company with a proposition that for 2,500 Euros it will put on a tailored seminar for up to a dozen individuals. DPE could then prepare seminars on demand with the companies or sponsoring organisations getting exactly the content they require.

While the issue of whether DPE can continue to secure high calibre speakers will still apply, this model allows DPE to carry out advocacy work, bring in potential sponsorship candidates and serve the needs of the community of interest and the community of practice at the same time.

DPE can market custom designed and versioned workshops on digital preservation to companies, institutions and administrations that focus directly on the specific needs of those clients. DPE can offer this service for 2,500 Euros, which is the current market value for such a service.

DPE should undertake bespoke workshops for organisations and industries.

Summer/Winter Schools and CPD

While it is debatable whether Europe has the state-of-the-art technology and practice in digital preservation to compare with North America, Europe does have the world's most extensive physical archives and has some of the largest challenges in digitising these. Europe has a unique environment in

that in the world of professional tourism it is very attractive. As a result, DPE should actively market itself to the world community of practice and indeed the world community of interest to bring groups to Europe for Summer/Winter Schools and CPD.

The first of these opportunities is to organise an annual study tour where DPE experts accompany attendees on site visits where they are provided with practical examples of challenges and solutions to digital preservation issues. DPE can either offer these as packages or work with selected world-class organisations to draw the interest of their members. Examples of these organisations that come to mind are OCLC in the United States; CHIN in Canada and PADI in Australia, where DPE can build upon the goodwill and close relationships that already exist. It may be possible for some part of this to be underwritten by vendors, since in many cases it will be their applications that are being highlighted

This model might be varied slightly to base this professional learning and experience at a specific location during the summer vacation. The largely vacant resources of universities can be used to host a summer study session of two to three weeks including some field trips to round out the experience with site visits to demonstrate particular challenges and highlight solutions. This could be a development of the very successful DELOS Digital Preservation Summer School in which many of the DPE partners are already engaged.

CHARGEABLE SERVICES FOR DPE

In the context of a new DPE, existing services are free, but DPE should charge for membership and high-value reports. In addition to this, DPE can gradually bring its workshops up to market level pricing and it should market and charge for customised workshops and seminars for companies, institutions and administrations.

Membership Charges

A review of the various options that exist for membership suggest that there are a number of models in other not-for-profit organisations that are useful for the DPE model. These are the IEEE, the DLM Forum, and AIIM among others. There are many other options, some of which are described in the Appendixes, but these three are considered the best for DPE to borrow from, in relation to categories of membership and price points for this. From these we can conclude that DPE could expect to charge 100 to 150 Euros for an individual membership, and around 750 Euros for corporate or institutional membership. DPE should also have a low-cost concession membership of around 25 Euros.

Given that it is administratively easier to collect a once-a-year subscription than to have to charge for all the different services that DPE would provide, it is argued that a membership with access to services is the best approach. This option can be extended to include increased services and influence over DPE advocacy and positioning at events for an increased membership fee. On that basis DPE might consider a model such as the following:

- ◆ Individual Members – all the services of DPE for 100 Euros a year;
- ◆ Corporate Members – all the services and ability to have workshops tailored to their industry for 750 Euros a year;
- ◆ Gold Members – all of the above and the ability to sit on the Advisory Committee and influence the lobbying effort, as well as preferred space in the annual conference for 2,500 Euros a year;
- ◆ Friends of DPE – low-cost membership for students, the retired and those outside the field but interested in digital preservation who can serve as messengers of the digital preservation ‘creed’ for 25 Euros a year.

It is recommended that DPE establish a committee of the DPE partners and most active members of the DPE community to prepare a report on the necessity of moving to a membership model and share this with the community at the next major seminar. If this is not possible, another approach is to establish a discussion forum on the idea with an objective of achieving consensus on the approach.

Chargeable Audit Services

Small and medium-sized repositories could benefit from access to consultancy services to implement risk-based assessments. DPE should investigate how it might establish such a service. The work to support the federation of repositories could provide the foundation for chargeable activities.

What Individuals and Organisations are Likely to pay for these Services

The community of practice will pay for memberships, and inroads will be made in the community of interest with the Friends of DPE rate (discussed above). While there will be some drop-off of interest from the community of practice it is anticipated that the bulk of the current community work for institutions that will be able to contribute a yearly professional membership. Besides, there is great interest in DPE beyond Europe and it can be estimated that an increase in membership will be garnered in that context.

The existing DPE community of practice will pay for the gradually increased costs of the workshops as long as DPE does not lower the quality of the speakers, which are the main draw for these events. While there may be some increased international interest in these workshops, this is most likely to occur with workshops offered in conjunction with an existing high-level conference to make the expense of international travel practical.

Due to the increased activities in the commercial sector discussed above it might also be possible to secure sponsorship from the vendor community⁵⁶ to cover the costs of workshops. Interest in promoting business opportunities for both software and hardware would largely come from companies such as publication service providers, repository management agents, national depositories, insurance companies, pharmaceutical companies, media companies and national and local administrations, and any organisation with mission-critical issues related to digital preservation and access to information.

⁵⁶ Large suppliers such as EMC (27%), Veritas (24%), CA (9%), IBM (8%), HP (7%).

WHAT WILL THIS COST DPE AND WHAT WILL IT GAIN?

The costs that we are able to estimate at this time are the increased costs of the new activities, which we can see below are more than covered by the membership fees, the sale of high-value reports and charging market price for workshops and bespoke workshops.

Expense and income for advertising is very difficult to estimate and has been left out of this analysis. However, it is anticipated that the marketing position will be able to find solutions for this in the first year of operation and it should appear on the balance sheet in the second year of the 'new' DPE. In addition, sponsorship income has been left out of the equation; it will take some time for the marketing to achieve success.

A strategic issue is how the identifier services should be charged – whether they would be sustained through EU support, or whether the institutions should cover the issue of identifiers.

INCREASED EXPENSES

DPE will offer honoraria of at least 500 Euros to workshop speakers and forum and chat leaders. Assuming that there are five workshops and seminars a year and two bespoke workshops, each of which have five speakers or moderators, the cost is approximately 19,000 Euros a year.

DPE will have to compensate authors for high-value reports. Because of the cooperative nature of DPE, this is estimated to be 2,000 Euros honoraria for clearance of rights. It is estimated that two reports will be produced in the first year at a cost of 5,000 Euros.

DPE will have to add one man-year dedicated to marketing. A rough estimation is that it will have to pay around 50,000 Euros a year for this added responsibility and a travel budget of approximately 30,000 Euros, giving a total expense of 80,000 Euros.

DPE will have to add one half person-year to the task of creating the dpeNEWS and DpeBREAKING NEWS. This will be at an added cost of approximately 30,000 Euros. The content itself will come from Google registered searches that will be delivered to the incumbent's mailbox each morning. Editing this and sending it out to mailing lists is about a half-day job.

DPE will have to hire an organiser for the bespoke workshops. It is likely that this person would have to be paid half of the fee at a cost of 1,000 Euros. Assuming two of these will be held in the first year the total costs would be 2,000 Euros.

DPE will hire organisers for the study tours or summer schools. Assuming that one is held per year it could be organised for a fee of around 10,000 Euros. It is assumed that key DPE participants, assisted by the contract organiser, will organise the visits. Since participants will pay for their own food and accommodation, the cost of this is about 15,000 Euros, assuming that one summer school is held each year.

The total cost of the new activities and services is:

Table 7: Cost of New DPE Services

Web portal re-design	5,000
Honoraria	19,000
Bespoke workshops	2,000
IPR clearance	2,000
Marketing	80,000
News	25,000
Tours/Summer School	15,000
Total	148,000

INCREASED INCOME

DPE expects to see a drop in current members of about 25 per cent when it moves to charging for membership. Assuming that it can expect about 25 corporate memberships and 425 individual memberships, this brings a total income of 61,500 Euros.

Through increased marketing, DPE may expect to get 2% of a 20,000 market in the first year, yielding about 600 paying members. Assuming 5% of that is corporate membership, DPE can expect 53,000 Euros in new memberships. With an estimated 100 additional 'Friends of DPE' concession members, the total is 116,750 Euros.

DPE will sell 1,000 electronic copies of two reports priced at 50 Euros for an income of 10,000 Euros.

DPE will charge 200 Euros for each participant at five workshops. Assuming that participation is constant at around 80, in total we can assume that 300 participants will contribute 75,000 Euros, resulting in 30,000 Euros in new income in the first year.

DPE will only undertake two bespoke workshops in the first year; income from these will be 5,000 Euros.

DPE can expect 25 participants for a study tour or a summer school. This could be charged at a rate of 500 Euros, bringing a total income of 12,500 Euros.

DPE can anticipate at least one commercial sponsor during the first year of the 'new' DPE. It is likely that the sponsor will begin as a 'Gold' member. As a result, DPE can anticipate an increased income of 2,500 Euros a year.

The total income from these new charges is:

Table 8: Projected Income from DPE charging

Membership Fees	116,750
Sale of Reports	10,000
Workshops	30,000
Bespoke Workshops	5,000
Tours/School	12,500
Sponsorship	2,500
Total	176,750

Based on the calculations above, we can see that the new activity should break even in the first year, even with conservative estimates of income and rather high estimates of costs. As a result, it can be concluded that it would be worthwhile for DPE to undertake these activities.

STRENGTHS OF DPE AND CHALLENGES TO ADDRESS DPE STRENGTHS

From the above we can conclude that DPE has the following strengths:

1. DPE has had great success in achieving complex and challenging objectives.
2. DPE has strengths of market profile and position, and benefits therefore from competitive advantage.
3. DPE has established institutional and professional relationships, some formal and others informal.
4. DPE is in the invaluable position of already being in possession of firmly established relationships with participants, information resource users, and would-be-customers within the targeted market.
5. DPE has gained a position of trust and reliability within its targeted market and this gives it a unique potential and high market potential.
6. DPE offers a commodity that is in short supply – advice and services that are not tainted by particular commercial or vendor perspectives.
7. DPE services reflect its target market, their digital preservation and curation needs, and experience.
8. The invaluable goodwill that DPE has established, its brand, the relationship with the user community it has cultivated, and its high profile in the minds of potential customers puts DPE in a strong position to exploit the business potential of first mover advantage at European level in what is currently a niche market but one that is increasingly becoming mainstream.

DPE CHALLENGES

1. This success may not necessarily be transferable into long-term sustainability for DPE, in spite of the demonstrated public, cultural, scientific and commercial sector need for information, advice, guidance and continuing professional development in digital preservation and curation.
2. The problem for DPE is how the project can evolve from an activity funded by the European Commission into a self-sustaining business.
3. DPE must build on its success and expand both the community of practice in digital curation and preservation and the community of interest, where there are opportunities for it to do more to promote good curation and preservation practice in business, industrial, scientific, academic and public institutions.

4. DPE will need to adopt a commercial approach to creating products and services, and to marketing them.
5. DPE will need to find a balance that enables it to exploit the trust and credibility that the community has for its products and services without compromising on either trust or credibility.
6. DPE has weaknesses in technique and organisation.
7. DPE depends upon the goodwill of highly respected experts in the field to contribute information, reports and assessments, and to participate in its seminars and workshops.
8. DPE has to meet challenges posed by Intellectual Property Rights in the content it creates and that created by participants in its events and activities.
9. DPE's ability to build its income streams may benefit from further developing rights clearance and royalty payment models.
10. DPE may need to develop payment models for contributors to its services if it moves to a commercial model.
11. DPE will need to improve its penetration of the public and commercial sectors and more explicitly demonstrate its focus on information lifecycle management (ILM).

DPE EXPLOITATION PLAN

For DPE to be self-sustaining and profitable within the field of electronic commerce two factors are crucial.

- ◆ First, there is a need for the identification of a highly fragmented market niche with a high revenue and growth rate, populated by early adopting customers and a low degree of competition.
- ◆ Secondly, it is extremely valuable to use an existing trademark with established relationships with customers in order to shorten the time from take-off to profitable enterprise.

The market niche of digital preservation fits the necessary prerequisites for a niche suitable for electronic business perfectly. It can also be seen that DPE fulfils the prerequisites for the second part of the strategy extremely well, i.e. having the brand awareness needed and the established relationship of trust and credibility that is desirable to serve as a platform for giving the business a quick take-off.

From a business perspective it is thus highly recommended that DPE use its strengths within the international digital preservation community in the upcoming venture. In contrast to most portals that have to spend capital building awareness and establishing a trademark, DPE possesses the extremely valuable asset of being regarded as the most comprehensive and trustworthy source of information by potential customers.

Above all, to get ahead in this market it is necessary to draw on the fact that an actor would need to achieve two fundamental goals:

- ◆ to meet customer needs and
- ◆ to do that better than the competitors.

In order to best meet our customers' needs we can divide them into two major categories – the consumers of digital preservation technologies, and the suppliers of hardware and software solutions for digital preservation. The main need or requirement of the consumers of digital preservation technologies is to reduce information overload on the one hand and to be able to purchase a better product for a better price on the other. The suppliers of software and hardware solutions for digital preservation need intermediaries between themselves and the consumers. Fragmentation, high competition and information overload are making it considerably difficult to communicate with new customers.

In order to sustain and develop confidence and trust from the market, it is important that DPE's materials are perceived to be neutral and uninfluenced by sponsors. With the enrichment and refreshment of the website and with new products and services as well as increased emphasis on activities such as training, forums and chat, DPE will transform its emphasis from a disseminating monologue to a multi-way conversation with the expanding DPE community. DPE will become a dynamic meeting place fostering interaction with ALM organisations and corporations as well as hardware and software suppliers, research institutions, projects and more. The website will bring together people and organisations with an interest in the development of state-of-the-art applications for the digital preservation of the future.

Considerable advantages can be achieved by complementing DPE's services within digital preservation, such as research, technical evaluation, management consulting, seminars and events, with an interactive vehicle that would add value to the brand. Rather than blurring the established brand with diversification strategies, it will make DPE a full service house capable of responding to the complete range of customer needs within the area of digital preservation. In doing so, it will reap the benefits of some of the greatest opportunities Internet business has proven to generate, using a rich Internet site as a means to attract customers, and following up with guidance and consulting services of high quality and competitive pricing.

Long-term goals and vision

Understanding DPE's strengths and the challenges it has to overcome is very important for the creation of a realistic and implementable sustainability plan. There are several issues that help to understand the nature of this necessary transition from the current project to the new DPE; in other words, how DPE and its successor will ensure:

- ◆ A key role in the long term in the EU
- ◆ The ability to replicate products
- ◆ The ability to continue the effort (model of spiral development)
- ◆ A high-quality set of products and organisational identity
- ◆ The potential to expand services
- ◆ Measurable outcomes
- ◆ Realistic income streams
- ◆ Meeting target groups' needs
- ◆ Integration with other activities – online accessibility of cultural material

In Table 9 below we provide some insight into these strategic issues that we have identified as the key success factors and obstacles currently.

Table 9: Key Factors for DPE Long-term Sustainability

Strategic Issues for the Transition to DPE Successor	Explanation	Key Factors	Key Obstacles
Key role in the long term in the EU	DPE is of unique standing and experience. In the coming years it should expand its contacts with the community of practice and the community of service and demonstrate the quality of its products and services.	Quality. Networking. Introduction to other vertical segments.	The level of understanding: preservation is still not seen as a must, but as an optional activity that could wait for some time.
The ability to replicate products	DPE will have the range of products and services to cover the complete preservation lifecycle. In addition it offers training. Its successor should be structured in a way that would guarantee quick adaptation to specific needs and constant development.	Excellent day-to-day organisation	No formal body exists. This requires that a body with appropriate organisational structure be set up before the end of the DPE project. Workflows and procedures should be developed in advance and tested.
The ability to continue the effort	Further development of DPE activities requires not only answering the needs of the present time, but also a vision for the future. In this area the development would be of the spiral type – solving the same set of problems with new technologies in each subsequent new round. It is very important to avoid ‘capsulation’ within the current solutions.	Vision	No formal body exists. The body should work with visionaries.
A high-quality set of products and organisational identity	The current composition of the DPE consortium guarantees that the products developed are of the highest quality and vision. This excellence should be retained in DPE’s successor.	Vision High quality of products/services	No formal body exists.
The potential to expand services	A close look at the target users’ groups is needed to define the best services. We expect that in many cases ‘bundle solutions’ which include consultancy, specific products’ implementation and audit services will be most wanted.	Vision	The users are not always very aware of their actual preservation needs and solutions. DPE has not only to raise awareness among new and existing users but also to anticipate their future needs.
Measurable outcomes	In the interest of shaping its development better, DPE has to apply measurable metrics – listed in Table 1. It is important to readjust the list of indicators according to the development of the area.	Continuous monitoring	Currently there is no benchmarking model.

Strategic Issues for the Transition to DPE Successor	Explanation	Key Factors	Key Obstacles
	The development of a set of measurable indicators is yet another innovative role for DPE.		
Realistic income streams	The understanding of possibilities and reliable planning are vital for the existence of DPE's successor.	Realistic outlook Creativity	Again, the unique nature of this effort makes it difficult to apply a working business model. It gives much space for creativity but the risk is higher.
Meeting target groups' needs	Requires excellent knowledge of the processes in the target users and the mechanisms for applying innovative solutions.	Knowledge of the sector	DPE's innovation is in a sense ahead of time (or ahead of the current level of understanding).
Integration with other activities – online accessibility of cultural material	DPE should secure its role as a key part of any activity relating to the online accessibility of cultural material.	Knowledge of the sector	It is difficult to cover the activities of many organisations. Networking is essential, as is the adoption of quality standards.

In the next table we list the most important sustainable goals for DPE development.

Table 10: DPE Sustainability Goals for Development

Sustainable Goal	Benefits	Specific Tasks	Timeline
<i>Sharing experience with other professional communities that need preservation strategies.</i>	Widening the DPE activities and contributing to its added value.	<p>Identifying appropriate vertical sectors.</p> <p>Studying which organisations are most trusted in these professional communities.</p> <p>Establishing partnerships with these organisations.</p> <p>Adapting presentations of DPE services and products to the vertical sector's needs.</p>	<p>Preliminary work to begin immediately and formalised in April 2008 onwards.</p> <p>April 2008 onwards.</p> <p>April 2008 onwards.</p> <p>April 2009 onwards.</p>
<p><i>Offer DPE value-added services and advice on products on a regular basis to various target groups – two aims:</i></p> <p><i>1) Widening the network of 'customers'</i></p> <p><i>2) Retaining existing customers.</i></p>	Creating a wide network of multi-disciplinary users.	<p>Identify who in the DPE consortium will be responsible for networking activities and what instruments should be used for communication (direct communication, phone conversations, email messages, presentations at specialised seminars) and monitoring (customers' logs, identification of potential users).</p> <p>We are currently looking into a joint dissemination activity with PLANETS and CASPAR to develop a shared contacts database.</p>	<p>Begin laying the framework for this immediately.</p> <p>Identify consortium partners in September 2008.</p>
<i>Promote, for the first time in the EC, a bundle of preservation products and services that cover the needs of various stakeholders.</i>	Contribute to the image of DPE as a solution provider.	<p>Writing and disseminating case studies.</p> <p>Identify the services and products that could be offered as a holistic or modular solutions.</p> <p>Pilot implementation.</p>	<p>April 2007 onwards.</p> <p>April 2008 onwards.</p> <p>September 2008 onwards.</p>

Sustainable Goal	Benefits	Specific Tasks	Timeline
		Organise a promotion campaign.	
<i>Enriching stakeholders knowledge of preservation strategies and enabling them to adapt to the technological development as necessary.</i>	Solidify DPE's image as a knowledge-base of cutting-edge theoretical and technological competence and provider of trusted guidance and advice.	<p>Collecting opinions from the project participants.</p> <p>Attendance at the CeBIT trade fair</p> <p>Survey of needs in the ALM sector.</p>	<p>Begin laying the framework for this immediately.</p> <p>March 2008, March 2009.</p> <p>Regularly (once a year)</p>

To achieve this, DPE should undertake the following activities:

- ◆ Create an expert committee to decide on vendor sponsorship
- ◆ Create an expert committee to decided on membership fees
- ◆ Create a policy on honoraria
- ◆ Create a marketing post
- ◆ Create a half-time post for news services
- ◆ Be more active in marketing and advertising DPE
- ◆ Ensure that at least one article about DPE is in the press that would appeal to the community of interest each month; ensure that at least one article about DPE is in the specialised press that would appeal to the community of practice every three months
- ◆ Acquire the mailing lists of the other cultural heritage projects that are ending and actively market to these members
- ◆ Develop new services such as Advocacy, dpeNEWS, dpeBREAKING NEWS, Bespoke Workshops
- ◆ Begin charging for memberships
- ◆ Begin charging increasing market values for workshops

- ◆ Commission two high-value reports

- ◆ Undertake one tour or summer school

- ◆ Decide on the organisational structure of its successor and start to implement it

DPE MARKETING STRATEGIES

It is the area of marketing where DPE is potentially the strongest. In contrast to dotcoms, who have been known to spend between 60 and 80 per cent of their capital on building awareness, mainly through advertising, there is little need for DPE to do so to establish brand awareness and credibility within the targeted market.

The market strategy draws on the valuable position of DPE's trust and credibility and should not need to diverge too much from its profile, but use tactics to strengthen the established position. DPE needs to retain and transform existing visitors into customers on the one hand, and recruit new customers on the other. This can be achieved through the subscription of dpeNEWS as it would get hold of visitor's data through advertising to subscribers.

DPE will be much more aggressive in marketing to key target groups. DPE needs to have some anchor customers to promote the desirability of its services. These should be one or two of the largest national administrations, and the EU. This is not just the research and development branches but more importantly the centres responsible for records management in those governments. If DPE can garner these customers, others in public administrations will follow.

DPE will also have to work hard to gain success in the private sector, which often seeks its advice from tried and trusted relationships with world-class consulting companies. Anchor customers will be sought once DPE has established sufficient credibility in the private sector.

DPE TESTIMONIALS AND ARTICLES

To assist in gaining anchor customers DPE should mobilise its existing community of practice to provide a number of glowing testimonials. In addition to this, DPE should encourage a number of the more senior members of the community to contribute articles in the specialised and mainstream press focusing on EU activities. This would bolster the credibility and the unique standing of the project and underline to the world that this important resource should be maintained and strengthened. DPE already has a stable of good writers, particularly those that summarise literature; these resources can be used in this effort. The strategy is to decide on a single message and to hammer it home in a number of different channels so that DPE becomes synonymous with this message. This is a vitally important task if DPE is to seek grant funding, sponsorship or any commercial model that it might attempt to implement.

DPE should seek testimonials to its position of trust and competence.

Digital records and archives form the building blocks for scientific and historical research, for new business, and for learning and leisure in the ambient intelligence landscape envisaged by the IST Programme. The effective and affordable preservation of digital records (whether digital objects and documents, eContent, or electronic records) of European culture and science, as well as ubiquitous records of social and economic change, is fundamental to the IST Programme's overall aim of providing new tools and business models for service design and provision and for content creation and delivery.

Key Target market groups

- National and institutional policy builders
- ALM institutions (here they are placed in one group, but in the future there will be clusters of organisations of different size, and intensity of digitisation work – to make such differentiation we would need to use additional desk work combined with a survey method, e.g. online survey or a traditional questionnaire study)
- Other initiatives (projects; portals; open archive initiatives)
- Education and training (here we should distinguish the needs of professional training programmes and University programmes)
- Users of digitisation products (especially researchers and commercial users who are interested in getting the best quality of digital products)
- The EC political level. Preservation is recognised as an important issue of online accessibility to cultural material.

