

# Charles Beagrie Consultancy Report

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## Permanent Access to e-Journals in Denmark

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## 1. INTRODUCTION

### 1.1. WHY THIS ISSUE IS IMPORTANT FOR DANISH INSTITUTIONS

e-Journals have become increasingly popular and over the last decade have largely replaced paper journals as a mechanism for delivering research articles to the academic community in Denmark. They have become critical for supporting research and innovation in Danish universities and colleges. There are many obvious benefits that accrue for Danish users from publishing and accessing academic journals electronically, including 24/7 access and greatly enhanced search and analytical options. Moving to e-only has been essential for libraries not only to meet growing user needs but also to be able to cope with the pressures of reducing budgets and significant growth in research publications worldwide over the last decade.

Currently Danish libraries spend 173 million kroner per annum on licence subscriptions to e-journals that have been negotiated via Denmark's Electronic Research Library (DEFF). This is part of a large cumulative investment over many years in these essential resources.

However there are costs and challenges which need to be addressed to maintain permanent access to e-journals over the long-term and ensuring that these investments are protected.

This issue has become increasingly visible for research libraries as published journals and articles have shifted from print to electronic formats; and as traditional publishing business models and relationships have undergone major transformations as a result of that shift. There have been many significant changes. These include moving from libraries purchasing and physically holding (and preserving) a paper journal locally (with multiple redundancy of copies between libraries), to renting (licensing) remote access to an electronic journal held on publishers' platforms that are often based internationally in other jurisdictions.

All these changes have made permanent access to e-Journals more challenging, more international, more dependent on others, and brought issues of confidence in the long-term permanence of access to the fore. Permanence in this context is not solely of technology for archiving, but negotiating rights in licences (and retaining a record of them for future use), and the mechanisms to enact and guarantee those rights over time.

### 1.2. AIMS OF THE CONSULTANCY

This report discusses the subject of permanent access to e-Journals in Denmark and outlines options and recommendations for how this might be achieved. It has been commissioned by Denmark's Electronic Research Library (DEFF). DEFF is an organisational and technological collaboration between the research libraries, the education libraries and the special libraries, co-financed by the Ministry of Culture, the Ministry of Higher Education and Science, and the Ministry of Education.

DEFF's objective is to further the development of a network of electronic libraries that make their electronic and information resources available to the users in a cohesive and simple way.

DEFF has for more than a decade negotiated license agreements with publishers for access to foreign electronic journals. Ensuring permanent access is included to varying degrees in these licence agreements and has been on the list of licensing requirements and on the agenda of negotiations with publishers. However, there is variation in the length of archive rights or whether they are included at all times.

In 2013 DEFF did a small study in the area of permanent access to e-journals in Denmark. It sketched the well-known possible components in a solution and the study was presented to the Steering

Group for DEFF. A survey of the country's universities shows that International archive solutions such as LOCKSS / CLOCKSS or Portico were not used currently, although there have been signs of interest in this in the form of inviting tenders and inquiries. There have also been attempts to build a Danish data repository or archive, which could include storage of licensed foreign journals. The project was not completed due to the potential cost. The overall picture was of insufficient guarantees for permanent access to purchased licensed e-Journals in Denmark (DEFF 2013).

The Steering Group decided it wanted more exploration of the topic and especially ideas for developing a Danish strategy for permanent access to e-journals. This consultancy was initiated for that purpose and to build on previous work.

In line with the previous DEFF report in 2013, the scope of this consultancy is international, licensed e-journals. The report produced by this consultancy aims to avoid duplication with that produced in 2013 and to focus primarily on supplementary information and ideas as requested by the steering group. Prior reading of the DEFF 2013 report is therefore assumed.

### 1.3. APPROACHES AND METHODS

The consultancy was undertaken as a series of work packages between June and November 2014. This first work package consisted of desk research and interviews during June/July 2014. It included of two short but concurrent tasks focusing respectively on: latest updates and future plans of relevant international initiatives and projects (including interviews with UK, Netherlands, Germany, Portico, CLOCKSS and LOCKSS); and current DEFF licences and library needs (including 4 group interviews with the 7 Danish Universities and 1 College). It also drew upon and updated existing information held by the consultants. We collated and analysed emerging requirements and evaluated possible national strategies and costs for DEFF to consider.

A draft of this report of key issues and findings and options for a future strategy was discussed with the DEFF steering group on 8th September 2014. This final version of the report includes minor additions and edits discussed with the steering group.

A workshop in Copenhagen is scheduled on 12 November 2014 to present issues and options from the report to a wider audience of staff from the DEFF partner organisations.

## 2. FINDINGS

### 2.1. VIEWS OF DEFF LIBRARY MEMBERS

Four group interviews were arranged with DEFF member libraries and involved 16 individuals from 8 institutions (several institutions involved two staff in the interviews to get input from different roles and perspectives). A semi-structured interview was used. The following highlights key findings in terms of common themes in their responses to questions or major individual points of difference from this.

#### **How significant are e-only Journal subscriptions and dual print + electronic subscriptions to your institution?**

It was noted that e-journals are now very significant for Danish Libraries. All interviewed institutions had moved to e-only journal provision where possible, there was very little dual print +electronic used, and paper journals were now a small part of their overall acquisitions.

The transition to e-only journals in Danish Libraries is now widely established and of long-standing – having begun in the late 1990's.

Several institutions also mentioned that in addition to switching their current subscriptions to e-only they had purchased the digital archives of retro-digitised print journals offered by some publishers.

It was noted that there are no national licences in Denmark – they have the DEFF consortium that is negotiating nationally with publishers. DEFF provides national licence frameworks but each University can opt in or out and signs up individually to each deal.

Across the nine institutions, e-journals purchased via the DEFF frameworks accounted on average for 85% of their e-journals budgets. The libraries also noted that they do acquire single titles outside of the DEFF frameworks e.g. where these are Danish language, the publisher does not participate in a licence agreement, or they are the only library interested.

Although they recognised it was outside the scope of the current consultancy, two interviewees also stressed that licensed e-books are significant to their institutions and they hoped could be included in the scope of any eventual solution that is developed.

#### **How significant is it to your institution to have future access to those e-Journals?**

This was seen as significant or very significant by all respondents. However there were caveats suggested by some, including for example: it is important to us as the library and to our users but there may be little or no awareness of this as an issue more widely in the institution and its senior management; do you really need full access to the whole archive or is it sufficient to have last 10 years -the value may depend on the subject area; we probably use only about 20% of the journals in the big deals to any significant degree so the priority would be to retain access to these titles.

Over recent years problems with future access were relatively small in number but interviewees recognised that they are systemic and would continue to occur in the future and might well increase sharply e.g. if cancellations rise. Two institutions mentioned that although they had not encountered any access issues so far they were concerned about the future risks of post-cancellation access.

Specific examples of permanent access issues that had occurred in their institutions included:

- Getting title lists from the big deals /proving to the publisher that particular titles were ever part of the original package;

- Where they have cancelled subscriptions they have problems accessing the earlier volumes;
- Have lost post-cancellation access due to failure to ensure this was in the contract;
- Have been asked to pay annual fee for post-cancellation access;
- Have received a CD-ROM from publisher on post-cancellation – no use to them;
- Time consuming to pursue and re-establish access post-cancellation;
- Journal sold-on by publisher affecting future access.

**Can you describe the long-term preservation and continuing access arrangements you have for the e-journals you host and/or provide access to? Are these sufficient and if not how would you like them to change?**

No institution felt that current arrangements were sufficient and no institution is currently a member of Portico, LOCKSS or CLOCKSS. The majority felt that licence clauses needed to be more systematic and consistent on permanent access provisions, and more needed to be done to develop a solution at a national level to ensure provisions could be enacted.

One Danish institution has hosted e-Journals from a range of publishers on its local platform and noted it was essentially a “white archive” providing access and future access for its institution. However not all publishers allow local hosting so until this changes it also has similar issues on permanent access for those publishers. The institution’s discovery services have a link resolver which knows which universities have access to what material, and this could be expanded to provide article level authentication if a national archiving service was developed.