Below we present more information on these target market groups.

Target market 1: National and institutional policy builders

- ◆ *Example:* Ministerial units (typically at the Ministries of Culture/Cultural Heritage), which are responsible for digitisation.
- ◆ *Identification means:* Internet research. Minerva project publications (Global Reports)
- ◆ *Evaluation of the number of contacts:* 0 to several key institutions per member state
- ◆ *In special need:* Countries that do not have national/institutional policy builders.
- ◆ *Which DPE products are most relevant:* annual conference, consultancy, promotion materials

Target market 2: ALM institutions

- ◆ *Example:* Memory institutions. It is important to have information on the ongoing digitisation projects and the plans to establish such programmes.
- ◆ *Identification means:* Sectoral surveys for libraries, archives, museums. Internet research. Minerva project publications (Global Reports).
- ◆ *Evaluation of the number of contacts:* Hundreds of institutions per member state; at national level there are between three and several dozens.
- ◆ *In special need:* Institutions that run digitisation projects but without a preservation component.
- ◆ *Which DPE products are most relevant:* certification, consultancy, products and services, networking.

Target market 3: Other initiatives (projects; portals; open archive initiatives)

- ◆ *Example:* Portal of specific cultural content.
- ◆ *Identification means:* Internet research.
- ◆ *Evaluation of the number of contacts:* Several dozen projects, hundreds of portals

- ◆ *In special need:* those who have not planned preservation activities; those that intend to build distributed shared resources.
- ◆ *Which DPE products are most relevant:* repository services, certification.
- ◆ *What is the key message to this target group:* Preservation: the key to sustainability of your digitisation programme.

Target market 4: Education and training

- ◆ *Examples:* University MSc programme in cultural management. Professional training for digitisation specialists.
- ◆ *Identification means:* Internet survey.
- ◆ *Evaluation of the number of contacts:* there are not many high-quality programmes; probably several dozen key contacts.
- ◆ *In special need:* countries where digitisation training does not exist at all.
- ◆ *Which DPE products are most relevant:* training, competition, R&D grants, consultancy.

Target market 5: Users of digitised cultural material

- ◆ *Examples:* Researchers who study a particular set of materials. Commercial companies willing to acquire high-quality images.
- ◆ *Identification means:* portal visitors.
- ◆ *Evaluation of the number of contacts:* numerous.
- ◆ *In special need:* This group is one of the stakeholders interested in quality. They need to know which collections 'are doing things properly'.
- ◆ *Which DPE products are most relevant:* promotional materials.

Target market 6: The EC political level

- ◆ *Example:* Digital Library High-Level Expert Group.
- ◆ *Identification means:* EC structure.
- ◆ *Evaluation of the number of contacts:* several key directorates.
- ◆ *Which DPE products are most relevant:* consultancy, repository services.

MARKETING MIX

The following table presents the KEY MESSAGES for the different products and target user groups.

Table11: Key DPE Messages by Product and User group

DPE products/ services Market groups	Promotion materials	Training materials	Networking	Audit and certification services	Solutions/service s for repositories incl. crisis management	Professional Guidance/ Consultancy
National and institutional policy builders	Digital preservation is a MUST not just an option. The time to act is NOW.	Implementation is easy with DPE.	DPE already helped in similar cases (institutions).	DPE will help you to offer trustworthy and sustainable content.	DPE is the only project that offers solutions-on-demand.	DPE offers the added value of the knowledge of the best European professionals.
ALM institutions	What will happen with the results of your digitisation programme in the next decade?	DPE offers training for operational and managerial staff.	DPE is your gateway to the professional preservation community in Europe.	DPE certification of your digitised collections guarantees they are of the highest quality.	DPE is a one-stop shop for all your preservation needs.	DPE brings together the best professionals and they are ready to help you.
Other initiatives (projects; portals; open archive initiatives)	Why reinvent the preservation wheel? DPE has all the answers needed for today and tomorrow.	The fine-tuned preservation training your staff need is best delivered by DPE.	Join your knowledge to the largest network (community) of digital preservation professionals in Europe – DPE.	Need audit or certification? DPE certification will place your products on the quality level where they belong.	DPE adds value – not costs.	For all your preservation questions – ask DPE.
Users of digitisation products	What will survive from our culture without digital preservation?	n.a.	n.a.	n.a.	n.a.	n.a.
EC political level	DPE: All you need in preservation	DPE develops the best EC quality in preservation training	DPE – the digital preservation research infrastructure within the ERA	EC quality in preservation comes with DPE certification	DPE brings the power of preservation solutions-on-demand	The best EC experts in preservation = DPE

The next table presents the most appropriate marketing tools for the different target groups.

Table 12: Most Appropriate Marketing Tool by Target Group

DPE products/ services Market groups	Promotion materials	Training materials	Networking	Audit and certification services	Solutions/ services for repositories incl. crisis management	Professional Guidance/ Consultancy
National and institutional policy builders	<i>Awareness campaigns</i> – clear messages on products and services; Competitions in preservation.	<i>Specialised seminars</i> or individual consultancies after a study of the specific country situation.	dpeNEWS, dpeBREAKING NEWS Web portal Creating a network of communities of interest.	<i>Awareness campaign</i> - presentation of certification programmes.	<i>Awareness campaign</i> including case studies .	Leaflets, direct contact, phone calls Questionnaire to evaluate needs.
ALM institutions	Direct contact with managers.	Offering specialised training and consultancy after evaluating the needs.	Web portal dpeNEWS, dpeBREAKING NEWS Creating a network of communities of interest/ communities of practice.	<i>Offers</i> for certification/ audit Link to DPE portal from the institutional site when audit services were delivered.	Offers for the current products/ services/ bundles.	Establishing regular contact
Other initiatives (projects; portals; open archive initiatives)	<i>Direct contact</i> with managers Publications of information on DPE-related activities on the websites/portals (to serve as a reference point) Collecting <i>fact sheets</i> where and how DPE contributed.	<i>Specialised training</i> and consultancy for practitioners.	Web portal dpeNEWS, dpeBREAKING NEWS Creating a network of communities of practice.	<i>Partnership agreements.</i>	Offering the most appropriate solutions/ services according to the nature of the project/ repository.	Through Partnership Agreement – with the condition that the project will serve as a referee for DPE.
Users of digitisation products	Awareness campaigns.	n.a.	n.a.	n.a.	n.a.	n.a.
EC political level	DPE position paper Fact sheets DPE at a glance	EC publication of a selection of the DPE training materials .	Active participation of DPE in the Online accessibility and	Promoting DPE certification as the EC certification programme in	Adding a reference to DPE in the strategic documents of the Digital Library	Offering DPE services to the current action plan ⁵⁷ activities:

⁵⁷ http://ec.europa.eu/information_society/activities/digital_libraries/doc/culture_council/council_conclusions_nov_2006.pdf

DPE products/ services Market groups	Promotion materials	Training materials	Networking	Audit and certification services	Solutions/ services for repositories incl. crisis management	Professional Guidance/ Consultancy
	DPE partners DPE in ERA.		preservation Action Plan 2007-2008 Planning of joint events with the EC.	digital preservation.	Group of the EC.	Establishing national strategies for long-term preservation and deposit (Mid- 2008) Developing quantitative and qualitative targets including the associated financial planning on a multiannual basis for deposit, digitisation and online access of cultural material and long-term preservation (2007)

CONCLUSIONS

There is a larger market for information and advice on digital preservation techniques and best practice than DPE is currently addressing. The challenge for DPE is to use its existing resources to expand to meet this challenge, while meeting the requirement of its grant funding.

DPE can be sustained beyond the seed funding from the European Commission. But the process of moving from a totally grant supported operation to one that has a mix of funding will not be easy. However, all the elements necessary for this to take place exist except one thing. The current mix of partners may find that the increased demands of a more self-supporting operation will tax their limited ability to assist. It is for this reason that a key element in this renewal of DPE will be the dedication of a core partner, probably the current managing partner.

It is a very difficult task to move from a grant-supported project to an activity that is entirely commercial. A better approach is to have a mixture of various types of funding along with a semi-commercial model that allows for some profitability in the context of a not-for-profit organisation.

The best model for DPE is to be very much as it is now, but enhanced so that it can charge for membership, some services and provide more added value. It can expand its base from the ALM community to include a community of practice beyond culture. It can take a more active role in advocacy that will make decision makers in all fields aware of the importance of digital preservation and the issues in its achievement.

This is not to say that DPE should not be active in looking for support from other available sources. In the current situation DPE should leave no stone unturned in its quest. It might be possible to seek additional transition funding from the Commission; it might be possible, particularly if the right strategic partners are involved, to find grant funding in the international community, in particular to support the development of individual new services.

DPE should also investigate what contributions might be made from governments, EU funds, and archiving initiatives as well as from vendor companies themselves. The key to making these changes will be using the well-established existing DPE community, including its well-placed Advisory Committee. Members and key DPE partners and participants can be used to establish a membership strategy, one of which is presented in this report. Another committee can be used to validate the various new service options and the sustainability strategy with the participants.

DPE will have to continue to emphasise the development of the website as a dynamic instrument that will drive interaction between communities of practice and communities of interest and serve as a vehicle for advocacy of digital preservation. The goal is to make it clear that 'everyone who is anyone' is part of the decision forums and newsgroups of DPE's new and expanded service offerings. This will mean an increased emphasis on the look and feel of the site, constant monitoring of use and fine-tuning of this core platform. Without a state-of-the-art site, DPE cannot increase credibility and cannot be a vehicle for advertising and sponsorship support from the vendor community.

DPE will expand its relevance and reach to include the practitioners in industries where digital preservation is a crucial issue, or where it should be a crucial issue. This will entail a new focus, away from the academic approach that is so effective with the ALM community to an approach that is more advice giving and problem solving for industry. Building on its already established expertise and credibility in training workshops, DPE will provide industry-specific workshops where issues of

digital preservation techniques are highlighted for that industry sector. Moreover, it will market company-specific on-site workshops for corporations, push marketing good practice in digital preservation.

The new interest group that DPE will move to involve are decision makers in the digital preservation field both in the public sector and in the private sector, the managers that make the decisions on the need for digital preservation of records and the purchase of hardware and software as well as consultancy services with that emphasis. DPE will re-focus some of its activities to become profoundly relevant to this group. The reason for this is without usage of DPE by that group it will not be possible to gain advertising and sponsorship revenue from vendors of equipment and suppliers of software solutions.

This will entail bringing in both new forms of information and an increased focus on advocacy of the crucial importance of digital preservation. Ad hoc groups from the practitioners and from decision makers can be mobilised to lobby local governments, the EU and target industry groups that have been identified as key stakeholders. The Advisory Committee can be involved in this action. In conjunction with this, DPE will begin push marketing with the online newsletter with weekly information on the opportunities and risks of digital preservation. Through these activities it will build up its credibility in this new group of users and thereby become much more attractive as an advertising medium.

DPE will be much more active in marketing itself and selling itself to key customers, in government, industry and particularly the Commission itself. What DPE wants is to have some anchor customers that will show the rest of the world that the services are necessary. These will be one or two of the largest country administrations, and the EU. This is not just the research and development branches but more importantly the centres responsible for records management in these governments. If DPE can garner these as customers, others in public administrations will follow.

The same holds true in the private sector. As it is at present, DPE has limited credibility in the private sector, which often seeks its advice from known consulting companies. DPE will again have to work very hard to conquer some anchor customers in the private sector once its credibility has been raised by the actions undertaken above.

The movement to new products would be most effective if it were done with strategic partnerships with existing organisations that offer parallel services, so that through cooperation the products themselves can be better value for users and customers. Targeted marketing will stress the unique source of information advice and training that DPE represents. Strong clear messages will have to be decided upon and communicated in a constant manner.

While it will be difficult, a sustainability strategy refined and validated by partners and participants can work for DPE. The demand is clearly there; there are potential strategic partnerships that can be enhanced and others can be developed that can bring increased usage and income to the enterprise. It is worth taking the chance to try to succeed and it is likely that that success will be evident within one year. If DPE is right, it will go forward; if it is wrong, it will fold, but it is worth taking the chance.

It is anticipated that, if this process is started in the coming months, by the time DPE has completed its grant-funding cycle it will become clear how successful it might be. Moreover, the beginning of regular sources of new income will start to support the operation, both the cost of the DPE office as well as the development costs of the new products. The watchword in this transition is that DPE will spend no money; it will seek to find support for these activities from the goodwill it has built up and

from the stronger and more motivated elements in its existing members as well as the highly motivated Advisory Committee. If all new expenditures are seen as exceptions, the existing budget, with some economies, should cover this transition before income-producing products and services begin to come in to replace grant funding and support the operation.

The world needs the information base and expert advice DPE provides. There is a large untapped market that it can garner. Finally, the importance of the issues related to digital preservation is only going to increase. If DPE did not exist, someone else would invent it. In a way that is the best reason for persevering.

RECOMMENDATIONS

The potential for sustainability of DPE depends upon exploiting all the opportunities open to it from the very beginning.

1. DPE should focus on engaging with a broader group of stakeholders in digital preservation beyond the ALM community. This should include commercial and public sector organisations and major data creators such as eScience and medical communities.
2. DPE must enhance its publicity activities to ensure that its services are more widely adopted by the community and that the positive value of those services is acknowledged by their users.
3. DPE should collaborate in the creation of Case Studies, with a focus on industry and areas outside Europe.
4. DPE should build chargeable services around its risk assessment toolkit, DRAMBORA.
5. DPE should follow the ERPANET example and establish a series of workshops and seminars to complement its training programme, moving beyond the cultural heritage field to other sectors with strong needs for digital preservation, particularly media houses, pharmaceutical, oil and gas, and environmental businesses.
6. DPE should explore sponsorship options with both corporate participants and with companies beyond the originally envisaged DPE community.
7. DPE should use existing Internet commercial models to develop an evolving charging strategy, including such services as SKYPE Charging for advice services.
8. DPE should continue to develop its strategic partnerships, but should ensure that these stretch beyond Europe to include a range of projects and professional organisations that have an active interest in digital curation and preservation.
9. DPE should not consider merging with other organisations or projects.
10. DPE must focus on developing income-generating services: consultancy, training, repository guidance in the area of federation, design and development, risk assessment, and support for experimentation.
11. DPE should produce high-value reports and market these for their income-generating potential.

APPENDIX I: EXAMPLES OF SECTORAL ANALYSES

Media: The Publishing Sector

The latest sales figures available for the publishing industry come from the 2004 survey undertaken by the Federation of European Publishers. Annual sales revenue of book publishers in 2004 in the EU and the EEA totalled approximately 22,268 million Euros.⁵⁸ A total of 620,133 new books of new editions were issued by publishers, and the FEP estimates that throughout Europe the number of available titles was not less than 3,959,000.⁵⁹ The countries reporting the largest title availability were the UK (1,125,000), Germany (1,000,000), France (498,000), Italy (491,000) and Spain (276,000).⁶⁰ As we can see, this is a large potential market.

In-depth case studies were conducted by ERPANET in 2003 to establish the perception and awareness of Digital Preservation, the level of preservation activity, compliance monitoring, digital preservation costs and future outlook in the publishing sector.⁶¹ ERPANET found this sector to be increasingly aware of the importance and value of digital information and of the problems and challenges that lie in preserving and providing access to it over time. The amount of information produced, received and managed in digital form increases daily in the publishing sector, and radically affects the main business functions and processes. Most of the organisations that participated in this study recognised that controls need to be put in place for the creation, management and preservation of valuable information and that this must be resolved in concert with other publishers and organisations that have a stake in the sector. This sort of activity is only starting to become visible and much still remains to be addressed.

A fuller knowledge within the sector of the demands and challenges of preserving digital information has to be fostered before action can be taken. Certain larger organisations have begun to consider the loss of valuable digital assets a serious risk and are working to find solutions to the problems of cost, standards, establishing responsibility for action. Problems are also raised by proposed technical solutions such as format change, degradation of hardware and software, and quality and completeness. The remaining, smaller organisations, wary of high costs and untested potential solutions, prefer to wait and see what develops in the sector, especially the products of the developing partnerships with major libraries. The organisations involved in this study present a range of examples of understanding and activity, highlighting the work that has been done, and that which still must be tackled.

⁵⁸ <http://www.fep-fee.be/eframprinc.htm>

⁵⁹ <http://www.fep-fee.be/eframprinc.htm>

⁶⁰ <http://www.fep-fee.be/eframprinc.htm>

⁶¹ <http://www.erpanet.org/>

Telecommunications

The main driving forces for the preservation of digital data in the Telecommunications industry are legal and business requirements. It is clear that these requirements need to be met at all costs, therefore the importance of digital preservation is widely recognised, with policies and strategies developed and implemented throughout organisations. The business software solutions already in use play an important role for preservation, but are supplemented by additional software packages. However, as legal stipulations generally do not require the telecommunication firms to keep their data for more than ten years, there is less interest in preserving digital information for the long term. Still, efforts for long-term digital preservation are being undertaken as well. Although the problems encountered by telecommunication companies are similar, the study did not reveal any common effort across the sector to tackle the issues.

In recent years, the European telecommunications sector has faced two decisive developments. The first of these was caused by the market liberalisation that partially released the former state-owned, monopolistic telecommunications enterprises from public possession. Some organisations remain state-controlled, while others have seen the influence of the state reduced to a minority or a so-called 'golden share'. Simultaneously, new players emerged, competition developed, and international collaboration and mergers occurred. In 2004 each member state had at least two mobile telecommunications operators, creating competition and providing choice to consumers.⁶² Among other results, this has led to an increase in the range of services offered and price reductions for consumers.

The second transformation was technological. The conversion from analogue to digital telephone technology has only been completed relatively recently, and, as a result, new services have become available. In 2004, 43% of households in the EU-27 had Internet access, and, while the variation between countries is wide, those with low penetration are catching up.⁶³ One of the repercussions of this is that the mass of data to process has considerably increased. Furthermore the recent boom in cellular phones, supported by market liberalisation and technical advancement, has accentuated this issue. The average annual growth rate of 32.6% over the eight-year period from 1996-2004 is impressive. The largest markets in terms of the total number of subscriptions were Germany (71.3 million), Italy (62.8 million) and the UK (61.1 million).⁶⁴ The number of subscriptions per 100 inhabitants has passed the 100 milestone in Sweden, Italy, the Czech Republic and the UK, with Luxembourg leading the group with 143 subscriptions per 100 inhabitants. Annual growth rates from 2003-2004 were also very positive in countries with a relatively low penetration, with 45.1% in Lithuania and 32.7% in Poland for example. Apart from these more specific developments, the general digitisation of business procedures has also had an impact. Considerable amounts of data are held digitally and will require preservation.

Digital preservation is clearly an important issue in the telecommunications sector. The need for preservation of digital data (although in general only for up to ten years) and the associated risks are well understood. However, two main issues influence and complicate digital preservation. First, the fast-moving environment leads to a quick turnover of technology and may also cause short-term staff problems. Secondly, telecommunication companies have to deal with extremely large amounts of data being generated every day, which causes high costs for storage media.

⁶² http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-NP-06-009/EN/KS-NP-06-009-EN.PDF

⁶³ Ibid.

⁶⁴ Ibid.

Pharmaceutical sector

Considerable time and effort has already been invested in digital preservation in the pharmaceutical sector, largely due to pressure from governmental agencies committed to improving the safety, quality and efficacy of new medical products. Organisations in this sector are under economic and regulatory pressure to move to more efficient and effective digital processes.

In-depth case studies were conducted by ERPANET in 2003 to establish the perception and awareness of Digital Preservation, the level of preservation activity, compliance monitoring, digital preservation costs and future outlook in the pharmaceutical sector.⁶⁵ This study found that efforts in digital preservation had focused predominantly on research and development, seeking software and system suppliers to create suitable solutions that can be installed at pharmaceutical organisations.

The ERPANET study found that, while organisational frameworks and practices have been put in place for paper-based information in response to the strict controls of government regulatory agencies, these have yet to be transferred into the digital environment. Factors restricting this expansion include the large range of complex data types found in this sector, questions of responsibility for action, and the vast amount of resources required to execute a suitable and effective digital preservation solution.⁶⁶

Beyond the need for technical solutions to the problem, the sector is in need of a more comprehensive understanding of the problems in managing digital assets, as comprehensive strategies for long-term digital preservation are lacking. Increased cooperation and dissemination could be of benefit, as well as an increased confidence (which comes from better understanding of the problem) in order to secure a more stable future for the valuable digital assets at risk in this sector.

⁶⁵ <http://www.erpanet.org/>

⁶⁶ Ibid.

APPENDIX II. STRATEGIC PARTNERS FOR DPE

ALM INSTITUTIONS

ARCHIVES

Archives of Australia network

<http://www.archivenet.gov.au/home.html>

Australian archival organisations looking for ways to take advantage of the resources the World Wide Web offers developed the first Archives of Australia network. They have been just as keen to take part in the internet networking opportunities offered by what was Australia's Cultural Network (ACN) with 'sub-networks' of libraries, museums and archives but is now the Culture and Recreation Portal.

The Archives of Australia network includes 40 local archives and libraries. The National Archives of Australia is responsible for the ACN Archives of Australia sectoral network project, set up in 1997. The aim of the project is to assist archives large and small, whether they already have websites or not, to explore the opportunities offered by the web. In addition, the project is intended to provide more information for the public on archives and on their place in the nation's cultural life as well as their role in facilitating the management of government records.

For archival organisations with existing websites the purpose is to provide the means to enhance their presence on the web, and to develop their expertise in providing online services. For those not yet using the web the project is geared to assist interested organisations to develop a web presence, and to encourage the development of a self-help online archival network.

DPE could collaborate with the Archives of Australia network offering specialised training programmes in preservation for archives, and by introducing its audit certification services to archives that implement digital preservation programmes.

L'Association internationale des archives francophones (AIIF)

<http://www.aiaf.org/>

Association of 49 national and regional archives from 47 countries. DPE could collaborate with AIIF on raising the awareness of digital preservation, offering solutions for shared repository services, as well as specialised training missions, which in some cases would have to be combined with training not only on preservation but also on digitisation.

The Australasian Digital Recordkeeping Initiative (ADRI)

<http://www.adri.gov.au/default.asp>

The Australasian Digital Recordkeeping Initiative (ADRI) is an undertaking of the Council of Australasian Archives and Records Authorities, the peak body of government archives and records institutions in Australia and New Zealand.

The primary objective of ADRI is to pool resources and expertise to find better ways to ensure that digital records are preserved and made accessible for the future. ADRI focuses attention on the

importance of archival institutions and government agencies working together to preserve digital records.

The Initiative promotes a single Australasian approach to digital public recordkeeping across all jurisdictions and provides a space for communication and information sharing between the members. DPE could collaborate with ADRI for consultancy and training programmes, especially in the field of audit certification.

Australian Society of Archivists

<http://www.archivists.org.au>

The Australian Society of Archivists aims to: promote a professional identity among archivists; promote the keeping, care and use of archives and encourage research and development in all areas of archival practice; establish and maintain standards of archival practice and professional conduct among archivists, including standards of archival qualifications and professional training; encourage the responsible use of archives including cooperating with other organisations and groups with common interests and concerns; encourage communication and cooperation among archivists, their institutions and the users of archives, and publish and disseminate information relevant to the archival profession

One of the special interest groups of the society focuses on electronic records.