**Do you have any views on the possible scenarios listed for a national strategy in Denmark in terms of:**

- *Benefits: what will become possible or easier to achieve with a national continuing access strategy in place?*
- *Preferred business and funding models (e.g. service subscription and/or local staff and infrastructure)?*

**Benefits**

The libraries believed there should be a national strategy and solution because it is unaffordable for single institutions. It should also be implemented within an international context because Denmark is a small country: the problem is an international one and more could be achieved by leveraging effort across many countries.

A national strategy would be a better value and more responsible solution both for libraries and also for the research community. It would free up staff and time currently spent on negotiation.

It was noted that all Danish University libraries have disposed of their stock of print journals as part of the move to e-only so any space and staff savings from the disposal of print collections has already been realised.

**The preferred funding and business model**

The libraries recognise there will be costs for a solution. Most expressed the view that the state should pay and it should be centrally funded by DEFF or the Ministries. Preferably the costs should not come out of University library acquisition funds. One however specifically noted that they were not optimistic that government would agree to this. Some were also concerned that it could be politically difficult to explain why more money is needed when so much has already been spent on licensing e-access – it may be assumed widely this would be long-term.

The majority of interviewees preferred a subscription model and to outsource as much as possible of the work. It was felt that tiering subscriptions according to size of the institution would be

appropriate but there were differing views on the reasonable level of cost for subscriptions (e.g. is 1% of acquisitions budget appropriate). It was noted there might need to be more than one model.

### **Any other key requirements and constraints? (e.g. response times/time to archive access; copy in Denmark/Europe/Elsewhere)**

#### **Response time**

Some Interviewees divided response times into two: for the customer it should be instant; for the library it could be longer (i.e. setting up post-cancellation access could run in parallel with a notice period). It is important that the process is not complex.

#### **Location**

Views on this were quite mixed: most felt it was not necessary for the solution to be actually located in Denmark as long as it was accessible.

Suggestions included: need to think globally - it doesn't matter where it is hosted as long as it is stable and we can access it; preferring Europe, the European Economic Area, or a parallel mirrored copy in Europe.

#### **Other**

The Transfer Code of Practice is important and should be reflected in the licences.

### **Summary of DEFF Member Library Potential Requirements from Interviews**

Supports post-cancellation access

Supports long-term access (i.e. has digital preservation function)

Improves on current position (licensing and solution issues)

International solution

Out-sourced

Subscription model

[Ideally?] response time instant for customer

[Ideally?] based in or mirrored in Europe

Cost is affordable [not defined]

Coverage of DEFF national framework licences [acceptable % not defined]

Supports transfer code of practice (licensing issue)

## **2.2. INTRODUCTION TO LICENSING ISSUES**

### **Post-cancellation access**

Publishers may provide for post-cancellation in licences via a number of options including supplying previously subscribed data to the institution on CD-ROM or tape, and access via their own hosting services and platforms and/or a third-party archiving solution. Being supplied via CD-ROM or tape is often problematic for many libraries as they need to put infrastructure and staffing into providing access themselves. Similarly for post-cancellation access via the publisher's platform subscribers remain concerned about publishers' ability to maintain that access over the very long term, or

charges for this that may not be transparent or acceptable. To address the specific issues of long-term preservation and continuing access for e-journals, and for commercial subscription e-journals in particular, a number of new archives such as the LOCKSS Alliance and Portico have emerged. These seek to implement relevant clauses in licence agreements developed by publishers, libraries, and their professional organizations or consortia.

Detailing specific mechanisms for achieving the archiving and continuing or post-cancellation access clauses in them are also important. For one example of this, see the relevant clauses in the UK NESLi2 2013 Model Licence.<sup>1</sup>

### Trigger Events

It is important for the publishers' business models that the designated archives do not compete directly with the publishers' own platforms. Similarly it is important for libraries to ensure continuity of access, regardless of events that may impact on the publishers over time. Significant effort has therefore been given to exploring 'trigger events' or transfers of ownership that may arise and procedures for them that are incorporated in the agreements between the publisher and the archive. The term 'trigger event' is used when specific conditions relating to an electronic journal title and its continued delivery are met. If the journal is no longer available to users from the publisher or any other source for a variety of reasons, then a trigger event is said to have occurred. This can set in motion access for users via an archive where the electronic journal may be digitally preserved.

### Transfers

In the electronic publishing world 'transfer' refers to the change of publisher or owner and the consequent roles and responsibilities which must be adopted by the 'transferring publisher' and the 'receiving publisher' respectively, to ensure continued access to content, both currently and in perpetuity, for the subscriber to that journal and their users. A Transfer Code of Practice has been created now in Version 3 (UKSG, 2014), which seeks to set acceptable operational standards. Publishers are encouraged to sign up to this code and become Transfer Compliant.

### Recording and retention of rights in licences

Libraries paying subscriptions for licensing access to e-journals is a key component of the business model for many commercial publishers. Consortia such as DEFF representing libraries often play a very important role in negotiating model licences and terms. Being able to retain a record of these terms and entitlements for post-cancellation access can be very important for future access, particularly as 'big deals' may have different rights within them. A recent study by Jisc Collections has highlighted some of the challenges in maintaining records of such rights over time for both publishers and libraries (Jisc Collections, 2012).

## 2.3. CLAUSES IN DEFF LICENCES

Reviewing a selection of DEFF national framework licences shows these have been highly variable over time in terms of clauses for permanent access and potential effectiveness of their wording. The

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<sup>1</sup> The clauses dealing with archiving and perpetual access are 5.1.5–5.1.9 inclusive. In addition in Schedule 3 Industry Standards the publisher agrees to archive the licensed material to ensure that it is preserved for future scholarship in at least one of the following archiving solutions: Portico, CLOCKSS or LOCKSS, and inform the institution in which of the archiving solutions the licensed material may be found. See <http://www.jisc-collections.ac.uk/Help-and-information/How-Model-Licences-work/NESLi2-Model-Licence/>



DEFF 2013 report noted the Knowledge Exchange has prepared proposals for such clauses and includes them at annex 1 Model provision regarding continuous access in the report.

**Recommendation 1:** We would endorse the view that Knowledge Exchange Model clauses for continuing access are included in all future DEFF and individual licences.

**Recommendation 2:** In addition we would recommend DEFF follows the recent JISC practice of an annex to the agreement in which the actual options for permanent access and post-cancellation solutions agreed by the specific publisher and DEFF libraries are recorded; and that DEFF follows Jisc practice of periodic audit of compliance with the agreed options by the publisher.

## 2.4. THE SERVICES AND OPTIONS FOR PERMANENT ACCESS

This section provides information on the services and options for permanent access that may be open to DEFF member libraries. Many of these options will be familiar from the DEFF 2013 report but it aims to provide further details to allow greater exploration of the topic and especially ideas for developing a Danish strategy for permanent access to e-journals. Only solutions that could apply to Denmark have been included (i.e. no discussion is included for solutions only for other countries such as legal deposit libraries in China, Netherlands and UK mentioned in the DEFF 2013 report). Additional information has been gathered via desk research, telephone interviews and email.

It is important to understand the significant implications for preservation and access of the different requirements (and terminology) that apply for e-journals: in particular the distinction made between permanent access (sometimes also called post-cancellation or continuing) that applies only to subscription journals and securing long-term access for their subscribers; and long-term preservation that applies to both open and subscribed content. These differences lead to different types of service for e-journal archiving.

Establishing assessment criteria and objective measures for trust in digital repositories has been the focus of a number of initiatives in recent years. These initiatives can help libraries, scholars, publishers and others to judge the reliability of the repositories and digital preservation services they may choose to rely upon or support. Two have been particularly prominent: the Trusted Repository Audit Checklist (TRAC) and its successor, the Trusted Digital Repository Checklist (TDR).

### Continue with Publishers' Platforms only

In the short-term DEFF libraries can exercise post-cancellation access rights via hosting on publishers' servers where these are included in licences. We would note this is not sufficiently robust as a single perpetual access solution long-term and the permanent access issues identified by DEFF member libraries will continue to re-occur. However such issues currently are not frequent each year and therefore, although the issues are important and accumulate in the long-term, are not always pressing in the immediate short-term.

The publishers' platforms provide points of full current access to authorised users and ongoing maintenance, updating, and security of that content (including routine back-ups and disaster recovery planning). These may provide for and help guarantee short to medium-term horizons for access but are not focussed on digital preservation or organised for the long-term, and would need to partner with or be combined with other services to achieve or guarantee longer-term perpetual access.