The Archives of Australia network could present DPE products and services to the professionals. This implies a more personal touch and is appropriate for a targeted awareness campaign.

Danish Data Archives

<http://www.sa.dk/sa/omarkiverne/english/dda.htm>

The Danish Data Archives (DDA) is a national data bank and documentation and technical service facility for researchers and students in Denmark and abroad. The DDA is an independent unit in the organisation of Danish State Archives. DPE could collaborate with Danish Data Archives on the evaluation and monitoring of their preservation strategy; training of specialists is also a possibility.

DLM Forum

<http://dlmforum.typepad.com/>

The DLM Forum (a community of Public Archives and interested parties in archive records and information management through the EU) has a parallel objective to DPE – *...to provide technology and knowledge transfer and information services, appropriate practice guidelines, benchmark indicators and information, educational, skills development and research opportunities.*⁶⁷

The membership options of the DLM Forum are also useful models for DPE, if it is to consider charging for annual membership among a community of practice and perhaps with a community of interest. Currently there are about 43 DLM Forum members, most of which are national archives. The DLM Secretariat is run by AIIM Europe – The Enterprise Content Management Association.

⁶⁷ <http://dlmforum.typepad.com/>

The DLM Forum charges for membership and participation in regular meetings, access to White Papers,⁶⁸ a Discussion Forum and a repository of background information. A rather complicated scheme sees Individual Memberships at 250 Euros and institutional memberships at 750 Euros with categories for consultants and suppliers up to 2,500 Euros.⁶⁹ Apparently most of the members are at the 750 Euros rate.

The DLM Forum has individual memberships that are double the rates for IEEE. With the relatively small amount of growth of DLM, it might be concluded that these are too high, except for institutions.

The DLM Forum has potential that is not being realised. While the DLM Forum has a membership, it lacks services to feed that membership. As a result, the products and services of DPE are a good fit. But there are further problems.

The first problem is AIIM. AIIM obviously sees the DLM Forum as a potential new 'feeding ground' for its suite of workshops and training sessions. DPE is in competition. It would take some trade-offs between the two to achieve the agreement of AIIM, and DPE is not necessarily in the power position here.

Assuming that hurdle is overcome, the only remaining problem is branding. It is unlikely that the DLM Forum would agree to a relationship with DPE that would mean it would lose its name, so DPE could end up as a product line in the DLM stable, albeit the most important product, but a product all the same. DPE has to be careful.

After DPE has gone through a year of semi-commercial operation it will be the time for it to approach the DLM Forum and suggest that it contract with DPE to organise workshops for them. By that time the credibility of DPE products will have risen and it will be in a much better position to negotiate with the Forum. It will be evident to the Forum that DPE can achieve economies of scale and has been able to bring higher power speakers than they could.

Secondly, by that time DPE bespoke workshops will be in existence. Accordingly, DPE will have a good value proposition that should find favour with the Forum and they can cooperate without the danger of the Forum's subsuming DPE. At that time DPE can offer the Forum a wholesale rate on these workshops to get the business. As an added incentive, DPE could offer to work with the DLM Forum to hold the next major meeting jointly. If handled correctly, this could be a profit centre for both organisations, particularly if Commission support for the DLM Forum continues, and would position DPE to pick up the DLM Forum lists, should its lapse into dormancy.

- ◆ National Archives € 750
- ◆ Regional and Local Public Archives € 750
- ◆ Commercial Archives / Company Archives € 750
- ◆ Universities € 250
- ◆ Public Agencies € 250
- ◆ Regulatory Bodies € 250

⁶⁸ For the most part from AIIM.

⁶⁹ DLM Forum.

- ◆ Standardisation Bodies € 250
- ◆ Associations (Large) € 750
- ◆ Associations (Small) € 250
- ◆ Suppliers (Large) € 2.500
- ◆ Suppliers (Small) € 750
- ◆ Consultants (Large) € 2.500
- ◆ Consultants (Small) € 750
- ◆ Sponsors / Donors € 2500 up
- ◆ Single Persons of the DLM Community € 250

Electronic Records Archives (ERA) Program

http://www.archives.gov/electronic_records_archives/index.html

The ERA concept emerged from research sponsored by NARA principally on the articulation of an information management architecture for a persistent digital archives. This site contains an overview of the initiative and links to important sites representing major electronic records research activities.

The Advisory Committee on the Electronic Records Archives (ACERA)⁷⁰ is a deliberative body to advise the Archivist of the United States on technical, mission and service issues related to ERA. This includes, but is not limited to, advising and making recommendations to the Archivist on issues related to the development, implementation and use of the ERA system.

The establishment of contact with ACERA and negotiating possible consultancy and involvement of DPE in the development of ERA are vital for future cooperation.

International Council on Archives (ICA)

<http://www.ica.org/index.php?planguage=eng>

ICA is dedicated to the advancement of archives worldwide. Archives, by providing evidence of human activities and transactions, underlie the rights of individuals and States, and are fundamental to democracy and good governance. Archives safeguard the memory of mankind by preserving records of its past. In pursuing the advancement of archives, ICA works for the protection and enhancement of the memory of the world. It has members from some 210 countries.

Four priority areas were identified for 2004-2008.

1. Advocacy and Promotion;
2. Electronic Records and Automation;
3. Preservation and Disaster Preparedness; and
4. Professional Education and Training.

Working together with ICA would contribute to the current priority areas 2 (electronic records and automation, 3 (preservation) and 4 (professional education and training). Promotion of DPE products

⁷⁰ <http://www.archives.gov/era/acera/>

and services through ISA channels means potential contact with organisations from over 200 countries worldwide. DPE could suggest the function of primary auditor for preservation of digital archival records to ICA members.

National Archives of Australia

<http://www.naa.gov.au/recordkeeping/er/summary.html>

The National Archives is developing a way of storing and preserving digital records of archival value so that they will be available in the future.

‘Digital Preservation: Illuminating the Past, Guiding the Future’⁷¹ – this publication of 2006 summarises the National Archives approach to digital preservation and describes the prototype it has developed and implemented for a digital archive. The prototype includes a hardware infrastructure and a suite of software tools for converting, retrieving and accessing digital records that are based on open file formats.

Working together with the National Archives of Australia would be best suited in joint planning, implementation and certification of preservation programmes. Taking into account the key role of this archive in Australia, this would be an excellent reference for introduction of DPE services into the other archives of the country.

National Archives of Denmark

<http://www.sa.dk/sa/omarkiverne/english/earchives.htm>

The Danish National Archives collect and store archival records from the Danish Royal House, central state authorities and from private organisations and individuals. The collections date back to the 12th century and today there are more than 140 km of shelving. The IT department of the Danish State Archives is responsible for developing strategies and methods for safeguarding the digital archival materials for the future.

A conversion strategy has been developed at the State Archives for long-term preservation of IT filing systems. Conversion means that data (not applications) are migrated at suitable intervals to ensure that they are continually compliant with current technology. The electronic archival materials that are submitted to the State Archives should therefore be stored in a way that enables data conversion to formats suitable for continuous conversions without significant data loss.

Joint endeavours of DPE and the National archives of Denmark might include fine-tuning of the current preservation practice, as well as repository and audit certification services.

The National Archives, UK: Digital Preservation Department

<http://www.nationalarchives.gov.uk/preservation/digital.htm>

The records of government are increasingly created in electronic form and The National Archives are playing an active role in storing and preserving digital material. The diversity of electronic records and frequent changes in computer technology present a range of challenges that need to be tackled in order

⁷¹ http://www.naa.gov.au/recordkeeping/preservation/digital/XENA_brochure.pdf

to ensure that these records remain accessible over the long term. Work in this area is undertaken at The National Archives by the Digital Preservation department.

The Digital Preservation department carries out systematic research into new types of electronic record, and develops new processes for migrating digital information from one data format to another. The core aim of this research is to support its services and so ensure that future generations can continue to look at electronic records.

Collaboration with the Digital Preservation department of the National Archives in the UK could involve consultancy, participation in joint research projects and establishing a professional training programme to answer the organisational needs in long-term preservation specialists.

National Archives and Records Administration (NARA): Centre for Electronic Records

<http://www.archives.gov/research/formats/electronic-records.html>

The National Archives and Records Administration (NARA) has in its custody over 200,000 electronic records files. This site describes the National Archives' electronic United States Sites records collection and its involvement in the archival management of electronic records generated in the federal government.

Collaboration with NARA could involve consultancy, participation in joint research projects and establishing a professional training programme to answer the organisational needs in long-term preservation specialists. This is an opportunity for DPE products and services positioning within the USA.

National Digital Archive of Datasets (NDAD)

<http://www.ndad.nationalarchives.gov.uk/>

The National Digital Archive of Datasets (NDAD) is part of the National Archives of the UK. NDAD preserves and provides online access to archived digital data and documents from UK central government departments. It offers extensive catalogues to find out more about the content and context of the datasets, and then access to data and digital documents online.

DPE could contribute to NDAD services through consultancy on preservation related matters. Joint participation in projects is another option.

Open Archives Initiative (OAI)

<http://www.openarchives.org/>

The Open Archives Initiative develops and promotes interoperability standards that aim to facilitate the efficient dissemination of content. The Open Archives Initiative has its roots in an effort to enhance access to e-print archives as a means of increasing the availability of scholarly communication. Continued support of this work remains a cornerstone of the Open Archives programme. The fundamental technological framework and standards that are developing to support this work are, however, independent of both the type of content offered and the economic mechanisms

surrounding that content, and promise to have much broader relevance in opening up access to a range of digital materials.

The Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH)⁷² is a low-barrier mechanism for repository interoperability. *Data Providers* are repositories that expose structured metadata via OAI-PMH. *Service Providers* then make OAI-PMH service requests to harvest that metadata. OAI-PMH is a set of six verbs or services that are invoked within HTTP.

ORE⁷³ (Object Exchange and Reuse) will develop specifications that allow distributed repositories to exchange information about their constituent digital objects. These specifications will include approaches for representing digital objects and repository services that facilitate access and ingest of these representations. The specifications will enable a new generation of cross-repository services that leverage the intrinsic value of digital objects beyond the borders of hosting repositories.

DPE has a professional interest in establishing good working relationships and providing consultancy to OAI on digital preservation issues since Open Source resources and their collection in repositories is an important segment of repositories in general.

PRONOM

<http://www.records.pro.gov.uk/pronom>

PRONOM is the UK National Archives' online source for information about file formats and software products. PRONOM is a resource for anyone requiring impartial and definitive technical information about the file formats used to store electronic records, and the software products that are required to create, render or migrate these formats.

PRONOM currently uses the DROID⁷⁴ (Digital Record Object Identification) software tool developed by The National Archives to perform automated batch identification of file formats. It is the first in a planned series of tools developed by The National Archives under the umbrella of its PRONOM technical registry service. DROID is a platform-independent Java tool, which is freely available to download under an Open Source license.

It also offers the service PRONOM Unique Identifier (PUID). This is an extensible scheme for providing persistent, unique and unambiguous identifiers for records in the PRONOM registry. In the first instance, PUIDs are being assigned to file formats, with over 130 of the most common formats already assigned identifiers, and more being added on a regular basis.

PRONOM already offers the DROID tool and the PUID service, which could be seen as components relevant to DPE repository services. They should be studied more extensively in view of possible use or re-use.

⁷² <http://www.openarchives.org/pmh/>

⁷³ <http://www.openarchives.org/ore/>

⁷⁴ <http://droid.sourceforge.net/>

State Records Authority, New South Wales

<http://www.records.nsw.gov.au>

State Records is concerned with all aspects of recordkeeping, ranging from measures to ensure that public officials create records in the course of their duties in the first place, through the management of State records in agencies (the traditional role of records management), to preserving and making records of continuing value accessible as State archives (the traditional role of archives institutions). State Records conducts surveys for information-gathering purposes on records issues and practices – see Report of the 2005 Information Survey on Digital Recordkeeping.⁷⁵

DPE could assist the State Records Authority in New South Wales through consultancy and joint development of further documents on recordkeeping practices, in their preservation part.

Society of American Archivists (SAA)

<http://www.archivists.org/membership/benefits.asp>

Founded in 1936, the Society of American Archivists (SAA) is North America's oldest and largest national archival professional association. SAA includes more than 3,400 individual and institutional members concerned with the identification, preservation and use of records of historical value. SAA members work in a variety of repositories, including those associated with colleges and universities, businesses and corporations, historical societies, museums, libraries, religious organisations, as well as local, state and federal government agencies in all geographic regions of the United States and in more than 30 countries.

The Society of American Archivists could organise jointly with DPE specialised training and workshops – the society has a rich educational programme. This would be an excellent promotion method for DPE products and services within a target audience in the USA.

UNESCO Archives Portal

http://portal.unesco.org/ci/en/ev.php-URL_ID=5761&URL_DO=DO_TOPIC&URL_SECTION=201.html

With the Archives Portal, UNESCO provides a single interactive access point to information for archivists and users of archives worldwide. Visitors to the UNESCO Archives Portal can browse through pre-established categories or search for specific words. They can add a new link or modify an existing link. An electronic Newsletter provides information on new entries. The 'In Focus' section presents websites of archives that are particularly interesting. Of particular interest to those involved in digital preservation is a guideline produced by Colin Webb.

DPE can collaborate with the UNESCO Archives Portal, providing consultations and specialised professional training programmes.

⁷⁵ <http://www.records.nsw.gov.au/recordkeeping/docs/information%20survey%20report%20final.pdf.pdf>

LIBRARIES

Alliance of Libraries, Archives and Records Management (ALARM)

<http://www3.fis.utoronto.ca/people/affiliated/ALARM/toc.htm>

The Alliance of Libraries, Archives and Records Management is an employer/employee forum with representatives from libraries, archives and records management organisations who are working to identify and act on shared human resource issues. This cooperation is mutually beneficial as the skills needed, the forms of material handled, and the clients served increasingly overlap.

Initially with financial support from the federal government, ALARM was gathering information on workforce issues and responses to these issues through a national series of focus groups, interviews across Canada, public meetings, trial projects with the aim of later producing plans for the human resource development of the professional community of information management specialists in libraries.

ALARM seeks to improve the human resource development of information managers, thus the joint training programmes are most suitable for cooperation.

Association for Library Collections & Technical Services (ALCTS)

<http://www.ala.org/ala/alcts/ALCTS.htm>

Comprised of nearly 5,000 members from across the United States and 42 countries from around the globe, ALCTS offers resources for information specialists in collection development, preservation, and technical services. It works on development of principles, standards and best practices for creating, collecting, organising, delivering and preserving information resources in all forms.

The membership fees are US\$55 (regular), US\$ 65 (organisational and corporate).

Working together with ALCTS would increase the visibility of DPE especially in the USA. The regular events ALCTS organises may be used for offering special sessions and/or workshops. This association has its members from the library community with an emphasis on services. Joint consultancy/services offered by DPE and ALCTS might be of interest.

The British Library

<http://www.bl.uk/about/policies/digital.html#one>

The Library sees digitisation as a way to ‘maximise use of the collections by facilitating a greater volume of networked access, both in the reading room and remote, and by providing the enhanced functionality intrinsic to the digitised items’.

DPE could offer pilot audit certification to the British Library. Since it serves as a model for many national libraries in Europe and beyond, this would highlight DPE’s standing in the professional community.

Canadian Association of Research Libraries (CARL)

<http://www.carl-abrc.ca/>

The Canadian Association of Research Libraries was established in 1976 and consists of 27 university libraries plus the Library and Archives Canada, Canada Institute for Scientific and Technical Information (CISTI), and the Library of Parliament. Membership is institutional and is open primarily to libraries of Canadian universities that have doctoral graduates in both the arts and the sciences.

CARL has three basic goals:

- To provide organised leadership for the Canadian research library community in the development of policies and programmes that maintain and improve the cycle of scholarly communication;
- To work towards the realisation of a national research library resource-sharing network in the areas of collection development, preservation and access; and
- To increase the capacity of individual member libraries to provide effective support and encouragement to postgraduate study and research at national, regional and local levels.

Areas of interest to the Association include automation, collections inventory projects, copyright, joint purchasing consortia, preservation and resource sharing. DPE could offer training and certification services to CARL. This could be one of the channels for better DPE positioning in Canada.

Canadian Initiative on Digital Libraries (CIDL)

<http://www.collectionscanada.ca/cidl/index-e.html>

The Canadian Initiative on Digital Libraries (CIDL) is an alliance of Canadian libraries and organisations that recognises the growing importance of digital information, and wishes to collaborate to ensure better use of digital information and better service to its users.

The Inventory⁷⁶ provides an overview of each submission that includes its name, participating organisations, content description, subject categories (broad Dewey decimal classes), and contact information. This information supports a useful search mechanism for visitors.

CIDL and DPE could collaborate on the preservation component from the future digital libraries development.

Canadian Library Association (CLA)

<http://www.cla.ca>

The Canadian Library Association is Canada's largest national library association, representing the interests of 57,000 library workers. It also speaks for the interests of the 21 million Canadians who are members of libraries.

The CLA membership consists of a diverse group of individuals and organisations involved or interested in library or information sciences. A large proportion of CLA Members work in college, university, public, special (corporate, non-profit and government) and school libraries. Others sit on

⁷⁶ <http://www.collectionscanada.ca/initiatives/index-e.html>

the boards of public libraries, work for companies that provide goods and services to libraries, or are students in graduate level or community college programmes. Membership categories of the Canadian Library Association include: Personal, Institutional, Associate and Trustee.

Total membership at 31 March 2007 was 2,615 (Personal – 2,134, Institutions – 471, Library Boards – 10).

CLA can be an excellent instrument for positioning of DPE expertise, products and services in Canada. Since it combines institutional and individual members, there should be a mixture of approaches suitable for both groups. Joint training events at the annual forum of CLA is a reasonable starting point.

The Chartered Institute of Library and Information Professionals (CILIP)

<http://www.cilip.org.uk/default.cilip>

CILIP is a body for librarians, information specialists and knowledge managers. There are up to 23,000 CILIP members working in all sectors, including: business and industry, science and technology, further and higher education, schools, local and central government, the health service, the voluntary sector, national and public libraries. The average membership fee is about £150. CILIP organises training programmes and publishes professional information.

DPE and CILIP could collaborate on specialised professional training programmes in digital preservation and certification programmes for librarians.

Conference of Directors of National Libraries (CDNL)

<http://www.nla.gov.au/initiatives/meetings/cdnl/>

The CDNL is an independent association of chief executives of national libraries, established to facilitate discussion and promote understanding and cooperation on matters of common interest to national libraries worldwide.

The CDNL meets annually, usually on the Wednesday of the IFLA conference at the National Library of the IFLA host country.

Membership is open to the chief executive of the national library of every country. Members may be represented at the meeting by their deputies.

The CDNL was set up in 1974 to discuss policies and carry out activities that could be performed most effectively by national libraries, on the understanding that its work would be coordinated with the IFLA section of National Libraries. It grew from a rather loose organisation in the late 1970s to a much more structured body in the 1990s.

CDNL is a high-level group. DPE is interested in getting in contact with it, because a good awareness campaign will facilitate the subsequent processes of establishing preservation projects in those national libraries that are still not active in this field.

The Council of Federal Libraries (CFL)

<http://www.collectionscanada.ca/cfl-cbfg/index-e.html>

The Council of Federal Libraries (CFL) is an organisation of federal government libraries established in 1976 by the National Librarian of Canada as a means of coordinating library services in departments, branches and agencies of the Government of Canada. The Council recognises two interdependent factors: 1) the leading role of the National Library in coordinating and supporting access to Canada's published heritage, resource sharing and library development among Canadian libraries, and 2) the need for cooperation and concerted action within the community of federal libraries across Canada.

Membership is open to all federal government agencies and departmental libraries across Canada. Branch libraries may join directly or through the headquarters library. There are currently over 148 member libraries representing more than 52 federal government departments and agencies.

Membership fees are calculated on the basis of the number of full-time equivalents (FTEs) in a library. CFL, and DPE, similarly to other institutional networks, could be used to promote DPE experience, products and services. Awareness campaign and a training session in Canada can be offered as first steps.

Council on Library and Information Resources (CLIR)

<http://www.clir.org>

CLIR works to ensure the well-being of the scholarly communication system upon which knowledge creation depends. CLIR's agenda embraces the entire range of information resources and services, from traditional library and archival materials to emerging digital formats, and the entire network of organisations that gather, catalogue, store, preserve, distribute and provide access to information.⁷⁷

CLIR is a trustworthy source for information on various digitisation-related issues. DPE could consider joint publication of reports, as well as carrying out surveys on the state of the art.

Digital Library Federation (DLF)

<http://www.diglib.org/dlfhomepage.htm>

The Digital Library Federation (DLF) is a consortium of libraries and related agencies that are pioneering the use of electronic-information technologies to extend their collections and services. Through its members, the DLF provides leadership for libraries broadly by: identifying standards and 'best practices' for digital collections and network access; coordinating leading-edge research-and-development in libraries' use of electronic-information technology; and, helping start projects and services that libraries need but cannot develop individually. The DLF operates under the administration umbrella of the Council of Library and Information Resources.

Digital preservation is one of the areas of activity of DLF. It currently brings together 35 partners and 4 allies.

⁷⁷ Information Management Branch. Digital Preservation Resource Guide, Government and Program Support Services Division, Edmonton, 2004.

<http://www.im.gov.ab.ca/publications/pdf/DigitalPreservationResGuide.pdf>

DLF is one of the key players for the future digital libraries and it would be important to reach a partnership agreement on cooperation. It could involve repository services and audit certification for future portals.

Florida Centre for Library Automation (FCLA)

<http://www.fcla.edu/digitalArchive>

FCLA runs the Florida Digital Archive, a preservation repository for the use of the eleven public universities of Florida. The Florida Digital Archive is based on DAITSS, a preservation repository management application, which when completed will be released as Open Source Software. The mission of the Florida Digital Archive is to provide a cost-effective, long-term preservation repository for digital materials in support of teaching and learning, scholarship, and research in the state of Florida.

FCLA could be offered audit certification services. It should be considered as possible good practice in preservation.

Harvard University Library, USA

<http://hul.harvard.edu/ois/>

The Harvard University Library (HUL) is a centralised technical service provider to the University's constituent libraries, archives and museums. HUL has operated a large-scale digital repository, with associated ingest, access, data management, archival storage, and preservation services, for over six years, with more than 5.5 million assets (23 TB) under management. HUL staff have particular expertise in digital curation and project management, preservation and discovery metadata, digital reformatting, and formats. They have and continue to participate in many international digital library, curation and preservation initiatives, including METS, NDIIPP, NISO Z39.87, OCLC Registry of Digital Masters, PDF/A (ISO 19005-1), PREMIS, and RLG/OCLC/NARA projects on repository certification; and hold leadership or advisory roles in the DigCCurr, Digital Library Federation (DLF), IS&T Archiving, and Open Repositories conferences, and the PLANETS and PRONOM projects. HUL developed and maintains the widely adopted Open Source JHOVE format identification, validation and characterisation tool, and is leading the collaborative development with OCLC of the Global Digital Format Registry (GDFR), a sustainable service for distributed management of important format representation information. Other recent HUL preservation activities include web archiving and large-scale (1 million volumes) text digitisation. Through its Open Collections Program (OCP), and a variety of additional online public access catalogues for images, geospatial data, and archival finding aids, HUL seeks to expose a great variety of Harvard's digital assets to the public for research and pedagogy.

HUL also could be offered audit certification services.

IEEE Technical Committee on Digital Libraries (TCDL)

<http://www.ieee-tcdl.org/>

The Institute of Electronics and Electrical Engineers (IEEE) Computer Society is the professional association of electrical and telecommunications engineers worldwide. It has a long tradition of standards development through peer-based committees. Of particular relevance is the IEEE Technical Committee on Digital Libraries. Created in 1997 it is intended to promote research in the theory and

practice of all aspects of Collective Memory, i.e. the fields of Digital Libraries, Digital Museums and Digital Archives. A discussion forum is provided through a newsletter and the Bulletin.

Membership in the committee is free,⁷⁸ but membership in the IEEE is based on qualification and \$161 USD a year for USA citizens down to \$127 for Latin American citizens.⁷⁹ There also appears to be institutional membership.⁸⁰

The IEEE Committee system provides one model that is applicable to DPE and its approach. Individuals are invited to contribute time and expertise to the furtherance of the field in return for peer recognition. Individuals adhere to the system through a tax-deductible contribution to the Society and in some cases, with some of these committees, there are institutional memberships that help support the activities of the committees, i.e. forums and meetings.

What DPE can take from this is that it might be possible to maintain its peer-driven approach while instituting contributing membership at approximately these levels of subscription.

Working cooperatively with IEEE and especially the TCDL could help raise the credibility of DPE outside the ALM community, particularly among the community of practice and the community of interest in business and industry. DPE should explore whether by providing some services to this group, i.e. workshops and training seminars, this could be an expanded market.

International Federation of Library Associations (IFLA)

<http://www.ifla.org>

An international organisation representing the interests of library and information services and their users. IFLA membership comprises International, National and Other Associations, Institutions, and Personal and Student Affiliates. Corporate Partners can choose to contribute at the Gold, Silver or Bronze levels. IFLA has 1,700 members in 150 countries around the world.

Joint initiatives of IFLA and DPE could enhance DPE presence in the library community. Joint sessions, training and workshops twinned with IFLA events can contribute to the increased popularity and credibility of DPE. DPE could consider the option of offering special rates for its services to IFLA members (as well as to selected other professional associations with wide coverage).

Library of Congress, Digital Preservation

<http://www.digitalpreservation.gov/>

The Library of Congress has adopted a collaborative approach to the collection and preservation of digital information in order to remain relevant and useful to Congress and its constituents in the digital age.

⁷⁸ <http://www.ieee-tcdl.org/>

⁷⁹ <http://www.ieee.org/portal/index.jsp>, fees are announced on <http://www.ieee.org/web/membership/Cost/dues.html>

⁸⁰ Interview with Wendy Duff, June 2004.



In December 2000, Congress asked the Library to lead a collaborative project, called the National Digital Information Infrastructure and Preservation Program (NDIIPP), in recognition of the importance of preserving digital content for future generations. Congress passed special legislation (Public Law 106-554) appropriating \$100 million to the Library of Congress to lead this effort. The goal of the programme was to develop a national strategy to collect, archive and preserve the growing amounts of digital content, especially materials that are created only in digital formats, for current and future generations.

The programme is organised to accomplish five goals:

- 1) Identify and collect at-risk born-digital content.
- 2) Build and support a national network of partners.
- 3) Develop and use technical tools and services for preservation.
- 4) Encourage public policy to support digital preservation.
- 5) Show why digital preservation is important for everyone.

This Library of Congress website is collecting technical information about file formats relevant to the Library's digital collections,⁸¹ in order to inform preservation decisions. It also includes an overview of factors that may affect the sustainability of formats over the long term.

The activities of the Library of Congress are of immense scale. It is important for DPE to follow what would be the leading USA development in the preservation field.

National Library of Australia: Preserving Access to Digital Information (PADI)

<http://www.nla.gov.au/padi>

The National Library of Australia's Preserving Access to Digital Information (PADI) initiative aims to provide mechanisms that will help to ensure that information in digital form is managed with appropriate consideration for preservation and future access. Its objectives are: to facilitate the development of strategies and guidelines for the preservation of access to digital information; to develop and maintain a website for information and promotion purposes; to actively identify and promote relevant activities; and to provide a forum for cross-sectoral cooperation on activities promoting the preservation of access to digital information. The PADI website is a subject gateway to digital preservation resources.

The Digital Collections Policy⁸² indicates the directions the National Library of Australia intends to take in preserving its own digital collections, and in collaborating with others to enable the preservation of other digital information resources likely to be of value to NLA users. The National Library's preservation role is guided by its key objective to preserve and maintain all Australian and significant non-Australian library materials to ensure they are available for current and future use. This objective applies to both digital and non-digital information resources, although the Library recognises that it will use different methods and draw on different skills, procedures and partnerships, for managing digital and non-digital collections. The National Library also seeks to help others preserve the Australian information resources for which they accept responsibility.

⁸¹ <http://www.digitalpreservation.gov/formats/index.shtml>

⁸² <http://www.nla.gov.au/policy/digpres.html>

It is important for DPE to follow what would be the Australian development in the preservation field.

National Library of Canada, Inventory of Canadian Digital Initiatives

<http://www.collectionscanada.ca/initiatives/index-e.html>

The National Library is responsible for collecting and preserving Canada's published heritage so that it is available for present and future generations of Canadians. Under its mandate the National Library also serves as a depository for government publications, provides support to the federal library community, provides leadership for the Canadian library network, provides models and standards for access to and preservation of electronic publications.

The Canadian Inventory of Digital Initiatives provides descriptions of Canadian information resources created for the Web, including general digital collections, resources centred round a particular theme, and reference sources and databases. The database provides project/resource names, participating organisations, general and technical descriptions, subject categories (broad Dewey decimal classes), contact information and other details. All institutions or individuals are encouraged to submit an entry about the digital information resources they are currently creating, planning or have completed.

The activities within the Canadian Inventory of Digital Initiatives are important for DPE to be aware of the key developments in Canada.

National Library of Finland

<http://www.lib.helsinki.fi/english/index.htm>

The National Library of Finland is responsible for long-term preservation of Finnish electronic publications, including audiovisual containers as well as web publications. The Library also digitises its collections of printed material and recorded sound in order to secure their preservation and increase their availability to the public.

National Library of New Zealand

<http://www.natlib.govt.nz/>

Interest in end-to-end processes for digital preservation – permissions/policies, managing multiple ingest streams, preservation metadata, automated processes, persistent identifiers, authenticity/integrity routines, business change impact, sustainability etc.

Following developments in the National Library of New Zealand is important for being informed on the local activities.

Online Computer Library Centre (OCLC)

<http://www.oclc.org/>

Founded in 1967, OCLC Online Computer Library Centre is a non-profit, membership, computer library service and research organisation dedicated to furthering access to world information and reducing information costs. More than 45,000 libraries in 84 countries and territories around the world use OCLC services to locate, acquire, catalogue, lend and preserve library materials.

Researchers, students, faculty, scholars, professional librarians and other information seekers use OCLC services to obtain bibliographic, abstract and full-text information. OCLC and its member libraries cooperatively produce and maintain WorldCat – the OCLC Online Union Catalogue.

There are three levels of membership – Governing members, Members and Participants.

Governing Members contribute all current cataloguing and holdings to WorldCat and receive service credits from OCLC for their contributions. Members do not contribute all of their current cataloguing to WorldCat; they do contribute to other cooperative products or services provided by OCLC and its affiliates. Participants contract to use OCLC products and services without any obligation to return any intellectual content to the cooperative.

OCLC welcomes information organisations around the world to be a part of the cooperative with participation available to libraries, museums, archives, historical societies and professional associations.

Although OCLC's main activities are online cataloguing, collection management services, eContent and reference services, it is in the area of digital collections and preservation where there is significant overlap with the DPE community of practice, offering software to assist in digitisation of collections, harvesting born-digital items, and advice and assistance in preservation where OCLC cuts across the lines of DPE interest.

While American based, OCLC appears to have worldwide appeal through the community of interest of librarians and their tradition transnational approach to cooperation. It is worthwhile for DPE to pursue joint work on offering services.

The Southeastern Library Network (SOLINET)

<http://www.solinet.net/>

SOLINET – the Southeastern Library Network, Inc. – is a not-for-profit library cooperative serving the Southeastern United States (Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia) and the Caribbean. A membership network of libraries and other information organisations, SOLINET works in collaboration with many partners, from local to international, to provide leadership for cooperative action, improve access to information, and enable members to effectively anticipate and address the region's needs for education, economic development and improved quality of life.

Founded in 1973 by 99 visionary libraries, SOLINET now has a membership of some 2,600 libraries of all sizes and types: academic, research, public, school, corporate, medical, law and special. SOLINET is the largest regional library network in the United States.

Joint endeavours with SOLINET could include promotion of DPE products and services and establishing an audit certification programme for the member libraries of SOLINET.

Wellcome library

<http://library.wellcome.ac.uk/>

The Wellcome Library today is one of the world's greatest collections for the study of the history of medicine. The print, manuscript, audio, film, pictorial and digital collections are a national treasure and an unrivalled intellectual resource. In the digital research environment the Library has made a long-term commitment to develop its capability to incorporate born-digital materials into its collections. It has appointed a permanent staff member who is responsible for developing the

processes for acquiring and managing born-digital material. The Library also participates in the UK Web Archiving Consortium, selecting and archiving sites in line with the Library's collection development policy. The Wellcome Trust – through the Wellcome Library – is also working with a group of UK biomedical research funders to develop a UK version of PubMed Central. Though the primary aim of UKPMC⁸³ is to facilitate better access to the research literature – and create new services and tools that meet the needs of the research community – long-term preservation of the 'minutes of science' is another key objective.

This is an excellent example of professional library and resources. DPE could collaborate on establishing preservation programmes and could offer repository and audit certification services.

⁸³ <http://ukpmc.ac.uk>

MUSEUMS

European museum forum

<http://www.europeanmuseumforum.org/>

Independent organisation founded in 1977. Under the auspices of the Council of Europe. The secretariat of EMF has its head office in Bristol (UK). EMF maintains an Archive at the Institut für Museumskunde in Berlin accessible to researchers, which contains information on every museum candidate for the European Museum of the Year Award since 1977. It has 45 member states of the Council of Europe. More than 1,400 museums were visited and assessed so far under the Emya (European Museum of the Year Award) scheme. The EMF Association gathers an average of 300 members per year.

Working cooperatively with the European museum forum could help raise the credibility of DPE in the European museum community. DPE could offer training programmes, certification and repository services. In addition, the network could help in performing future surveys on the development of the long-term preservation programmes in museums.

Finnish Museum Association

<http://www.museoliitto.fi/en.php>

Established in 1923, the Finnish Museum Association's core tasks are to safeguard the interests of the museum field and provide information as well as education and training. The Finnish Museums Association is the central organisation for Finnish Museums: the members are the owner organisations of Finnish museums.

The Finnish Museum Association has 196 member societies. These manage a total of 384 museums. Any society having legal capacity and practising museum operations in Finland is eligible for membership in the association.

Joint endeavours with the Finnish Museum Association could include training programmes, as well as certifications and repository services.

The Institute of Museum and Library Services (IMLS)

<http://www.ims.gov>

The Institute of Museum and Library Services is the primary source of federal support for the US 122,000 libraries and 17,500 museums. The Institute's mission is to create strong libraries and museums that connect people to information and ideas. The Institute works at the national level and in coordination with state and local organisations to sustain heritage, culture and knowledge; enhance learning and innovation; and support professional development.

Working cooperatively with the IMLS could greatly enhance the credibility of DPE in the US museum and library community. DPE could offer training programmes, certification and repository services.

Institut für Museumskunde (Institute for Museum Research)

<http://www.smb.spkberlin.de/ifm/index.php?ls=10&topic=Kontakt&lang=en&te=ja&tf=ja>

The issues covered by the Institute's research and documentation activities encompass the whole range of museum-related subjects such as: museum management, museum education, didactics, usage of new media in museums, 'museums and law', museum statistics, visitor research and evaluation projects, European projects, museum documentation, museum security and technical aspects of museum work. Within these topics research projects are organised on various subjects and the results of the work published. Furthermore scientific results of related research projects are documented and made accessible to the museum public.

The work on museum statistics includes a yearly survey on all German museums. Since 1995 they have organised an Expert Meeting on museum statistics annually in which they analyse different national statistics in order to acquire better comparable European data. The Institute meanwhile has established contacts with ten countries and plans to enlarge the work on this topic.

The Institute for Museum Research could be an excellent partner in the strategic planning for future collaboration with the researchers' community and the outlining of prospective research areas.

Museum Documentation Association (MDA)

<http://www.mda.org.uk/>

MDA is the UK's lead organisation on documentation and information management for museums. It provides advice, support and guidance to museum professionals to help them achieve national standards in the management of their collections. It is a registered charity, funded by a grant from the Museums, Libraries and Archives Council (MLA).

The cooperation of DPE with MLS along the lines of preservation standards and design of proper documentation could be a key benefit to the digital preservation community.

Network of European Museum Organisations (NEMO)

<http://www.ne-mo.org>

NEMO is the Network of European Museum Organisations. It is made up of museum organisations within the countries of the European Union (EU) as well as representatives from the countries associated with the EU.

Working cooperatively with NEMO could be another option to help raise the credibility of DPE in the European museum community. Since this is a network of organisations, DPE could offer training programmes, certification and repository services. In addition, the network could help in performing future surveys on the development of the long-term preservation programmes in museums.

AUDIOVISUAL MATERIALS

The Association of European Cinémathèques (ACE)

<http://www.acefilm.de/>

The Association of European Cinémathèques (ACE) is an affiliation of over 30 national and regional preservation film archives from all over Europe. Its joint role is to protect the European film heritage and to assure that the audiovisual records of our century survive to be enjoyed and studied for generations to come.

Recognising that film is essentially trans-national in character and that its problems of survival cannot be solved at national level alone, the founder members of ACE came together in the late 1980s to seek cooperative ways of saving and restoring the European film heritage.

ACE's main aims are to guarantee the survival of the European film heritage and to ensure and enhance its continuing visibility on the cinema screen as well as through new moving-image technologies.

Working in cooperation with ACE is a way to present DPE, its products and services to the film archives from Europe. DPE could be involved in consultancy, repository and audit services and training with an emphasis on the preservation of moving images.

The Association of Moving Image Archivists (AMIA)

<http://www.amianet.org/>

The Association of Moving Image Archivists (AMIA) is a non-profit professional association established to advance the field of moving image archiving by fostering cooperation among individuals and organisations concerned with the acquisition, preservation, exhibition and use of moving image materials.

AMIA's members range from those who work solely with moving images to organisations where moving images are only a small part of their collection to individuals who want to protect their personal collection – home movies or small gauge or video – to film buffs concerned with losing our visual heritage.

AMIA currently represents over 750 individuals and institutions from the United States and Canada and around the world. In recent years, AMIA has taken on an international dimension as archivists from over 30 countries have joined the association. Annual membership dues are: \$75 individual, \$250 non-profit institutional, \$500 for-profit institutional.⁸⁴

Joint endeavours of DPE and AMIA could be an excellent channel for outreach in the audiovisual preservation community in the USA and Canada. The first actions should be targeted at presentation of DPE and its activities and organisation of joint training programmes. Since this is a highly specialised

⁸⁴ <http://www.amianet.org/membership/membership.html>

group, detailed surveys of the current status and the needs of the moving image specialists could be conducted jointly.

The Association for Recorded Sound Collections (ARSC)

<http://www.arsc-audio.org/>

Founded in 1966, the Association for Recorded Sound Collections (ARSC) is a non-profit organisation dedicated to research, study, publication and information exchange surrounding all aspects of recordings and recorded sound. With over 1,000 members from 23 countries, the organisation is comprehensive in scope and reflects the interests and concerns of its members, including: collectors, dealers, appraisers, archivists, librarians, historians, musicians, students, discographers, reviewers, media producers and recording engineers.

Through publications, grants and awards, conferences and the work of its committees, the Association provides a forum for the development and dissemination of discographic information in all fields and periods of recording and in all sound media. In addition, ARSC works to encourage the preservation of historical recordings, to promote the exchange and dissemination of research and information about them, and to foster an increased awareness of the importance of recorded sound as part of any cultural heritage.

Membership is available in the following categories: Individual Membership \$36, Institutional Membership \$40, Sustaining Membership, \$72, Donor Membership, \$200, Patron Membership \$500, Benefactor Membership \$1,000.

Collaboration of DPE and ARSC would be targeted at assuring maximum penetration of DPE within the community of those who work on sound records' preservation. Since this is also a specific target group, surveys of the current status and the needs of the sound records specialists could be carried out in cooperation.

The Image Permanence Institute (IPI)

<http://www.imagepermanenceinstitute.org/>

The Image Permanence Institute (IPI) is a university-based, non-profit research laboratory devoted to scientific research in the preservation of visual and other forms of recorded information. It is the world's largest independent laboratory with this specific scope. IPI is a provider of information, consulting services, practical tools and preservation technology for libraries, archives and museum collections worldwide.

IPI's staff of fifteen works in six principal areas: research on the stability of information media, collection management and environmental standards, ISO standards development for imaging media preservation, testing of archival and imaging materials, training of photograph conservators, outreach through publications and consultation.

The IPI could be an excellent partner in the strategic planning for future collaboration with the researchers' community and the outlining of perspective research areas.

The International Federation of Film Archives (FIAPF)

<http://www.fiafnet.org/uk/>

FIAF, the International Federation of Film Archives, brings together the world's leading institutions in the field of moving picture heritage. Its affiliates are the defenders of the Twentieth Century's own art form. They are dedicated to the rescue, collection, preservation and screening of moving images, which are valued both as works of art and culture and as historical documents. FIAF comprises more than 130 institutions in over 65 countries.

Working in cooperation with FIAF will be of benefit to DPE to present its products and services to the film archives from all over the world. DPE could be involved in consultancy, repository and audit services and training with an emphasis on the film archives.

National Film Preservation Foundation

<http://www.filmpreservation.org/>

The National Film Preservation Foundation (NFPF) is the non-profit organisation created by the US Congress to help save America's film heritage. It supports activities nationwide that preserve American films and improve film access for study, education and exhibition.

The NFPF started operations in November 1997 with the support of the Academy of Motion Picture Arts and Sciences and The Film Foundation. Many in the entertainment and foundation community have pitched in to help. It maintains contacts with a community of archives all over the USA.

The cooperation with NFPF will introduce DPE to the US film preservation community. DPE could intervene with consultancy, repository and audit services and training in the field of film preservation.

IMMOVABLE HERITAGE

Archaeology Data Service (ADS)

<http://ads.ahds.ac.uk/index.html>

The Archaeology Data Service (ADS) supports research, learning and teaching with high-quality and dependable digital resources. It does this by preserving digital data in the long term, and by promoting and disseminating a broad range of data on archaeology. The ADS promotes good practice in the use of digital data in archaeology, it provides technical advice to the research community, and supports the deployment of digital technologies.

DPE and ADS could collaborate on the study of specifics of archaeological data preservation. Preservation solutions could be offered to organisations that collaborate with ADS.

International Committee for Architectural Photogrammetry (CIPA)

<http://cipa.icomos.org/>

The International Committee for Architectural Photogrammetry (CIPA) is one of the international committees of ICOMOS (International Council on Monuments and Sites) and was established in collaboration with ISPRS (International Society of Photogrammetry and Remote Sensing). Its main purpose is the improvement of all methods for surveying of cultural monuments and sites, especially by synergy effects gained by the combination of methods under special consideration of photogrammetry with all its aspects, as an important contribution to recording and perceptual monitoring of cultural heritage, to preservation and restoration of any valuable architectural or other cultural monument, object or site, as a support to architectural, archaeological and other art-historical research. CIPA has national representatives from 46 countries all over the world.

Working in cooperation with CIPA will be of benefit to DPE to present its products and services to the society of architectural photogrammetry specialists all over the world. DPE could be involved in consultancy, repository and audit services and training.

PROFESSIONAL COMMUNITIES

PROFESSIONAL COMMUNITY IN TRADITIONAL AND DIGITAL PRESERVATION

In this part we list organisations from the traditional digital preservation community, as well as such bodies active in the whole ALM sector.

In cases where institutions from the preservation sector are still not applying digitisation programmes, DPE could be a key partner in establishing and implementing appropriate solutions. It should also play another key role: to promote the understanding of digitisation as a new method for scientific documentation and the necessity of long-term preservation.

Collaboration with these professional communities might include awareness campaigns, specialised seminars, surveys of the status of preservation activities, and agreements for service provision.

A special membership with clauses on cross-awareness campaigns between DPE and the respective professional coalition will be offered.

Arts and the Humanities Data Service (AHDS)

<http://ahds.ac.uk/index.htm>

The AHDS is a UK national service funded by the Joint Information Systems Committee and the Arts and Humanities Research Board. Organised via an Executive at King's College, London, and five Subject Centres from various Higher Education institutions, the AHDS aids the discovery, creation and preservation of digital collections in the arts and humanities. On the AHDS website you can find out about the work of the AHDS, participate in its training events, consult its publications, and search its wide-ranging collections.

Working in cooperation with the AHDS is possible in the areas of repository services and audit certification services.

The Canadian Heritage Information Network (CHIN)

<http://www.chin.gc.ca/English/index.html>

CHIN provides resources for museums, resources for digitisation, and access to information on companies and experts in the digitisation field. Much of this information, while more closely centred on the North American market, is of interest to the DPE community of interest. In addition, there are important aspects of DPE products and services that are important to CHIN and its users and interest groups.

Recent conversations with CHIN officials have highlighted the importance they give to DPE's technology watch and the crucial nature of the information provided.⁸⁵

⁸⁵ The example that they gave is a recent item that suggested that Kodak was going to discontinue production of the slide projector. The loss of this important tool in Art History education and practice is a crucial piece of information that the craft must plan for and is therefore emblematic of the importance of this service.



The interview discussed the issue of DPE charging memberships, a strategy that CHIN is now re-visiting, particularly for users outside Canada. The opinion of CHIN is that institutional level memberships are important to the organisation, while those of a personal nature, except for consultants and individual freelancers, are less so.

Just as DPE usage is increasing outside Europe, CHIN finds that in serving the Canadian community the boundary-free nature of the Internet ensures that fully 75% of its usage is from outside Canada.⁸⁶ This is the price they pay to serve their community of interest in Canada. This is instructive in that, although DPE may focus on a European base, in practice the community of practice and community of interest are worldwide.

In the light of CHIN's high regard for DPE services and its current policy development on user charges, it may be possible for DPE to offer a joint service with CHIN, which could enhance both organisations' profiles and suite of services, while at the same time expand usage and user base to the advantages of both, better serving Canadian, European and world communities.

Cornell University Library (CUL), Department of Preservation and Collection Management

<http://www.library.cornell.edu/preservation/>

One of the leading preservation centres in the USA. Runs the Digital Preservation Management workshop series.

Works on projects related to digital preservation.

PRISM⁸⁷ is a four-year collaborative effort between the CUL and the Cornell's Computer Science Department to investigate and develop policies and mechanisms needed for information integrity in the context of a component-based digital library architecture. The key research areas include long-term survivability of digital information, reliability of information resources and services, interoperability and security (the privacy rights of users of information and the intellectual property rights of content creators), and metadata that makes it possible to ensure information integrity in digital libraries. At the heart of this project is translating the traditional preservation strategies to the digital realm in order to support the development of digital preservation tools and mechanisms.

The *File Format and Media Migration pilot service*⁸⁸ provides resources and assistance to Cornell faculty who need to move digital information from obsolete media (e.g. floppy disks) to more modern media (e.g. CDs) and, when possible, from obsolete file formats to currently supported ones. CUL IRIS Research and Assessment Services is keenly aware of the burgeoning problem of digital data loss due to obsolescence. Rapidly evolving technology has sometimes left important data on older style media, but the drives required to read them are no longer available. Files written with older file formats may become unusable once the software needed to open them becomes obsolete. With an ongoing commitment to research and policy development for digital preservation, Research and

⁸⁶ <http://www.chin.gc.ca/>

⁸⁷ <http://www.library.cornell.edu/iris/research/prism/index.html>

⁸⁸ <http://www.library.cornell.edu/iris/migration/index.html>



Assessment Services started the File Format and Media Migration pilot service to determine the extent that these problems affect the Cornell community, to provide assistance with migrating digital information on to modern media, to foster awareness of the threat of technological obsolescence, and to promote best practices to avoid the loss of digital information.

Working in cooperation with the Department of Preservation and Collection Management could help to reach the library conservation community in the USA which is already interested in digital preservation. Joint training events and study of needs and requirements are options for cooperation. This community could potentially be a consumer of the DPE repository and audit certification services.

Digital Curation Centre

<http://www.dcc.ac.uk/>

Scientists, researchers and scholars across the UK generate increasingly vast amounts of digital data, with further investment in digitisation and purchase of digital content and information. The scientific record and the documentary heritage created in digital form are at risk from technology obsolescence from the fragility of digital media, and from lack of the basics of good practice, such as adequate documentation for the data. Working with other practitioners, the Digital Curation Centre supports UK institutions who store, manage and preserve these data to help ensure their enhancement and their continuing long-term use.

Digital Preservation Coalition (DPC)

<http://www.dpconline.org/graphics/index.html>

The Digital Preservation Coalition was established in 2001 to foster joint action to address the urgent challenges of securing the preservation of digital resources in the UK and to work with others internationally to secure the global digital memory and knowledge base.

DCP activities included advisory groups, working groups, and task forces charged with a range of objectives but all broadly concerned with digital preservation issues.⁸⁹ The DCP community is largely from public sector archives and libraries, with the occasional museum.

There are three classes of participation: Full Members, Associate Members and Allied Organisations or Individuals. Organisations can also sponsor Coalition activities or projects and events to be undertaken by the Coalition.⁹⁰ Full membership is £10,000 a year, Associate Membership is £2000 a year.

⁸⁹ These are:

Copyright and Licensing for Digital Preservation Project Advisory Group;

CURL Taskforce on Digital Content Creation and Curation;

CURL Digital Resource Management Sub-Group;

Experts Working Group on the Preservation of Digital Memory;

PADI International Advisory Group;

PREMIS (PREservation Metadata: Implementation Strategies);

RLG/NARA Task Force on Digital Repository Certification.

⁹⁰ <http://www.dpconline.org/graphics/join/>

DPC undertakes advocacy and in-service education to raise the level of interest and competence in digital preservation. It undertakes surveys,⁹¹ publishes reports, and guides and undertakes forums that are largely parallel to the areas of interest of DPE. As a measure of its success, the Annual Report of 2003 suggests that the DPC website has received 58,000 visitors and 1.3 million hits over this period: a very high figure for a recently established and specialised site. An increase of \$43 for pages downloaded, and 54% for total visits was reported in the Annual Report of 1 August 2004 – 31 July 2005.⁹²

A particularly valued part of the site is the online edition of *Preservation Management of Digital Materials: A Handbook*. In its first year the print edition has sold over 1,200 copies worldwide and is widely cited as one of the leading resources on the topic.⁹³

There is strong overlap with the DPE community of practice that could lead to some practical cooperation with the organisation. The only caveat is that DPC is entirely country based while the focus of DPE is Europe, if not worldwide. One approach DPE could consider is undertaking relevant workshops and training sessions in the UK jointly with DPC, in particular for the private sector.

A DPC ICT industry survey conducted in 2002⁹⁴ raised the question of whether more could be done by DPC to broaden involvement in private-sector ICT companies involved in digital preservation or vendors of software and hardware. Similarly, while there are some private archives like Wellcome as DPC members, there seems to be a market here for that expansion. The only problem is that the market for this is probably too small for one country in Europe and indeed is more likely Europe wide. A concerted effort by DPE to expand membership and involvement through corporate sponsorship could be of benefit to both organisations and be the basis of a strategic partnership.

European Commission on Preservation and Access (ECPA)

<http://www.knaw.nl/ecpa/>

ECPA was established in 1994. It promotes activities aimed at keeping collections in European libraries and archives accessible over time. It organises conferences and workshops, and publishes reports on preservation and access issues.

ECPA collects data for a Preservation Map of Europe,⁹⁵ which provides information on 41 countries in Europe⁹⁶. It has developed GRIP (Gateway for Resources and Information on Preservation),⁹⁷ a fully searchable database of information on preservation of the documentary heritage.

⁹¹ For example, a survey of IT vendors.

⁹² <http://www.dpconline.org/docs/DPCAR04-05.pdf>

⁹³ DCP Annual Report 2003. <http://www.dpconline.org/docs/guides/directory.pdf>

⁹⁴ <http://www.dpconline.org/graphics/reports/isreportp3.html>

⁹⁵ <http://www.knaw.nl/ecpa/map/index.html>

⁹⁶ As of 6 April 2007, Serbia and Montenegro appear on the Preservation Map as one single state.

⁹⁷ <http://www.knaw.nl/ecpa/grip/about.html>



DPE and ECPA could produce joint publications and training events. An agreement of acknowledgement of DPE audit certification and its recommendation by ECPA is a key step for the European preservation community.

Global Information Locator Service

<http://www.gils.net>

This site contains useful information and links on the Global Information Locator Service, a new approach designed to address one of the most crucial challenges being faced in the 21st century: enabling people to find and retrieve information easily even as information sources expand and diversify. Fundamentally, GILS is about managing information content, not just picking new information technologies. GILS is a strategic partner, especially for the repository identifiers' services.

Information Management Forum

http://www.imforum.gc.ca/home_e.html

The Information Management Forum, co-chaired by the Treasury Board Secretariat and the National Archives of Canada, was established in January 1997 to bring together those Directors (or their equivalents) from departments and agencies in the Government of Canada who share a common interest regarding the effective management of information. Represented on the Forum are lead agencies such as Treasury Board Secretariat, the National Archives of Canada, the National Library of Canada and Justice Canada, as well as associations such as the Council of Federal Libraries, the Records Management Institute, the Association of Records Managers and Administrators, and the Data Processing Institute. While its initial focus had been on resolving issues associated with the management of government records, the sphere of interest of the forum has broadened to include all information management issues. The purpose of the Forum is to allow participants to share their experiences and to serve as a mechanism for the resolution of information management issues identified at the government-wide level. The Forum is also tasked with investigating potential future IM trends and ensuring the government is well prepared for any possible impacts. While the forum meets approximately every six weeks, considerable work is undertaken in the numerous working groups that have been established to address information management issues identified by Forum members.

This is another possible 'voice' of DPE in Canada that brings together key figures from the Canadian agencies in the area of archives and libraries, as well as information management organisations. Successful collaboration could be established along the lines of joint studies and projects, awareness campaigns, offering DPE services and products with promotional benefits for the members of the Forum.

International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM)

<http://www.iccrom.org/>

ICCROM is an intergovernmental organisation (IGO) dedicated to the conservation of cultural heritage. It exists to serve the international community as represented by its Member States, which currently number more than 110.

Training: ICCROM contributes to conservation training by developing new educational tools and materials, and organising professional training activities around the world. Since 1966, ICCROM's courses have involved over 4,000 professionals.

Information: ICCROM has one of the world's leading conservation libraries. The catalogue contains over 89,000 entries relating to books, reports and specialised journals in more than 40 languages. ICCROM also has a collection of over 17,000 images. In addition, the website offers comprehensive information on international events and training opportunities in the field of conservation-restoration.

The strategic directions for 2006-2010 build upon those adopted in 2001:

SD1. Supporting the capacity of national institutions responsible for cultural heritage in Member States to achieve their goals.

SD2. Encouraging the integration of risk preparedness, preventive conservation and maintenance strategies into national conservation policies.

SD3. Promoting policies that integrate concerns for all types of cultural heritage (movable and immovable, tangible and intangible, cultural and natural, living heritage etc.).

SD4. Working through partnerships and networks so as to maximise impact and to reduce duplication of effort among different agencies.

SD5. Ensuring long-term continuity of partnerships after specific collaborative programmes have concluded.

Internet Archive

<http://www.archive.org/>

The Internet Archive is building a digital library of Internet sites and other cultural artefacts in digital form. Like a paper library, it provides free access to researchers, historians, scholars and the general public. The Internet Archive, working with Alexa Internet, has created the Wayback Machine, which makes it possible to surf more than 10 billion pages stored in the Internet Archive's web archive. The Wayback Machine was unveiled on 24 October 2001 at U.C. Berkeley's Bancroft Library. You can visit the Wayback Machine by entering a URL or clicking on specific collections.

DPE could collaborate with the Internet Archive on training, consultancy, repository and audit certification services. Globally, the number of organisations that archive Internet content is growing and this could be a key experience.

National Preservation Office

<http://www.bl.uk/services/npo/npo.html>

The National Preservation Office (NPO) provides an independent focus for the preservation of and continuing accessibility to cultural heritage materials held in libraries, archives and museums in the United Kingdom and Ireland.

The NPO Board has identified three key areas for development and implementation of Work Packages for the period 2005-2008:



- ◆ The further development of the Preservation Assessment Survey (PAS) tool; training for preservation practitioners and collection managers in the use of the PAS tools; the maintenance of the NPO PAS database and the development and marketing of PAS-related services. The NPO will publish an annual digest of the PAS database and report.
- ◆ The maintenance of an enquiry service and the provision of print and web-based information services for preservation practitioners, collection managers, and agencies with responsibility for collections to inform, assist and improve collection care across the United Kingdom and Ireland.
- ◆ The provision of relevant training opportunities for preservation practitioners, initially in the following areas: introduction to preservation management; disaster management; environmental control and monitoring.

DPE could collaborate with the National Preservation Office on training, consultancy, repository and audit certification services.

The Long Now Foundation

<http://www.longnow.org/>

The Long Now Foundation was officially established in 1996 to develop the Clock/Library Projects as well as to become the seed of a very long-term cultural institution. It has been nearly 10,000 years since the end of the last Ice Age and the emergence of modern civilisation. Progress during that time was often measured on a 'faster/cheaper' scale. The Long Now Foundation seeks to promote 'slower/better' thinking and to focus our collective creativity on the next 10,000 years. The foundation also organises conferences.

DPE offers products and services that are in line with the Long Now Foundations goals. This could be a basis for audit certification, additional studies and participation in awareness campaigns.

The Museums, Libraries and Archives Council (MLA)

<http://www.mla.gov.uk/webdav/harmonise?Page/@id=90>

The Museums, Libraries and Archives Council (MLA) is the lead strategic agency for museums, libraries and archives. We are part of the wider MLA Partnership, working with the nine regional agencies to improve people's lives by building knowledge, supporting learning, inspiring creativity and celebrating identity. The Partnership acts collectively for the benefit of the sector and the public, leading the transformation of museums, libraries and archives for the future.

MLA was launched in April 2000 as the strategic body working with and for museums, archives and libraries, tapping into the potential for collaboration between them. The new organisation replaced the Museums and Galleries Commission (MGC) and the Library and Information Commission (LIC), and includes archives within its portfolio.

MLA's mission is to connect people and change lives through museums, libraries and archives.

It is a Non-Departmental Public Body (NDPB), sponsored by the Department for Culture, Media and Sport with the following strategic aims:

- Increase and sustain participation
- Put museums, libraries and archives at the heart of national, regional and local life
- Establish a world-class and sustainable sector and put it on the best footing for the future

Lead sector strategy and policy development:

MLA works in partnership and through collaboration with government departments, national and international organisations, and with umbrella bodies and other NDPBs and development agencies. It has nine Regional MLAs as key strategic partners in the English regions, with equivalent bodies in Scotland, Wales and Northern Ireland.

MLA is an important professional body in the UK. The benefit of such cooperation is that this body has all key memory institutions represented, which is beneficial for projects with wider professional coverage.

National Digital Information Infrastructure and Preservation Program (NDIIPP)

<http://www.digitalpreservation.gov/>

The U.S. Congress asked the Library of Congress to lead a collaborative project, called the National Digital Information Infrastructure and Preservation Program. In December 2000, Congress passed special legislation (Public Law 106-554) in recognition of the importance of preserving digital content for future generations, appropriating \$100 million to the Library of Congress to lead this effort. (A government-wide rescission of 0.22 per cent in late December 2000 reduced this special appropriation to \$99.8 million.) The Digital Preservation Program will seek to provide a national focus on important policy, standards and technical components necessary to preserve digital content. Investments in modelling and testing various options and technical solutions will take place over several years, resulting in recommendations to the U.S. Congress about the most viable and sustainable options for long-term preservation. The Library will work jointly with the Secretary of Commerce, the director of the White House Office of Science and Technology Policy, and the National Archives and Records Administration.

This is a key programme for the USA supporting major initiatives for provision and maintenance of digital content. It is important to follow its development and to present DPE at their meetings.

National Initiative for a Networked Cultural Heritage (NINCH)

<http://www.ninch.org/>

The National Initiative for a Networked Cultural Heritage (NINCH) is a diverse non-profit coalition of arts, humanities and social science organisations created to assure leadership from the cultural community in the evolution of the digital environment. The Initiative began in 1993 as a collaborative project of the American Council of Learned Societies, the Coalition for Networked Information, and the Getty Information Institute, an operating programme of the J. Paul Getty Trust. Working in cooperation with the NINCH is another channel for DPE positioning in the USA.

nestor - Network of Expertise in Long-term Storage of Digital Resources

<http://www.langzeitarchivierung.de/index.php?newlang=eng>

nestor, the network of expertise in long-term storage of digital resources, is a project of the German Federal Ministry for Education and Research (BMBF) within its framework programme Innovation and Jobs for the 21st Century Information Society, led by the National Library of Germany in Frankfurt.⁹⁸

The project's objective is to create a network of expertise in digital preservation for Germany. The long-term goal is a permanent distributed infrastructure for long-term preservation and accessibility of digital resources in Germany comparable to the Digital Preservation Coalition in the UK.⁹⁹ The project offers services that are similar to that of DPE.¹⁰⁰

nestor appears to parallel much of what DPE does well – the workshops and training – but for a German language audience. It could be possible for DPE to share the development of advanced services, and/or access from nestor certain services that DPE lacks, for instance criteria, access to its network of expertise and reports and guidelines, in return for providing nestor with services that it could be more cost-effective for DPE to provide.

Northeast Document Conservation Centre (NEDCC)

<http://www.nedcc.org>

NEDCC's mission is to improve the conservation efforts of libraries, archives, historical organisations, museums and other repositories; to provide the highest quality services to institutions without in-house conservation facilities or those that seek specialised expertise; and to provide leadership in the preservation and conservation fields.

The Centre is a national and international resource for preservation education. NEDCC's School for Scanning conference recently celebrated its tenth year with a record attendance of over 400 participants. NEDCC offers workshops on a variety of preservation topics and provides a wealth of information on its website. The Centre engages in international exchange programmes to improve the standard of conservation and preservation practice in other countries.

NEDCC is a leader in providing preservation information to museums, libraries, archives, historical organisations and other cultural institutions, as well as to private individuals. NEDCC's Preservation Leaflets (formerly called Technical Leaflets) cover a range of topics from the storage environment to care of photographs to planning and prioritising for preservation. NEDCC's comprehensive supplier list provides up-to-date contact information for providers of preservation services and supplies.

⁹⁸ Apart from DDB, the project group comprises the Bavarian State Library in Munich (BSB), the University and State Library of Lower Saxony (SUB) in Göttingen, the Computer and Media Service of Humboldt University in Berlin (HUB), the Institute for Museum Studies (IFM) of the State Museums of Berlin (Prussian Heritage) in Berlin and the Directorate-General of the Bavarian State Archives (GDAB) in Munich

http://www.langzeitarchivierung.de/modules.php?op=modload&name=FAQ&file=index&myfaq=yes&id_cat=4

⁹⁹ <http://www.langzeitarchivierung.de/index.php>

¹⁰⁰ A web-based information forum with information on different aspects of long-term archiving and long-term accessibility of digital resources in Germany; a platform for information and communication; criteria for trusted digital repositories; recommendations for certification procedures of digital repositories; recommendations for collecting guidelines; selection criteria of digital resources to be archived, guidelines and policies for the long-term preservation of digital resources; and the concept for a permanent organisation form of the 'network of expertise' in digital preservation.

NEDCC is active in outreach to the members of the professional society of conservators. It would be appropriate to present lectures/workshops during its School for scanning conference.

Records Management Association of Australia (RMAA)

<http://www.rmaa.com.au>

The purpose of the Association is to market records management and the skills of the records management profession to provide a forum to debate and develop records management principles and record-keeping techniques. The Records Management Association of Australia promotes best practices in records management as a vital business activity.

DPE and RMAA could collaborate on issues in which their competences intersect. DPE could suggest long-term preservation consultancy.

The World Conservation Union (IUCN, from the former name International Union for the Conservation of Nature and Natural Resources)

<http://www.iucn.org/>

The World Conservation Union is the world's largest and most important conservation network. The Union brings together 83 States, 110 government agencies, more than 800 non-governmental organisations (NGOs), and some 10,000 scientists and experts from 181 countries in a unique worldwide partnership.

The Union's mission is to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.

DPE could launch a large awareness campaign through WCO that would be aimed at the professional community that is still not applying preservation strategies vigorously. One important message that should reach this audience is that digitisation is becoming the basic method for scientific documentation. Collaboration on training, consultancy, repository and audit certification services would be possible.

UKOLN

<http://www.ukoln.ac.uk>

UKOLN provides advice and services on digital library and information management technologies to UK further and higher education, research and cultural heritage institutions. Digital preservation and curation research is an important and significant (though not the only) area of interest and activity at UKOLN. Through its involvement in the UK Digital Curation Centre and a range of other research projects, UKOLN has built up broad expertise in digital preservation topics, particularly with regard to preservation metadata and the long-term curation of web content and e-mail. Apart from the DCC, UKOLN's current digital preservation-related research activities include the DELOS network of excellence, projects on through-life knowledge and information management in engineering (the KIM project) and the development of repositories for providing ongoing access to materials, particularly through the EBank project on crystallographic datasets (eBank UK), and the Repositories Support

Project. Further information about other research and activities at UKOLN can be found on the UKOLN website.

UKOLN is a possible partner for joint research projects and awareness actions.

UNESCO - Memory of the World

UNESCO has launched the Memory of the World Programme to guard against loss of valuable archive holdings and library collections worldwide and to ensure their wide dissemination.¹⁰¹ Currently 53 countries have Memory of the World national committees. There are also regional committees, which among other things maintain a regional Memory of the World register and manage projects within the region. Funding for this Programme is from the UNESCO general budget.

The Programme has prepared a number of guides to digitisation, including standards for databases, storage and access to data that are parallel to some of the themes of DPE.¹⁰² It is possible that DPE could serve as a contractor to UNESCO and it might be possible to pick up users from this worldwide group. However, since most of UNESCO's clients are accustomed to a free service it is unlikely that they would be good candidates for conversion to pay-for-use.

DPE could provide to the Memory of the World Programme additional insight on the importance of long-term preservation and possible solutions. UNESCO is one of the stakeholders of the World Digital Library and this also adds value to the establishment of cooperation. The channels of UNESCO for professional outreach could be used to present digital preservation to professional communities in Africa and Latin America, which are still far from the state-of-the-art in this field.

OTHER PROFESSIONAL COMMUNITIES

From the vast number of ICT communities, we include in this section examples from the publishers' community, knowledge and information management community and eGovernment.

Publishers who produce electronic publications are natural users of preservation products and services.

Knowledge and information management specialists also work on long-term preservation issues.

eGovernment-related projects face the issue of long-term preservation of vast amounts of data.

With its expertise DPE could be a key partner to institutions from these three sectors. It could offer professional consultancy, training and solutions. At this stage, it is important to raise awareness and build up high professional recognition of DPE, its products and services.

¹⁰¹ http://portal.unesco.org/ci/en/files/11869/10766793251Background_paper-Feb_2004.doc/Background%2Bpaper-Feb%2B2004.doc

¹⁰² http://portal.unesco.org/ci/ev.php?URL_ID=2256&URL_DO=DO_TOPIC&URL_SECTION=201&reload=1086596457

In this section we do not comment on the possible collaboration of DPE with all of the institutions. These types of cooperation need additional study.

Association of Learned and Professional Society Publishers (ALPSP)

http://www.alpsp.org/ngen_public/

ALPSP is the international trade association for non-profit publishers and those who work with them.

ALPSP was formed in 1972 and today it is the only international trade association representing all types of non-profit publishers, as well as the largest trade association for scholarly and professional publishers. It has 350 members in 36 countries, publishing over 10,000 journals as well as books, databases and other products and services.

ALPSP's mission is to play an active part in shaping the future of academic and professional communication, promoting 'Scholarship-Friendly Publishing'.

ALPSP has a strongly international focus. It has local Chapters in North America and Australasia to coordinate events and other activities for members based in those areas; additional local Chapters are planned in future.

ALPSP offers full and associate membership with fees¹⁰³ varying from € 315 to 4960 according to the expenditure/turnover ceiling of the company.

SD6. Incorporating cultural heritage conservation theory and practice in education curricula at the university level.

SD7. Ensuring the widest possible access to information about conservation and its importance, by means of different media, different publics and different languages.

DPE could suggest specialised training programmes to ICCROM and contribute to all ICCROM strategic directions: SD1 (supporting the capacity of national institutions), SD2 (national conservation policies), SD3 (integrating concerns for all types of cultural heritage), SD4 (working through partnerships and networks to reduce duplication of effort), SD5 (ensuring long-term continuity of partnerships), SD6 (educational outreach at university level), and SD7 (widest possible access to information). The ICCROM community is a great opportunity for contact with 'traditional' specialists and a chance to promote digitisation and digital preservation as a new method for scientific documentation.

Association of Records Managers and Administrators (ARMA)

<http://www.arma.org>

ARMA International is a not-for-profit association serving more than 10,000 information management professionals in the United States, Canada and over 30 other nations. Its mission is to provide education, research and networking opportunities to information professionals, to enable them to use their skills and experience to leverage the value of records, information and knowledge as corporate assets and as contributors to organisational success.

¹⁰³ http://www.alpsp.org/ngen_public/default.asp?ID=261&groupid=193&groupname=Membership

Canada Institute for Scientific and Technical Information

http://cisti-icist.nrc-cnrc.gc.ca/main_e.html

CISTI's Research Press is in the process of digitising the back files of its research journals. Six of the titles have been digitised to date, with the remaining titles expected to be completed by April 2008.

Coalition for Networked Information (CNI)

<http://www.cni.org>

CNI is an organisation dedicated to supporting the transformative promise of networked information technology for the advancement of scholarly communication and the enrichment of intellectual productivity. Some 200 institutions representing higher education, publishing, network and telecommunications, information technology, and libraries and library organisations are CNI's Members. The coalition is sponsored by the Association of Research Libraries (ARL) and EDUCAUSE.

CNI aims at developing and managing networked information content; transforming organisations, professions and individuals, and building technology, standards and infrastructure.

Collaborative Electronic Notebook Systems Association (CENSA)

<http://www.censa.org>

CENSA is an international industry association and consulting firm, focused on driving the state of the art for electronic records systems and collaborative informatics technologies in software end-user and developer organisations.

CENSA is driving innovation, convergence and integration of technologies for building Collaborative Electronic Notebook Systems (CENS) and more advanced systems for Intelligent Collaborative Informatics for R&D, Manufacturing, team project data management, business process management and integration, and electronic records. Through its market development programmes, CENSA hosts major initiatives in informatics and software development that bring committed end-users and suppliers together to catalyse expansion of new markets.

CENSA emphasises existing commercial technologies as its starting point for projects. These technologies include collaborative informatics, intelligent semantic agents, content and workflow management and integration, web-based systems, standards and tools, electronic records creation, records management and archiving ... and other hardware and software systems that must be integrated with them ... such as lab instruments, mobile handheld computers, chemoinformatics, bioinformatics, and medical informatics tools, LIMS, project data management, and other static and dynamic collaborative computing systems.

Dublin Core Metadata Initiative (DCMI)

<http://dublincore.org/>

The Dublin Core Metadata Initiative is an open forum engaged in the development of interoperable online metadata standards that support a broad range of purposes and business models. DCMI's

activities include consensus-driven working groups, global workshops, conferences, standards liaison, and educational efforts to promote widespread acceptance of metadata standards and practices.

The Enterprise Content Management Association (AIIM)

<http://www.aiim.org/>

AIIM is a global enterprise content management association representing users and suppliers in all aspects of ILM. Perhaps AIIM is the best model for DPE, as they have been very successful particularly in the US and the UK.¹⁰⁴ The AIIM model appears to have relatively high corporate memberships of around \$1,000 and numbers of free seminars, which appear to be sponsored by the various vendor companies in this area. Professional Membership is US\$125 and Trade membership is US\$1,000.

Currently the AIIM community has grown to over 70,000 members in 150 countries worldwide.

AIIM appears to have strong credibility beyond the ALM base and particularly in the business and business applications context. Liaison and partnership with that group can raise the level of credibility of DPE as it moves beyond its ALM base. AIIM is particularly successful in its workshop and professional education programme. It is in that context that a strategic relationship with DPE would be most beneficial to both organisations. However, it might be difficult for AIIM to see what DPE brings to the relationship. For that reason a 'back door' way to involve itself with AIIM is in the context of the DLM Forum.

The European Patent Office (EPO)

<http://www.epo.co.at/index.en.php>

Established by the Convention on the Grant of European Patents (EPC) signed in Munich 1973, the EPO is the outcome of the European countries' collective political determination to establish a uniform patent system in Europe.

Ever more European patent applications are being filed directly with the EPO. In 2005 there were 16,900 first filings with no national priority – 10.2% up on the year before. Total filings rose by 7.2% to over 193,600.

Since mid-2005, the EPO has been issuing the European search report together with an initial opinion on the filed invention's patentability, the European search opinion. This helps applicants decide at an early stage whether it is worth continuing with the proceedings.

The EPO now has over 53 million documents in its main search database. It has added 1.3 million Chinese patent documents to its databases, some of them relating to traditional Chinese knowledge.

The EPO's European Patent Academy opened its doors at the start of 2005. During its first year it attracted some 3,000 participants to its courses and seminars.

Finnish Social Science Data Archive

<http://www.fsd.uta.fi/english/>

¹⁰⁴ With the caveat that it may be that the market through AIIM may be saturated.

The Finnish Social Science Data Archive (FSD) is a national resource centre for social science research and teaching. FSD provides a variety of services ranging from data archiving and dissemination to information service. Its primary goal is to increase the use of existing social science data in Finland and internationally.

Global Knowledge Partnership

<http://www.globalknowledge.org>

The GKP is a 'network of networks' with a diverse membership base comprising public, private and not-for profit organisations from both developed and developing countries. The Partnership was born as a result of the 1997 Global Knowledge Conference in Canada, hosted by the World Bank and the Government of Canada.

An elected executive committee serves as the decision-making body of the Partnership and holds a two-year term. For 2001-2003, the chair for the committee is the Government of Switzerland, represented by the Swiss Agency for Development and Cooperation (SDC), and the secretariat is hosted by the Government of Malaysia and represented by the National Information Technology Council (NITC).

International Council for Science (ICSU)

<http://www.icsu.org>

Founded in 1931 to promote international scientific activity in the different branches of science and its application for the benefit of humanity, the International Council for Science (ICSU) is one of the oldest non-governmental organisations in the world. ICSU's strength and uniqueness lie in its dual membership, National Scientific Members and International Scientific Unions, whose wide spectrum of scientific expertise allows ICSU to address major international interdisciplinary issues, which its Members could not handle alone. It maintains partnerships with 13 international organisations and supports a resource centre with publications. It has member organisations from some 80 countries all over the world.

International Council for Scientific and Technical Information (ICSTI)

<http://www.icsti.org>

ICSTI is a forum for interaction between organisations that create, disseminate and use scientific and technical information. ICSTI's mission cuts across scientific and technical disciplines, as well as international borders, to give member organisations the benefit of a truly global community.

ICSTI seeks to reduce or eliminate barriers to effective transfer of information by:

- ◆ Promoting the value of scientific and technical information to the world's economic, research, scholarly and social progress.
- ◆ Enhancing access to and delivery of information to business, academia, government and the public.

- ◆ Forging better relations among the different communities involved in information transfer, from generator to disseminator to user.

It has some 50 members worldwide.

Institute for Scientific and Technical Information (INIST)

<http://international.inist.fr/>

The Institute for Scientific and Technical Information (INIST) is a unit of the French National Centre for Scientific Research (CNRS) under the administrative authority of the French Ministry in charge of scientific research. Its mission is to facilitate access to findings of all fields of worldwide scientific research.

INIST-CNRS relies on one of the most important collections of scientific documents in Europe to provide a whole range of information services:

- Document delivery services
- Online holdings catalogues
- Online bibliographic databases
- Information portals providing access to electronic resources and dedicated to specific scientific communities.

INIST has a document collection covering the core international literature in Science, Technology, Medicine, Humanities and Social Sciences. It offers document delivery that includes a periodical collection of 26,000 titles with 8,700 current subscriptions; 75,000 French scientific reports; 115,000 French and International conference proceedings; 125,000 French doctoral dissertations in Science and Technology back to 1985, as well as around 10,000 books.

International Association of Scientific, Technical and Medical Publishers (STM)

<http://www.stm-assoc.org/who-are-stm-members-folder/>

STM is a broad and welcoming organisation, which includes large and small companies, not-for-profit organisations and learned societies, traditional primary and secondary publishers and new players. Members have the opportunity to participate in a body central to the wellbeing of its industry.

The mission of STM is to create a platform for exchanging ideas and information and to represent the interest of the STM publishing community in the fields of copyright, technology developments, and end-user/library relations. STM aims:

- ◆ to assist publishers and their authors in their activities in disseminating the results of research in the fields of science, technology and medicine;
- ◆ to assist national and international organisations and communications industries in the electronic environment, who are concerned with improving the dissemination, storage and retrieval of scientific, technical and medical information;

◆ to carry out the foregoing work of the Association in conjunction with the International Publishers Association (IPA) and with the national publishers associations and such other governmental and professional bodies, international and national, who may be concerned with these tasks.

STM participates in the development of information identification protocols and electronic copyright management systems. STM members are kept fully up to date (via regular newsletters) about the issues that will ultimately affect their business as global standards are accepted.

STM organises information-sharing seminars and training courses. Its General Assembly is held annually, one day preceding the Frankfurt Book Fair.

STM is an international association of about 100 scientific, technical, medical and scholarly publishers, collectively responsible for more than 60% of the global annual output of research articles, 55% of the active research journals and the publication of tens of thousands of print and electronic books, reference works and databases.

ISO 'Archiving Standards' (Open Archival Information System)

<http://ssdoo.gsfc.nasa.gov/nost/isoas/overview.html>

ISO has encouraged the development of standards in support of the long-term preservation of digital information obtained from observations of the terrestrial and space environments. ISO has requested that the Consultative Committee for Space Data Systems Panel 2 coordinate the development of those standards. The initial effort has been the development of a Reference Model for an Open Archival Information System (OAIS). That is now being reviewed as an ISO Draft International Standard (DIS).

International Records Management Trust

<http://www.irmt.org/>

The Trust was set up in 1989 to help develop new strategies for managing public sector records. Records are so fundamental to democracy that governments and international organisations often take it for granted that records will be there to underpin constitutional arrangements. However, over the last several decades there has been a deterioration in the management of official records, with consequences for efficiency, effectiveness, accountability, and the protection of human rights services to citizens, poverty reduction strategies and the rule of law.

The work of the trust falls into three areas – consultancy, education and training and development research. Members include national archives and the international records management community as well as aid agencies.

The Trust is a UK registered charity governed by a board of trustees. Its London office manages the delivery of a portfolio of international projects, while a consultancy team of over 60 practising professionals, drawn from the public and private sectors and from academic institutions, is able to offer a unique range of international experience and specialist capabilities. The Trust also works in partnership with a range of public sector institutions, international donors, professional associations, consultancy firms, academic institutions and NGOs.¹⁰⁵

¹⁰⁵ <http://www.irmt.org/about.html>

The Trust has about £1 million a year in income and expenditures. Recent funding has come from the Commonwealth Secretariat and the World Bank.

While there is some overlap with the community of practice of DPE, this group is not a likely vehicle for cooperation, although the Trust undertakes the same suite of products and services as DPE. However, the concept of a trust is an interesting possibility for continuing support. The other interesting observation is that the Trust promotes activities particularly in the areas of consulting that serve to support the professional interest of its members. This may be a line of business for DPE to pursue more actively via Guidance.

Joint Information Systems Committee (JISC)

<http://www.jisc.ac.uk/>

The Joint Information Systems Committee (JISC) supports further and higher education by providing strategic guidance, advice and opportunities to use Information and Communications Technology (ICT) to support education and research. JISC is funded by all the UK post-16 and higher education funding councils. JISC works with further and higher education by providing strategic guidance, advice and opportunities to use ICT to support teaching, learning, research and administration.

Records Management Society

<http://www.rms-gb.org.uk/>

The Records Management Society of Great Britain, launched in 1983, recognises the ever-increasing number of people working in the fields of records and information management. All those concerned with records and information, regardless of their professional or organisational status or qualifications, can join the Society. Organisations wishing to develop records or information systems and those that provide services in these fields are also welcome. Through close and regular contact with its own members and with related professions, the Records Management Society of Great Britain encourages the highest professional standards. Regular meetings are held to hear guest speakers or to hold discussions on topics as wide-ranging as office technology, organisation of records services, legal aspects of records management and the role of service companies. The Society is also developing its own training programmes and extending its range of technical and information publications.

UKOLN United Kingdom Libraries and On-line Networks (UKOLN) is a centre of expertise in digital information management, providing advice and services to the library, information, education and cultural heritage communities by: influencing policy and informing practice; promoting community-building and consensus-making by actively raising awareness; advancing knowledge through research and development; building innovative systems and services based on web technologies; acting as an agent for knowledge transfer. UKOLN is based in Bath, England.

Society for Imaging Science and Technology (IS&T)

<http://www.imaging.org/membership/>

IS&T is an international not-for-profit, professional membership organisation for advancing the science and practice of image assessment. The major goal of the Society is to keep members aware of

the latest scientific and technological developments in the field of imaging.¹⁰⁶ The Society currently has over 2,000 members located in 36 countries, although primarily in the United States, Europe and Asia.

It is not clear what the levels of personal and corporate membership are, but these are relationships of long standing (since 1950) and are obviously mature and sustaining.

The Society sponsors conferences, in-service meetings and training through its country members and chapters. With corporate participation by companies like Adobe, Xerox, HP and Apple, the Society has an interesting corporate mix of international vendors and participants in many of the sectors of DPE interest. Perhaps joint conferences and other cooperation might be undertaken and cross-sponsorship might be developed building on the corporate core. It would be a matter of providing for the Society an extension of its membership and reach and services and products that it does not normally provide but are valued by the Society and its members.

Supporting Institutional Records Management

http://www.jisc.ac.uk/index.cfm?name=programme_supporting_irm

The aim of this programme is to help institutions implement institutional records management programmes that will meet the requirements of the Freedom of Information Act (2000) and conform to established good practice for the management of records and digital assets throughout their lifecycle. The programme builds upon several existing JISC initiatives, especially the Study of the Records Lifecycle and the creation of the Model Action Plan for Achieving Compliance with the Lord Chancellor's Code of Practice on Records Management.

Technical Advisory Service for Images (TASI)

<http://www.tasi.ac.uk/>

The Technical Advisory Service for Images is a Joint Information Systems Committee (JISC) funded service. It provides advice and guidance to the Further and Higher Education community on the issues of creating and managing digital images. TASI services are free and the organisation and its activities are paid for from the public purse through JISC. TASI provides a number of services that broadly parallel those of DPE, with more focus on the use of digital images.¹⁰⁷

There seems to be some overlap with the DPE community. However, the caveat that these users are only in higher education and only in the UK makes this overlap less relevant for the long-term sustainability of DPE. As this is a fully funded resource, joint activities might be undertaken that are of benefit to both organisations, particularly in advice, enquiry, training and consultancy. However, the community of interest being used to free services is unlikely to respond to suggestions of user pay schemes that might evolve from a relationship with DPE. But with the ongoing rationalisation of government services in the UK as in other countries, TASI should be on DPE's watch list for potential pick-up of users and customers.

¹⁰⁶ <http://www.imaging.org/membership/>

¹⁰⁷ Consultancy, advice, enquiry documents as well as technical reports and training.

Workflow Management Coalition

http://www.llnl.gov/liv_comp/metadata/metadata.html

The WFMC has over 285 member organisations worldwide, representing all facets of workflow, from vendors to users, and from academics to consultants.

The World Summit on the Information Society

<http://www.wsis-online.net>

The World Summit on the Information Society (WSIS) is the latest in a long series of world summits organised by the United Nations that deal with central questions of humanity. At the WSIS, information and communication are on the agenda for the first time. The World Summit is supposed to develop a common understanding of the information society. Not only is the general theme new, but also the structure of the Summit, which took place in two parts for the first time in the history of UN summits. The first part of the summit in December 2003 in Geneva was followed by a second part in Tunis in the year 2005.

eGovernment Access to Information and Privacy, Justice Canada

<http://canada.justice.gc.ca/en/ps/atip/>

The information presented on this website is intended to provide the user with resources related to Canadian laws and policies dealing with access to information and privacy, with a particular emphasis on the federal Access to Information Act and Privacy Act

Association of Public Sector Information Professionals (DPI)

<http://www.dpi-canada.com/>

The Association of Public Sector Information Professionals (DPI) is a volunteer not-for-profit Canadian organisation. It promotes the development of public sector professionals and the effective application of Information Management and Technology (IM/IT) in the Federal Government of Canada and other public sector jurisdictions. This knowledge serves to influence the greater information management (IM) and the information technology (IT) communities through the application of shared best practices. As enablers of many services offered to Canadians, the impact is felt there too.

Centre for Technology in Government, New York

<http://www.ctg.albany.edu/>

The Centre for Technology in Government (CTG) works with government to develop information strategies that foster innovation and enhance the quality and coordination of public services. It conducts applied research and partnership projects on the policy, management and technology issues surrounding information use in the public sector.

Centre for Collaborative Government

<http://kta.on.ca/ktacentre.html>

The Centre for Collaborative Government is the public interest research division of Kaufman Thomas & Associates. Its mission is to promote more effective management of the interdependence between government departments, levels of government, and the private or third sectors. It accomplishes this by pooling resources and experience from a variety of groups outside the client's organisation. It engages experts and stakeholders in working groups, roundtables and conferences to share ideas, experiences and best practices. The result is the delivery of cutting-edge ideas and customised research that increase effectiveness and accountability in public sector initiatives.

Chief Information Officer Branch (CIOB)

http://www.tbs-sct.gc.ca/cio-dpi/index_e.asp

The Chief Information Officer (CIO) is responsible for determining and implementing a strategy that will accomplish government's IT goals. The role of the CIO includes: providing leadership, coordination and broad direction in the use of IT; and facilitating enterprise-wide solutions to horizontal IT issues.

The Commonwealth Centre for Electronic Governance

<http://www.electronicgov.net/>

In a world that continues to make efforts in respect of democratic development, good governance and human rights, The Commonwealth Centre for Electronic Governance (CCfEG) will be recognised as a focal point in the use of the new information and communication technologies as a tool for reinventing good governance and will: assist the transition to electronic government (eGovernment) in the initial instance, and to electronic democracy (eDemocracy) in the long run; promote good practice, enhance a sharing of learning experiences, dissemination of information and management of knowledge in electronic government (eGovernment) and electronic democracy (eDemocracy) among various human and institutional networks and communities of interest in the Commonwealth and beyond. The Centre is incorporated as a not-for-profit organisation in United Kingdom and part of a programme of the Commonwealth Secretariat, London, UK, the administrative body of the Commonwealth countries.

Department of Defense (DoD) Standard: Records Management Application

<http://jitc.fhu.disa.mil/recmgt/>

The JITC performs certification testing of RMA products for compliance with DoD 5015.2-STD. It is DoD policy that only certified products be acquired by DoD organisations. Products that have been successfully tested are listed in the certified products register section. Additionally, vendor and product information is available through the certified products register section.

DG.O (Digital Government)

<http://www.diggov.org/>

DG.O is a collaboration among academic researchers, government agencies and the private sector that promotes National Science Foundation (NSF)-sponsored emergent information technologies by



creating research partnerships. dg.o provides a forum in which partners can work, learn from each other, discover new research opportunities, and in which potential collaborators can be matched based upon research domain and other common interests. dg.o seeks to assist in the formation of research collaborations, leverage information technology research and identify financial resources to help build the Digital Government of the 21st Century.

Digital Opportunity Task Force

<http://www.dotforce.org/>

The Digital Opportunity Task Force (DOT Force) successfully fulfilled its mandate as set out in the Okinawa Charter on the Global Information Society, adopted by Leaders at the G8 Kyushu-Okinawa Summit in July 2000. The DOT Force presented the conclusions of its work in a report and proposed a nine-point action plan – the Genoa Plan of Action – both of which were fully endorsed by G8 Leaders at their 2001 Genoa Summit. The DOT Force original membership includes stakeholders from G8 and developing country governments, private and not-for-profit sectors, and international organisations. The challenge of DOT Force members and partners was to implement the Genoa Plan of Action.

FedWorld U.S. Government Information Locator Service

<http://www.fedworld.gov>

The Government Information Locator Service (GILS) is essentially a card catalogue. It identifies public information resources throughout the U.S. Federal Government, describes the information available in those resources, and provides assistance in obtaining the information. Ultimately, GILS consist of a decentralised collection of agency-based information locators and associated information services. GILS supplements other agency information dissemination mechanisms and commercial information sources. GILS uses network technology and international standards for information search and retrieval so that information can be retrieved in a variety of ways, and so that GILS users can find other information resources worldwide. GILS provides automated linkages that facilitate electronic delivery of online information products and services.

FDTF Frequently Used Sites - US Government Information

<http://www.library.vanderbilt.edu/romans/fdtf.html>

The purposes of the Government Documents Round Table are: to provide a forum for discussion of problems and concerns, and for the exchange of ideas by librarians working with government documents; to provide a force for initiating and supporting programmes to increase availability, use and bibliographic control of documents; to increase communication between documents librarians and other librarians; to contribute to the extension and improvement of education and training of documents librarians.

Government of Canada Core Subject Thesaurus

<http://dsp-psd.pwgsc.gc.ca/Thesaurus/index-e.html>

The GoC Core Subject Thesaurus is to be used as a source of standardised terminology for the indexing and retrieval of information resources in various forms. Its main function is to standardise the external form and the meaning of index terms, thus ensuring that a particular concept or subject will always be represented in the same way in the index.

Government of Canada Internet Guide, Treasury Board of Canada, Ottawa

http://www.tbs-sct.gc.ca/ig-gi/index_e.asp

The policy requirements govern the use of the Internet for communications, including: service to the public, requiring government institutions to provide the public with prompt, courteous and impartial service that is sensitive, responsive and protective of public rights, and good management and coordination, requiring the integration of communications into corporate management.

Govtalk-initiative

<http://www.govtalk.gov.uk>

The purpose of this site is to enable the public sector, industry and other interested participants to work together to develop and agree policies and standards for e-government. This is achieved through the UK GovTalk consultation processes. The site is divided broadly into two areas: 1. The e-Government Interoperability programme: This part of the site covers all aspects relating to the e-Government Interoperability Framework (e-GIF) and the e-Government Metadata Framework (e- GMF). It provides repositories for draft and agreed XML schemas, best practice and case studies, and also advice on toolkits and other relevant information. 2. e-Gov Communities: This part of the site allows for Communities of Interest to be established and consultations to be conducted by those communities. The communities can relate to any aspect of introducing e-services into the UK public sector.

The Institute for Government Information Professionals - Public Works and Government Services Canada

http://www.tbs-sct.gc.ca/gos-sog/atip-airp/index_e.asp

The Institute offers both intensive education and just-in-time training in pure technology (foundation, software technology, telecommunications), project management, business essentials for IM/IT professionals and GOL readiness.

<http://www.pwgsc.gc.ca/institut/text/index-e.html> Access to Information and Privacy (TBS)

The President of the Treasury Board is the Minister responsible for government-wide administration of the legislation. This includes issuing to the public a directory of federal government information and related guides known as Info Source. The Secretariat, as the lead agency, cooperates with the Department of Justice in the area of legislative amendments and with the Privy Council Office regarding Cabinet confidences. The Secretariat also initiates and facilitates consultations with the Offices of the Information and Privacy Commissioners on policy matters. As part of the group of Info Source publications, materials exist to assist the Access to Information and Privacy community. Info Source: Sources of Federal Employee Information will help you, as a current or former federal employee, to locate your personal information held by the government. The annual Info Source Bulletin contains statistics of requests made under the Access to Information Act and the Privacy Act, and summaries of federal court cases. Reference tools for the ATIP community consists of: Access to Information Policy, Cost Studies, Forms for ATIP Coordinators, Implementation Reports, Information Notices, List of ATIP Coordinators, Privacy and Data Protection Policy.

National Archives – IM Product list for the federal government

<http://www.collectionscanada.ca/information-management/index-e.html>

This site contains a list of the products produced to support the management of government records. They cover a range of topics from the use of thesauri for the establishment of records classification schemes to the management of electronic records in the electronic work environment. Many of the products can be downloaded from the site in a variety of formats.

Protection of Personal Information and Electronic Documents Act

http://www.parl.gc.ca/36/2/parlbus/chambus/house/bills/government/C-6/C-6_4/C-6_cover-E.html

An Act to support and promote electronic commerce by protecting personal information that is collected, used or disclosed in certain circumstances, by providing for the use of electronic means to communicate or record information or transactions and by amending the Canada Evidence Act, the Statutory Instruments Act and the Statute Revision Act

Records, Document and Information Management System (RDIMS)

<http://www.rdims.gc.ca>

RDIMS is a suite of products designed to provide Federal Government departments with an economical records and document management software. This site contains information about the initiative, the partners and the system itself.

Records Management Society

<http://www.ukoln.ac.uk/ukoln/mission>

The Records Management Society of Great Britain, launched in 1983, recognised the ever-increasing number of people working in the fields of records and information management. All those concerned with records and information, regardless of their professional or organisational status or qualifications, can join the Society.

Organisations wishing to develop records or information systems and those that provide services in these fields are also welcome. Through close and regular contact with its own members and with related professions, the Records Management Society of Great Britain encourages the highest professional standards. Regular meetings are held to hear guest speakers or to hold discussions on topics as wide ranging as office technology, organisation of records services, legal aspects of records management and the role of service companies. The Society is also developing its own training programmes and extending its range of technical and information publications.

<http://www.rms-gb.org.uk> UKOLN United Kingdom Libraries and On-line Networks (UKLON) is a centre of expertise in digital information management, providing advice and services to the library, information, education and cultural heritage communities by: influencing policy and informing practice; promoting community-building and consensus-making by actively raising awareness; advancing knowledge through research and development; building innovative systems and services based on web technologies; and acting as an agent for knowledge transfer. UKOLN is based in Bath, England.

UK Central Government Web Archive

<http://www.nationalarchives.gov.uk/preservation/webarchive/>

The UK Central Government Web Archive is a selective collection of UK Government websites, archived from August 2003, which has been developed by the National Archives of the United Kingdom, using the services of the Internet Archive.

World Bank (Evidence based Governance)

<http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/EXTARCHIVES/0,,contentMDK:20035501~menuPK:56292~pagePK:36726~piPK:36092~theSitePK:29506,00.html>

This programme builds upon an effective partnership between the World Bank and the International Records Management Trust: A video-conference workshop on Current Records Management, Poverty Reduction and Corruption Control was held in June 2000. High-level civil servants from Ghana, Tanzania and Uganda shared their experiences and concerns with World Bank task managers, senior managers and anti-corruption specialists. The project was funded by the Bank's Information Solution Group (ISG). The Information for Accountability Workshops Project, completed in January 2001, developed a methodology for educating civil society and government representatives on the significance of well-managed evidence. Civil servants, records managers and archivists working with civil society representatives piloted the workshop in Tanzania and Ghana. The project was funded by the World Bank Danish Trust Fund for Governance. The From Accounting to Accountability Project, completed in March 2001, defined essential issues for managing financial records and created tools for evaluating and monitoring the performance of record-keeping systems. These are intended for use by those designing new systems and those wishing to improve existing ones. The project was funded by the World Bank InfoDev Fund.

COMPETENCE CENTRES IN DIGITISATION

Through the MINERVA project, almost 100 centres in Europe were identified as competence centres.¹⁰⁸ They should all be approached as strategic partners. For those not dealing with preservation, it should be introduced as an inevitable element of their future development and DPE could play the role of a consulting body.

Those centres currently dealing with preservation could become national contact points or points of specific competence and thus might be considered as future affiliates or national contact points, although to date such centres are listed only in Austria, Finland, France, Italy and Sweden. Below we list those centres that specialise in the digital preservation area.

The Centre for Internet Research

http://imv.au.dk/cfi/eng/index_eng.html

Preservation of digital content.

Centre for Microfilming and Conservation, Helsinki University library

<http://www.lib.helsinki.fi/english/libraries/dimiko/index.htm>

Digitisation of printed material and preservation of web content.

The Finnish Film Archive

<http://www.sea.fi/english/>

Preservation of recorded sound and moving images and databases on these items.

Istituto Centrale per la Patologia del libro (ICPL) Central Institute of Book Pathology

<http://www.patologialibro.beniculturali.it/english/english.htm>

The Institute contributes to defining methodologies, and plays an intensive role in solving conservation problems arising in Italian libraries. Specific teams are at work both for the evaluation of perspectives in digital media preservation, and for the digitisation of the information on book conservation.

Joanneum Research (Graz)

<http://www.joanneum.at>

Preservation and restoration of digital audiovisual material.

Koninklijke Bibliotheek – KB (The Netherlands)

<http://www.kb.nl/hrd/digi/digitalisering-en.html>

Digitisation of library collections, long-term preservation, storage of websites. Organises regular lectures. Provides information on digitisation guidelines and projects.

Kungliga Biblioteket Sveriges (Royal Library of Sweden)

<http://www.kb.se/ENG/kbstart.htm>

Digitisation of printed material and preservation of web content.

¹⁰⁸ <http://www.minervaeurope.org/competencecentre.htm>

Lantmäteriet (Swedish Land Survey Authority)

<http://www.lantmateriet.se/>

Digitisation and preservation of maps on the web.

National Archives (Finland)

<http://www.narc.fi>

Digitisation of archival material, long-term preservation of digital material.

National Archives – NA (The Netherlands)

<http://www.nationaalarchief.nl>

Digitisation of archival records, records management, long-term preservation.

National Audiovisual Institute for sound and audiovisual documents (INA)

<http://www.ina.fr/index.en.html>

Research and preservation and management of audiovisual archives.

Riksarkivet (National Archives of Sweden)

<http://www.ra.se/indexengelska.html>

Digitisation of archival material, long-term preservation of archival material in digital form, and databases on archival content.

Statens ljud- och bildarkiv (The National Archives of Recorded Sound and Moving Images, Sweden)

<http://www.ljudochbildarkivet.se>

Preservation of recorded sound and moving images and databases on these items.

SPECIALISED TRAINING CENTRES

In this part we list several universities and one training centre, which are developing programmes related to digital preservation.

It is logical to establish training-oriented collaboration with these organisations. They are strategic partners because through such centres DPE courses can reach wider audiences of future professionals and set up standards for professional excellence.

One option for DPE would be the development of distance learning courses that offer acceptable credits and making agreements with the universities that offer cultural heritage programmes and do not offer preservation courses.

In this section, we do not conclude the information on every single organisation with a paragraph that comments on areas of cooperation, since they are quite similar in the case of training institutions, namely joint training events, distance courses, awards for the best student in the community, grants for attending DPE events.

International Academic Projects Ltd (IAP)

<http://www.academicprojects.co.uk/>

International Academic Projects Ltd (IAP) was formed in London in 1989 as an international educational charity whose aims are to help promote education, training and research into conservation, archaeology, anthropology and other related fields.

The activities of International Academic Projects include the organisation and management of a professional development programme of short courses in conservation, collections care, archaeology and museum studies.

Joint activities of DPE and IPA could include training and consultancy services.

HATII, University of Glasgow

<http://www.hatii.arts.gla.ac.uk/>

Humanities Advanced Technology and Information Institute (HATII) encourages and facilitates the use of information and communication technology to enhance research and teaching in the arts and humanities. HATII's research concentrates on the areas of technologies, methods and theoretical developments that enable (a) access – by combining context and hierarchy with interoperable metadata to improve information management and use; (b) content analysis and appraisal – by exploring the applicability of the records continuum paradigm, of the functional analysis of information systems and re-examining basic assumptions about archival theory and practice in the light of knowledge management; (c) evaluation and impact methodologies – for the use of digital resources in research, and (d) preservation – by developing and evaluating techniques and technologies and defining strategies that provide curators and content owners with access to best practice guidelines and appropriate technology services.

Università di Urbino

<http://www.uniurb.it/sbc/>

Offers an MSc programme in Cultural Heritage Science. Editors of Cultural materials in the Media. Archival Informatics.

University College Dublin (UCD)

<http://www.ucd.ie/ivrla>

The Irish Virtual Research Library & Archive (IVRLA) is a major digitisation and digital object management project launched in UCD in January 2005. The project was conceived as a means to preserve elements of UCD's main repositories and increase and facilitate access to this material through the adoption of digitisation technologies. Additionally the project will undertake dedicated research into the area of interacting with and enhancing the use of digital objects in a research environment through the development of a digital repository. When fully implemented, the IVRLA will be one of the first comprehensive digital primary source repositories in Ireland, and will advance the research agenda into the use and challenges affecting this new method of research, and of digital curation over the coming years.

University of British Columbia

<http://www.slais.ubc.ca/about/about.htm>

The School of Library, Archival and Information Science (SLAIS) at the University of British Columbia is in the business of preparing professionals to exercise leadership in planning, implementing and promoting the preservation, organisation and effective use of society's recorded information and ideas. It offers a master's degree in Library and Information Studies and a master's degree in Archival Studies. In addition, it sponsors a multidisciplinary Master of Arts in Children's Literature with five other departments and a master's degree in Teacher-librarianship with the Faculty of Education. Opportunities are also available for post-master's study. Accredited by the American Library Association with the Canadian Library Association, SLAIS is an internationally recognised School with innovative programmes and exceptional research productivity.

University of Illinois at Urbana-Champaign

http://www.lis.uiuc.edu/programs/ms/data_curation.html

The Data Curation Education Program (DCEP) at the Graduate School of Library and Information Science (GSLIS) at the University of Illinois at Urbana-Champaign is a concentration within the University's ALA-accredited Master of Science in Library Science degree programme. The DCEP offers a focus on data collection and management, knowledge representation, digital preservation and archiving, data standards, and policy. Data curation is the active and ongoing management of data through its lifecycle of interest and usefulness to scholarship, science and education. Data curation activities enable data discovery and retrieval, maintain its quality, add value, and provide for re-use over time, and this new field includes authentication, archiving, management, preservation, retrieval and representation. The programme provides a strong focus on the theory and skills necessary to work directly with academic and industry researchers who need data curation expertise.

University of Manitoba

<http://www.umanitoba.ca/faculties/arts/history/archives>

The Manitoba master's programme in archival studies is in its eleventh year of operation and is well established at the University of Manitoba and University of Winnipeg. It has been well received by the archival profession and students are finding employment, making their way in the activities of the profession, and publishing their first reviews and articles. The curriculum follows the Association of Canadian Archivists' guidelines for curricula in master's programmes in archival studies. The archival field of study has six components: study of the history of recorded communication (focusing on the evolution of archival records and the perspectives archivists bring to the study of recorded communication); study of archival institutions and functions; study of history; an opportunity for work experience in archives (through the internship); research in archival studies (mainly through a thesis); an elective in an area of study (usually outside history) which provides knowledge that archivists need; students typically take an elective in administrative studies or computer systems management from the Faculty of Management at the University of Manitoba.

University of Toronto

<http://www.fis.utoronto.ca/about/mission/index.htm>

The Faculty of Information Studies is committed to being an internationally significant Faculty providing excellent professional education based on an understanding of the theory and practice underlying information generation, organisation and use, and to the stimulation and dissemination of research. The goals of the programme are as follows: to educate information specialists who can respond to the changing information practices and needs of society; to contribute, through research and publication by both faculty and students, to the continuous expansion and critical assessment of the body of knowledge underlying the information and archives sciences; to participate in the development of theory concerning information, where it is found, and how it is used, and in the application of new technological developments to the preservation and communication of information...; to provide leadership in defining the social responsibility of information professionals to provide information services for all...; to assist information professionals to review and assess the body of knowledge of librarianship, archive administration and information systems ...; to maintain liaison with professionals and professional associations, to develop a national and an international role for the Faculty and to pursue avenues of mutual cooperation.

COMPANIES AND PRACTICE-ORIENTED RESEARCH

Companies that develop tools and services for the digital preservation sector could become DPE partners, but all such cases should be considered on an individual basis.

On the one hand, some of the tools could be integrated or re-used in the DPE products and services, with careful consideration of business relationships. On the other hand, DPE might announce awards for the best tools, with a specific challenge in each award round, and this might improve the level of tools offered.

Digital Knowledge Ventures

<http://dkv.columbia.edu/about/index.html>

DPE could offer consultancy to Digital Knowledge Ventures, as well as repository and audit certification services to its products.

EDP Sciences

<http://www.edpsciences.com/uk/society.htm>

EDP Sciences (Édition Diffusion Presse Sciences), a subsidiary of learned societies, works closely with the scientific world. It is involved in the communication and dissemination of science to specialist audiences (researchers, engineers, students etc.) and non-specialist audiences alike (general public, decision makers, teachers).

EDP Sciences has developed an expertise recognised in the field of processing and distribution of scientific information:

They have 37 journals online and 400 books in their catalogue.

The first French publisher that is a member of the DOI Foundation and of the CrossRef Foundation.

Online management and tracking of articles with their 'Manuscript Management System' software.

Fast publication with 'E-first' or 'Newly accepted? Then it's online'.

Indexation in the main international databases.

Versions for readers in emerging markets such as, for example, a partnership agreement with AGORA and the publication of a journal with summaries in Chinese.

'Green Publisher' classification by RoMEO and supporting institutions towards Open Access (copyright enabling self and institutional archiving, free-access articles with 'Latest article Free', 'Press Release' or 'Open Access Initiative', free archives after a period of embargo).

DPE could offer consultancy to EDP Sciences. Repository and audit certification services to its products are also a possible option.

Electronic Publishing Initiative at Columbia (EPIC)

<http://www.epic.columbia.edu/index.html>

The Electronic Publishing Initiative at Columbia (EPIC) is a groundbreaking initiative in digital publishing at Columbia University that involves Columbia University Press, the Columbia University Libraries, and Columbia University Information Technology. Its mission is to create new kinds of scholarly and educational publications through the use of new media technologies in an integrated

research and production environment. Working with the producers of intellectual property at Columbia University and other leading academic institutions, it aims to make these digital publications self-sustaining through subscription sales to institutions and individual users.

EPIC is committed to pursuing the highest standards in the development of content, use of technology, handling of issues of intellectual property and copyright, development of business plans, and evaluation of use. Its publications are designed to be innovative, efficient and cost-effective.

EPIC and DPE could collaborate on joint projects and products. Repository and audit certification services to EPIC's products are also an option.

Institut francophone des nouvelles technologies de l'information et de la formation (INTIF)

<http://intif.francophonie.org/>

The Institute is a subsidiary of the International Francophone Organisation (Organisation internationale de la Francophonie). It was created in 1998.

Among its tasks are the supports for the archives of OIF. In addition, it offers 2,500 photographs through its websites.

DPE could collaborate with INTIF on establishing a suitable preservation strategy and offering repository and audit certification services and training for institutions from member states. This is a suitable channel for presentation of DPE, its products and services in the francophone countries.

lamusediffuse

<http://lamusediffuse.com>

lamusediffuse is a collaborative team directed by Pilar Gonzalo exploring the forms, impact and possibilities of electronic technologies in contemporary culture. It started as a group of Fulbright Scholars from different parts of the world, sharing a common interest in improving lives for individuals by improving access to culture through digital technologies and their creation. Now, a number of other collaborators have joined the team, improving its potential and outreach. Currently they are running e-artcasting, a non-profit research project, an information source and a professional network to share experiences, exchange information and develop resources on Sociable Technologies in Art Museums from all over the world. It is the team's belief that these new ways of communication are valuable tools for art museums interacting with their audiences. From this point of view, e-artcasting explores and documents their use, impact and possibilities.

Records Continuum Research Group, Monash University, Melbourne

http://www.naa.gov.au/recordkeeping/gov_online/agls/guidelines/intro.html

The Records Continuum Research Group (RCRG) is looking at methods of analysis that enable records to be controlled at different points in time throughout their lifespan. This includes the way records are represented, used, retrieved and disseminated. The group is also looking into how continuum models apply to information management and data archiving.

<http://www://rcrg.dstc.edu.au>

Applying the Australian Government Locator Service (AGLS) Metadata Standard in Commonwealth Agencies, 2000.

Commonwealth agencies improve their recordkeeping, following best practice approaches developed by the National Archives of Australia. Its resources range from strategies and policies on recordkeeping in the Commonwealth to more detailed information, advice, standards, guidelines and manuals. A number of documents on this site provide a broad perspective on recordkeeping issues in relation to Commonwealth agencies.

EDP and this research group can collaborate on research tasks.

Research Libraries Group (RLG)

<http://www.rlg.org>

RLG Programs is part of OCLC's Programme and Research Division. RLG Programs is comprised of nearly 150 research libraries, archives, museums and other cultural memory institutions.

Since July 2006, RLG Programs and OCLC Research staff have been working together to develop an agenda that reflects the needs of the research library community, builds on existing expertise, and expands the community's ability to act in concert to shape the future. The major benefit from the combination is the ability to bring the strengths of both staffs to bear on an array of initiatives to benefit the entire community.

Programme areas are sites of shared uncertainty and change for the communities served. This means that they are key areas for shared attention and collaborative action. They are important as a way of identifying priorities and maximising impact as the Group helps libraries, archives and museums design their future.

- ◆ These programme areas have been identified as important for Programmes and Research:

- ◆ Supporting new modes of research, teaching and learning

- ◆ Managing the collective collection

- ◆ Renovating descriptive and organising practices

- ◆ Modelling new service infrastructures

- ◆ Architecture and standards

- ◆ Measurement and behaviours

The overall aim is to enhance the ways libraries, archives and museums create value in the research and learning process. This makes it important to directly engage with and support new forms of research teaching, and learning.

At the end of 1994 the Commission on Preservation and Access (CPA) and RLG created a Task Force on Archiving of Digital Information charged with investigating and recommending means to ensure 'continued access indefinitely into the future of records stored in digital electronic form.' The 21-member task force completed their final report in 1996.¹⁰⁹

The goals of DPE and RGL have much in common, with RLG covering the wide spectrum of research library related activities and DPE concentrating on preservation issues. Joint endeavours might include development of a proper preservation framework, consultancy, as well as common research projects.

PROJECTS, WEB REPOSITORIES

America's Library

<http://www.americaslibrary.gov>

America's Library contains many images of documents, prints, photographs, maps, recordings and other materials from the past. These images represent letters, diaries, records and tapes, films, sheet music, maps, prints, photographs and digital materials. Many of those materials are found only in the collections of the Library of Congress. The site attempts to accurately reference the credit for photographer, artist, author or creator of the materials, as well as the collection from which they are taken within the Library.

American Memory

<http://memory.loc.gov/ammem/about/index.html>

American Memory provides free and open access through the Internet to written and spoken words, sound recordings, still and moving images, prints, maps and sheet music that document the American experience. It is a digital record of American history and creativity. These materials, from the collections of the Library of Congress and other institutions, chronicle historical events, people, places and ideas that continue to shape America, serving the public as a resource for education and lifelong learning.

Birth of the Dot Com Era

<http://www.dotcomarchive.org/>

This project preserves at-risk digital materials from the American business culture during the early years of the commercialisation of the Internet, from 1994 to 2001, the 'Birth of the Dot Com Era.'

Birth of the Dot Com Era collects content, including business, marketing and technical plans; venture presentations; and other business documents from more than 2,000 failed and successful Internet start-ups. The project collects materials through web portals at <http://www.businessplanarchive.org> and <http://www.dotcomarchive.org> and through direct contact with former participants in the Dot Com Era.

¹⁰⁹ <http://www.rlg.org/ArchTF/index.html>

In August 2006, the US Bankruptcy Court, Northern District of California, San Francisco Division, authorised the creation of a special ‘closed archive’ allowing a large subset of records from the failed law firm Brobeck, Phleger & Harrison to be preserved. Brobeck represented thousands of start-ups and high-tech investors during the Dot Com Era. The court approved a high-level set of principles that will now be translated into operating guidelines and procedures to govern the operation of the closed archive in the years to come. This closed archive will serve as a model of a trusted institutional repository.

Partnering with the University of Maryland on this project are Gallivan, Gallivan & O’Melia LLC; the George Mason University Centre for History and New Media; Morrison & Foerster LLP; and Ropers Majeski Kohn & Bentley PC.

CURL Exemplars in Digital Archives (CEDARS)

<http://www.leeds.ac.uk/cedars/>

The Cedars Project is a Higher Education initiative funded by the Joint Information Systems Committee. It officially began on 1 April 1998. The funding was awarded to the Consortium of University Research Libraries (CURL) and the work was carried out on behalf of CURL by three CURL institutions – Leeds, Oxford and Cambridge. Cedars stands for ‘CURL exemplars in digital archives’ and the main objective of the project was to address strategic, methodological and practical issues and provide guidance in best practice for digital preservation. It accomplished its work on two levels – through practical demonstrator projects that provided concrete practical experience in preserving digital resources and through strategic working groups based on broad concepts or concerns, which articulated preferences and made recommendations of benefit to the wider community. The main deliverables of the project were recommendations and guidelines as well as practical robust and scalable models for establishing distributed digital archives. It is expected that the outcomes of Cedars will influence legislation for legal deposit of electronic materials and feed directly into the emerging national strategy for digital archives currently being developed through the National Preservation Office of the British Library.

Data-PASS (Data Preservation Alliance for the Social Sciences)

<http://www.icpsr.umich.edu/DATAPASS/>

Data-PASS is a partnership devoted to identifying, acquiring and preserving data used for social science research. Examples of digital data preserved by this project include opinion polls, voting records, large-scale surveys on family growth and caring for ageing parents. While this information provides the full story of the social and cultural experience of America, a huge quantity of the data is missing or at-risk.

Together, the five Data-PASS partners are building a shared catalogue, adopting a common standard for describing survey data and developing strategies for ensuring that the data remains available for analysis.

In June 2006, ICPSR published a shared catalogue on the web enabling the entire holdings of most Data-PASS partners to be searched and browsed. This feature also allows users to download and analyse many publicly accessible studies.

Partnering with ICPSR on the project are the University of Connecticut, the University of North Carolina at Chapel Hill, Harvard University, the Massachusetts Institute of Technology and the National Archives and Records Administration.

DAVID – Digital Archiving in Flemish Institutions and Administrations

<http://www.antwerpen.be/david/website/eng/index2.htm>

DAVID is a project of the Foundation for Scientific Research within the scope of the Max Wildiers Foundation and is a cooperation between the Antwerp City Archives and the Interdisciplinary Centre for Law and informatics of the University of Leuven. The purpose is to develop a manual with guidelines for the archiving of digital files.

Digital Preservation Project, University of Edinburgh

<http://www.lib.ed.ac.uk/sites/digpres/index.shtml>

The Special Collections Department in the University Library recently initiated a Digital Preservation project to provide advice and act as a focus to raise awareness, university-wide, of Digital Preservation issues. For any organisation or department that produces electronic information, a strategic preservation plan is vital to ensure the physical reliability, continued usability and intellectual integrity of their files. The project's aims were to recommend and produce guidelines for the future publishing of University websites and electronic materials, and to produce a comprehensive strategy for the permanent preservation of the University's core electronic publications.

Early Canadiana Online (ECO)

<http://www.canadiana.org>

Early Canadiana Online (ECO) is a digital library providing access to 2,384,542 pages of Canada's printed heritage. It features works published from the time of the first European settlers up to the early 20th century.

ECO is produced by Canadiana.org, a non-profit organisation for preserving and providing access to early Canadian publications, first on microfiche and now online.

DPE could offer repository and audit certification services to ECO.

ECHO DEPository – Exploring Collaborations to Harness Objects in a Digital Environment for Preservation

<http://www.ndiipp.uiuc.edu/>

University of Illinois at Urbana-Champaign is working with the Online Computer Library Centre (OCLC) and seven other partners to develop scalable software tools to facilitate selection and preservation of digital materials. The ECHO DEPository project addresses issues of how libraries collect, manage, preserve and make useful the enormous amount of digital information our culture is now producing.

Partners in this project collaborate to produce tools, practices, evaluations and research that will help in selecting and preserving electronic resources in a variety of digital repositories.

ECHO DEpository explores ways for libraries and repositories to share and preserve digital information in a wide variety of formats, including web-based government publications, historical documents and photos, sound and video recordings, websites and other varied digital resources that will be of historical interest to future generations.

Partnering with the University of Illinois at Urbana-Champaign on the project are the Online Computer Library Centre (OCLC), Tufts University, Michigan State University, Arizona State Library, Connecticut State Library, Illinois State Library, North Carolina State Library and Wisconsin State Library.

The European Digital Library Project (EDLProject)

<http://edlproject.eu/>

The EDLproject is a Targeted Project funded by the European Commission under the eContentplus Programme, within the area of Cultural content and scientific/scholarly content.

The EDLproject builds on The European Library, a service funded by CENL, the Conference of European National Librarians, providing unified access to the electronic resources of the main European National Libraries as well as to other library services. The project is also a continuation of the TEL-ME-MOR project, which has supported The European Library with the inclusion in the service of the ten New Member States National Libraries.

The EDLproject integrates the bibliographic catalogues and digital collections of 15 partners; by the end of 2007 all EU countries will be members of the European Library service. The EDLproject further enhances access to the European Library portal by continuing to develop its multilingual capacity.

The EDLproject takes first steps towards collaboration between The European Library and other non-library cultural initiatives, and expands the marketing and communication activities of The European Library service.

The EDLproject leverages the influence and resources of CENL as a key player and stakeholder in the content field to work towards a consensual resolution of certain issues raised by the Communication 'i2010: Digital Libraries', such as potential availability of digital content from national libraries and the scope for collaboration between The European Library and other content providers funded by eContentplus. The project started in September 2006 and will last for 18 months.

The Fedora™ Project, University of Virginia

<http://www.fedora.info/>

The Fedora project was funded by the Andrew W. Mellon Foundation to build an Open Source digital object repository management system based on the Flexible Extensible Digital Object and Repository Architecture (Fedora). The new system demonstrates how distributed digital library architecture can be deployed using web-based technologies, including XML and web services. Jointly developed by the

University of Virginia and Cornell University, the system completely implements the Fedora architecture that was originally conceived of at Cornell. Fedora is a general-purpose digital object repository system that can be used in whole or part to support a variety of use cases including: institutional repositories, digital libraries, content management, digital asset management, scholarly publishing and digital preservation.

The European Library (TEL) portal

<http://www.theeuropeanlibrary.org/portal/index.html>

The European Library is a non-commercial organisation. It provides the services of a physical library and the opportunity to benefit from a virtual environment in 20 languages.

The website allows to search through the resources of 23 of the 47 national libraries involved in The European Library. Resources can be digital or bibliographical (books, posters, maps, sound recordings, videos, etc.). Currently The European Library gives access to 150 million entries across Europe. The number of referenced digital collections is constantly increasing. Quality and reliability are guaranteed by the 47 collaborating national libraries of Europe.

Forum for Metadata Schemas Implementers (SCHEMAS)

<http://www.schemas-forum.org>

SCHEMAS provides a forum for metadata schema designers involved in projects under the Information Society Technologies (IST) Programme and national initiatives in Europe. SCHEMAS will inform schema implementers about the status and proper use of new and emerging metadata standards. The project will support development of good-practice guidelines for the use of standards in local implementations. It will investigate how metadata registries can support these aims. The SCHEMAS project is funded as part of the Information Society Technologies (IST) Programme, a theme of the European Union's Framework Programmes managed by the Information Society Directorate-General of the European Commission.

Harmony Project

The Harmony Project, an international collaboration funded by DSTC, JISC and NSF, will investigate a number of key issues in describing complex multimedia resources in digital libraries. It collaborates with metadata communities to develop and refine developing metadata standards that describe multimedia components. It is investigating a conceptual model for interoperability among community-specific metadata vocabularies. Such a conceptual model should be able to represent the complex structural and semantic relationships in multimedia resources. It investigates mechanisms for expressing such a conceptual model, including technologies currently under development in the W3C (XML, RDF and their associated schema mechanisms). It develops mechanisms to map between community-specific vocabularies using such a conceptual model.

International Research on Permanent Authentic Records in Electronic Systems (InterPARES)

<http://www.interpares.org/>

The International Research on Permanent Authentic Records in Electronic Systems (InterPARES) Project aims at developing the theoretical and methodological knowledge essential to the long-term preservation of authentic records created and/or maintained in digital form. This knowledge should provide the basis from which to formulate model policies, strategies and standards capable of ensuring

the longevity of such material and the ability of its users to trust its authenticity. InterPARES has developed in two phases:

InterPARES1 was initiated in 1999 and concluded in 2001. It focused on the preservation of the authenticity of records created and/or maintained in databases and document management systems in the course of administrative activities. In addition, a component of the project was dedicated to the exploration of the issues related to the long-term preservation of digital sound, the findings of which led to InterPARES 2.

InterPARES2 was initiated in 2002 and concluded in 2006. In addition to dealing with issues of authenticity, it delved into the issues of reliability and accuracy from the perspective of the entire lifecycle of records, from creation to permanent preservation. It focused on records produced in complex digital environments in the course of artistic, scientific and e-government activities.

Major funding for the InterPARES Project is provided by the Social Sciences and Humanities Research Council of Canada's Major Collaborative Research Initiatives (SSHRC-MCRI), and the National Historical Publications and Records Commission and the National Science Foundation of the United States. For other funding sources, see funding page of each phase.

The InterPARES Project is based at the School of Library, Archival and Information Studies at the University of British Columbia, in Vancouver, British Columbia, Canada.

KADO (Korea Knowledge Portal)

<http://www.knowledge.go.kr>

The Korea Knowledge Portal is a website designed to promote the circulation of digitised national knowledge and information from various knowledge providers chosen for strategic database development and to strengthen the related systems. This service was developed and is being operated by the Korea Agency for Digital Opportunity and Promotion, and the metadata of knowledge providers in each field are integrated and linked for the management of national knowledge and information resources. An extended robust one-stop integrated search system was developed to provide a stable and active national information service. The Korea Knowledge Portal gives the highest priority to maximising the sharing and usage of national knowledge and information resources and providing an easy and efficient user-oriented knowledge information service by developing a more effective search and management basis for national knowledge and information resources and providing a vast source of knowledge and information through the expansion of links to knowledge and information.

The Metadata Engine Project (METAe)

<http://meta-e.aib.uni-linz.ac.at>

METAe will develop application software focusing on the automatic recognition and extraction of metadata from printed material, especially books and journals, an omnifont OCR-engine for the recognition of 'Fraktur' (a German style of black-letter text type) and other rarely used type faces in European printing history for the development of five historical dictionaries supporting the OCR-engine, an XML/SGML search engine, an Open Source library for a simple web application for presenting digitised printed material.

MetaArchive

<http://www.metaarchive.org/>

The MetaArchive Project is a collaboration involving Emory University, Georgia Tech, Virginia Tech, Florida State University, Auburn University and the University of Louisville. These partners are developing a networked, multi-institution archive of Southern digital culture by creating a distributed digital preservation network.

The partners are preserving institutional digital archives as well as short-lived works such as online exhibitions and cultural history website displays. This digital content includes a wide variety of subjects such as the Civil War, civil rights movement, slave narratives, Southern music, handicrafts and church history.

The members of the MetaArchive Project have formed a non-profit corporation called the Educopia Institute. Educopia fosters growth, long-term sustainability, tools and a framework that can be adapted and used for its own needs, as well as those of future partnerships.

Partnering with Emory University on the project are Georgia Tech, Virginia Tech, Florida State University, Auburn University and the University of Louisville.

National Geospatial Digital Archive (NGDA)

<http://ngda.org/research.php>

Digital geospatial imagery is now a critical tool for state and federal researchers of complex matters, including disaster relief, census data and land use management. It is also used by federal agencies in their antiterrorism work.

Geospatial data is information relating to the location of, and relationships between, geographical features. It provides information about the shape and location of objects on the Earth's surface. This information is transformed into powerful digital databases whose content can be used in applications as diverse as managing utility distribution networks, monitoring pollution, planning alternative traffic patterns, redrawing voter districts, or tracking agricultural drought conditions.

The NGDA works at archiving geospatial data and images that are at risk of disappearing. Other features of the project include a geospatial format registry, common best practices for archiving digital geospatial data and policy agreements among the partners.

The University of California at Santa Barbara and Stanford University are working together to form the NGDA, a collecting network for the archiving of geographic information produced with spatial software. They have partnered to construct a nationwide digital collection and preservation system.

The NGDA has released its 'NGDA Ingest System: Architecture and Development Guide,' a detailed guide to the technical underpinnings of the NGDA archive. NGDA is also beta testing an exciting access system that allows the user to browse the geospatial data in the archive using maps. Partnering with the University of California at Santa Barbara on the project is Stanford University.

The National Science Digital Library (NSDL)

<http://nsdl.org/>

NSDL is the National Science Digital Library, the National Science Foundation (NSF)'s online library of resources for science, technology, engineering and mathematics education and research.

Under the support of NSF, the coordination of the Library's development, project management and daily operations is facilitated through the collaborative efforts of the University Corporation for Atmospheric Research, Cornell University and Columbia University. The broader NSDL community of resource builder and contributors is composed of a diverse range of institutions including universities, museums, libraries, research labs, federal agencies, professional societies and commercial content providers.

As of May 2006, NSDL contained over 1.5 million teaching and learning resources in addition to other supporting user services and content such as NSDL news and exhibits. NSDL contributors include 160 projects that receive funding through the NSDL grant programme administered by NSF. New resources are added to the Library on a weekly basis. DPE could offer repository and audit certification services to NSDL.

North Carolina Geospatial Data Archiving Project (NCGDAP)

<http://www.lib.ncsu.edu/ncgdap/index.html>

NCGDAP collects and preserves digital geospatial data resources, including digitised maps, from state and local government agencies in North Carolina. Although this project focuses solely on North Carolina, it serves as a demonstration project for other states.

Geospatial data is created by a wide range of state and local agencies for use in applications such as tax assessment, transportation planning, hazard analysis, health planning, political redistricting, homeland security and utilities management.

Partnering with NCSU on the project are the Geographic Information Coordinating Council, the North Carolina Centre for Geographic Information and Analysis and NC OneMap.

Pandora Archive – Preserving and Accessing Networked Documentary Resources of Australia

<http://pandora.nla.gov.au/index.html>

As it is conceived so far, the national model consists of a network of distributed archives, with each of the National and State libraries working to an agreed set of principles and actions, and gathering the titles for which they accept responsibility into either the PANDORA Archive or an archive maintained within their own institution.

Portail international archivistique francophone (PIAF)

<http://www.piaf-archives.org/>

This international portal hosts materials collected through the International Francophone Organisation. DPE could offer repository and audit certification services to PIAF.

Portico

<http://www.portico.org>

Electronic journals and other electronic resources have become a significant part of the scholarly record upon which students and researchers must rely, but keeping these resources available for the long term is a major challenge. Portico is developing a community-based approach to solving the problem of preserving these important resources. Portico is a partner that is developing a novel technical infrastructure and an economically sustainable business model for a continuing archiving service for scholarly resources published in electronic form.

Preserving Digital Public Television

<http://www.ptvdigitalarchive.org/>

Digitally produced public television programmes are at great risk of being lost because rapid changes in technology make new video formats and equipment obsolete quickly. Currently there is little experience in how to save digital video productions over a long period of time.

The Preserving Digital Public Television project is spearheaded by Thirteen/WNET. They are working closely with WGBH, PBS and New York University to design an archive for the long-term preservation of public television programmes being produced in a 'born-digital' environment – in other words, no film is being used to record the programmes. The four partners will focus on such influential series as 'Nature,' 'American Masters,' 'NOVA' and 'Frontline,' which are increasingly being produced only in digital formats, including the new high-definition standard HDTV.

The Preserving Digital Public Television project has taken a leadership role in repository design and technical operations for preserving video. It has led efforts to find a resolution to the problem of determining a suitable video 'wrapper' to bundle and preserve the connections between metadata (data that provides information about what was recorded) and programmes, so that the programmes can be retrieved later and played back.

Partnering with the Educational Broadcasting Corporation on this project are Thirteen/WNET, WGBH, the Public Broadcasting Service and New York University.

Preserving the Electronic Records Stored in a Records Management Application

<http://www.sdsc.edu/PERM/>

The State Archives of Michigan and the San Diego Supercomputer Centre (SDSC) want to develop and test a model for preserving the records in Michigan's Records Management Application (RMA) environment. While the RMA is capable of storing and providing access to electronic records, it cannot ensure that they remain accessible as software becomes obsolete.

Renardus Project

<http://renardus.sub.uni-goettingen.de/>

The project's aim is to improve access to existing Internet-accessible collections of cultural and scientific resources across Europe. The approach being taken is to develop a 'broker' service – a single interface for searching and browsing across existing distributed resource collections produced at a national level. Renardus exploits the success of subject gateways, where subject experts select quality resources for their users, usually within the academic and research communities. This approach has been shown to provide a high-quality and valued service, but encounters problems with the ever

increasing number of resources available on the Internet. Renardus proposes a distributed model where major subject gateway services across Europe can be searched together through a single interface provided by the Renardus broker.

SCOLA

<http://www.scola.org>

SCOLA is a non-profit educational corporation that receives and retransmits television news programming of long-term research value from around the world. These broadcasts are used by Congress in its law-making activities as well as by researchers.

SCOLA has agreements with approximately 90 countries to obtain and disseminate copies of foreign television programmes. Under an agreement with the Library, SCOLA will archive thousands of hours of programming in digital form and make this content available for research. Examples include programming from the Al-Jazeera news channel, as well as from outlets in Pakistan, Russia and the Philippines.

State of Victoria Electronic Records Project

<http://www.prov.vic.gov.au/vers/standards/standards.htm>

The specifications for electronic records are designed to ensure uniformity in record structure and management without limiting a public office's choice in systems and support processes for business activity. The first specification (PROS 99/007 Specification 1 System Requirements for Archiving Electronic Records) defines the formal system requirements and structure required for record types produced in electronic systems compliant with this standard.

Testbed Digitale Bewaring (the Netherlands)

<http://www.digitaleduurzaamheid.nl/index.cfm?paginakeuze=186&categorie=2>

In 1999, the research report 'Digital Preservation: Carrying Authentic, Understandable and Usable Digital Records Through Time' was drawn up. In this report the possibilities of a few technologies and approaches for the long-term preservation of digital records were explored. The report shows that it is not yet possible to make a responsible choice from these technologies and approaches. According to the recommendations of the researchers, the Ministry of the Interior and Kingdom Relations and the Ministry of Education, Culture and Sciences (the National Archives) decided to establish a 'Testbed' to gain the essential knowledge and experience. The Digital Preservation Testbed is carrying out experiments according to pre-defined research questions to establish the best preservation approach or combination of approaches. The Testbed will be focusing its attention on three different digital preservation approaches – Migration, Emulation and XML – and evaluating the effectiveness of these approaches, their limitations, costs, risks, uses and resource requirements.

Web-at-Risk – A Distributed Approach to Preserving Our Nation's Political Cultural Heritage

<http://www.cdlib.org/inside/projects/preservation/webatrisk/>

The California Digital Library (CDL) and its partners are preserving important web documents that would otherwise disappear. This work is critical: More than 65 per cent of all government publications are now posted directly online without a print counterpart. The half-life of government web pages is four months.



The project has saved important information about government activities, campaigns for elected office and political movements. To do so – and to help other libraries around the country – CDL is developing archiving tools to capture, store and provide long-term access to web information.

CDL has conducted a successful test of its Web Archiving Service tool. Seven more upcoming tests are expected over the next year and will expand functionality in areas such as capturing information according to thematic events and managing rights-protected content.

Partnering with CDL on the project are New York University, the University of North Texas, the Texas Centre for Digital Knowledge, the San Diego Supercomputer Centre, Stanford University, Sun Microsystems Inc., Arizona State Library and Archive, the University of California at Berkeley, the University of California at Davis, the University of California at Irvine, the University of California at Los Angeles, the University of California at Riverside, the University of California at San Diego, the University of California at Santa Barbara, the University of California at Santa Cruz and the National Library of France.

World Digital Library

<http://www.worlddigitallibrary.org/project/english/index.html>

The World Digital Library will make available on the Internet, free of charge and in multilingual format, significant primary materials from cultures around the world, including manuscripts, maps, rare books, musical scores, recordings, films, prints, photographs, architectural drawings and other significant cultural materials. The objectives of the World Digital Library are to promote international and intercultural understanding and awareness, provide resources to educators, expand non-English and non-Western content on the Internet, and to contribute to scholarly research.

The Library of Congress is currently engaged in a planning process to determine how this vision can be realised. Participants in the planning process include national libraries and other libraries and cultural institutions from around the world that have expressed interest in joining the project, as well as UNESCO and IFLA. The planning process is being underwritten by a gift from Google, Inc.

TOOLS

CrossRef (DOI Resolver)

<http://www.crossref.org/>

CrossRef is an independent membership association, founded and directed by publishers. CrossRef's mandate is to connect users to primary research content, by enabling publishers to work collectively. CrossRef is also the official DOI® link registration agency for scholarly and professional publications. It operates a cross-publisher citation-linking system that allows a researcher to click on a reference citation on one publisher's platform and link directly to the cited content on another publisher's platform, subject to the target publisher's access control practices. The Association's citation-linking network today covers millions of articles and other content items from several hundred scholarly and professional publishers.

Offers DOI Resolver.

Total no. participating publishers & societies	2,356
% of non-profit publishers	66%
Total no. participating libraries	1,209
No. journals covered	17,310
No. DOIs registered to date	26,077,745
No. DOIs deposited in previous month	701,588
No. DOIs retrieved (matched references) in previous month	6,694,337
DOI resolutions (end-user clicks) in previous month	n/a

DOI System

<http://www.doi.org>

The DOI System is for identifying content objects in the digital environment. DOI® names are assigned to any entity for use on digital networks. They are used to provide current information, including where they (or information about them) can be found on the Internet. Information about a digital object may change over time, including where to find it, but its DOI name will not change.

The DOI System provides a framework for persistent identification, managing intellectual content, managing metadata, linking customers with content suppliers, facilitating electronic commerce, and enabling automated management of media. DOI names can be used for any form of management of any data, whether commercial or non-commercial.

The system is managed by the International DOI Foundation, an open membership consortium including both commercial and non-commercial partners, and has recently been accepted for standardisation within ISO. Over 25 million DOI names have been assigned by DOI System Registration Agencies in the USA, Australasia and Europe.

Using DOI names as identifiers makes managing intellectual property in a networked environment much easier and more convenient, and allows the construction of automated services and transactions.

Global Digital Format Registry Project

<http://hul.harvard.edu/formatregistry/>

This international project is working to develop a model for a global file format registry. Its membership encompasses the international library and archival communities, including the National Archives. A draft data model has been developed, and FRED,¹¹⁰ a demonstrator of that model, has been implemented using TOM.¹¹¹ Funding is currently being sought to develop a prototype registry implementation.

¹¹⁰ <http://tom.library.upenn.edu/fred/>

¹¹¹ <http://tom.library.upenn.edu/>

JHOVE

<http://hul.harvard.edu/jhove/jhove.html>

This Java tool has been developed by Harvard University to allow the automatic identification, validation and characterisation of a range of digital object types. It is freely available under the GNU Lesser General Public License, and the beta pre-release version is currently available to download.

KB Preservation Manager

<http://www.kb.nl/dnp/e-depot/e-depot-en.html>

The National Library of the Netherlands is developing a 'Preservation Manager' tool as part of its e-Depot system. This application manages and controls the long-term durability of electronic records through the structured registration of technical metadata. The system of 'Preservation Layer Models' and 'View Paths' used is based on a similar concept of representation information to that which underlies PRONOM and other registry projects.

LOCKSS (Lots of Copies Keep Stuff Safe)

<http://www.lockss.org/lockss/Home>

Making lots of copies of digital material and keeping it in various places helps to keep it safe, because if the material becomes lost or corrupted at one location, another location will have a perfect copy.

That is the premise behind Stanford University's LOCKSS (Lots of Copies Keep Stuff Safe) digital archive pilot, which is helping the Library preserve electronic journals and other types of publications that are no longer distributed in print.

The Stanford project also includes work on a CLOCKSS102 (Controlled Lots of Copies Keep Stuff Safe) initiative, which is a collaborative, community initiative to build a trusted, large-scale archive.

National Library of New Zealand Metadata Extractor

<http://www.natlib.govt.nz/en/whatsnew/4initiatives.html#extraction>

The NLNZ has developed a Java-based tool to extract preservation metadata from within digital objects, and save it in XML format. The tool is freely available to download.

PANIC

<http://metadata.net/newmedia/index.html>

The PANIC project, at the University of Queensland's Distributed Systems Technology Centre, is developing a semi-automated preservation service for scientific data, which will allow monitoring of archival collections, support decision making about preservation actions, and then invoke the appropriate preservation service (such as a format conversion service), using the Semantic Web and web services.

Typed Object Model

<http://tom.library.upenn.edu/>

TOM is an object-based infrastructure for describing diverse data formats, developed by Dr John Mark Ockerbloom at the University of Pennsylvania Library. TOM describes formats using type descriptions and also implements ‘type brokers’, which receive and maintain descriptions of data formats, describe them to clients, and contact servers that interpret and translate data in those formats.

Virtual Remote Control

VRC is a risk management methodology developed by Cornell University Library for assessing risks impacting the sustainability of web-based resources over time. It includes assessments of tools that may be useful for remotely monitoring websites, and a test website for evaluating the methodology.

European Commission

EC's Audiovisual Service

<http://ec.europa.eu/avservices/>

This is the EU-related news and archive service providing indispensable information tailored for professionals in the media. It supplies up-to-the-minute audiovisual news coverage to the media around the world and provides a unique archive on the history of the EU.

The service offers video, photo and sound coverage of European news. European audiovisual material dating from the 1940s is also available.

DPE could offer registry and audit certification to *EC's audiovisual service*.

The Digital Libraries Initiative

http://ec.europa.eu/information_society/activities/digital_libraries/what_is_dli/index_en.htm

The Digital Libraries Initiative is a flagship project of the Commission's overall strategy to boost the digital economy, the i2010 strategy. The initiative aims at making Europe's diverse cultural and scientific heritage (books, films, maps, photographs, music, etc.) easier and more interesting to use online for work, leisure and/or study. It builds on Europe's rich heritage combining multicultural and multilingual environments with technological advances and new business models.

DPE should collaborate actively with the Digital Library Initiative on issues related to policies and practical implementation in the long-term preservation area.

Europe's Information Society (European Commission)

http://www://europa.eu.int/information_society/index_en.htm

The information society cuts across traditional boundaries. This website is a guide through its many and various aspects, covering for example: the impact of the Information Society on citizenship, education, culture, business, etc.; relevant European Commission programmes and initiatives, hosted both here and elsewhere, such as the eEurope action plan, ISTweb, eContent, eSafety, eTen, IDA (Interchange of Data between Administrations), the Internet Action Plan and other calls related to IS programmes and activities, which are published regularly. It also features public consultations to promote dialogue with citizens; policy aspects and regulatory framework for electronic communications networks and services; and international aspects of the information society.

DPE should collaborate with those priority areas that need to develop and apply preservation solutions.

APPENDIX III: ABBREVIATIONS

AIIM	Association for Information and Image Management, currently. The Enterprise Content Management Association
ALM	Archives, Libraries and Museums
ARMA	Association of Records Managers and Administrators
CHIN	Canadian Heritage Information Network
DLM	Document Lifecycle Management Forum (a community of Public Archives and interested parties in archive, records and information management throughout the EU)
DM/CM	Data management/content management
ICOM	International Council of Museums
ILM	Information lifecycle management
OCLA	Online Computer Library Centre
WFMC	Work Flow Management Coalition

Project information

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