## CLOCKSS

CLOCKSS (Controlled LOCKSS)<sup>2</sup> was launched in 2006 and is a not-for-profit collaboration between libraries and publishers. It is a dark archive based on the LOCKSS software (see section below on LOCKSS) in which a limited number of libraries take on an archival role on behalf of a broader community.

It provides insurance to libraries that the e-journal and other content they have subscribed to will be preserved for the long term. It is described as a 'private LOCKSS network'.

The archive ingests and saves either source or presentation files, as the publisher chooses. Allowing access to the archive requires approval from a CLOCKSS board consisting of representatives from publishers and libraries. Access to preserved content is only sanctioned when it is no longer available from any publisher; the Board of Directors then agrees to make it freely available to everyone (not just previous subscribers) under a Creative Commons licence.

CLOCKSS is a solution to the problem of long term preservation. However, it doesn't provide post-cancellation access. As a 'dark archive' it has been able to recruit major publishers such as Elsevier, Taylor & Francis, and Wiley-Blackwell. Twelve libraries act as archive nodes in eight different countries.

CLOCKSS is now a standalone not-for-profit company operating as a 501c3 charity (USA), owned and supported financially by librarians and publishers. Supporting libraries are currently asked to contribute on a sliding scale of between \$450 and \$15,000 per annum depending on the size of their library materials budget. UK libraries have access to a separate consortial agreement with Jisc where the annual fee is based on Jisc institutional banding and support contributions range from \$350-\$2,898<sup>3</sup>. Publishers are currently asked to contribute on a sliding scale of between \$200 and \$25,000 depending on the size of their total publishing revenue. CLOCKSS has built a surplus over its first 5 years and is now considering how to increase that fund.

CLOCKSS underwent a formal preservation audit recently, conducted by the Center for Research Libraries, and was certified as a Trustworthy Digital Repository in July 2014. The audit report is publicly available through CRL (CRL, 2014).

## LOCKSS (Global LOCKSS or Private LOCKSS Network)

The LOCKSS Program (Lots of Copies Keep Stuff Safe)<sup>4</sup> is a technology that provides libraries with open-source tools and support so they can collect and preserve locally a wide variety of materials, including subscription and open-access scholarly assets (books, journals, etc.). The LOCKSS Program commenced in 1999. The LOCKSS software ingests content via file transfer, web harvest, or OA/PMH. The LOCKSS technology's distributed model ensures sufficient replication to safeguard content from disasters that might befall an institution or the content. A LOCKSS Network can be completely "dark" or provide access to content.

LOCKSS is currently being used to preserve content in two distinct types of network.

**The Global LOCKSS Network** is run by Stanford University and provides post-cancellation access and preservation to journals and books. In the Global LOCKSS Network, each participating library brings online its own LOCKSS box. That LOCKSS box ingests, preserves and provides access to authorized copies of e-content. Readers access LOCKSS preserved content whenever (and for whatever reason)

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<sup>2</sup> <https://www.clockss.org/clockss/Home>

<sup>3</sup> <http://www.jisc-collections.ac.uk/Catalogue/Agreements/YearlyAgreements/1169>

<sup>4</sup> <http://www.lockss.org/>

the material cannot be viewed on the publisher's (or intermediary's) servers. This includes, for example, short-term network problems. By using their own computers and network connections, institutions obtain, preserve and provide access to authorized copies of e-content. These processes are analogous to libraries' using their own buildings, shelves and staff to obtain, preserve, and provide access to paper content. Publishers are not charged for participation in the Global LOCKSS Network.

**Private LOCKSS Networks** (PLNs) hold and preserve materials of interest to targeted larger communities. CLOCKSS is an example of a Private LOCKSS Network and other examples include national or subject consortia. Each network has responsible parties who determine an appropriate business and governance model. A "Managed Private LOCKSS Network" needs a minimum number of LOCKSS boxes in the network but does not require a box in every member library. This model is under consideration for the future of the UK LOCKSS Alliance. Currently no Private LOCKSS Networks are used for post-cancellation access. However, a UK pilot project commenced in August 2014 to test this over a two year period with a goal to have a production service in two years.

The LOCKSS Program, Stanford University, charges fees for services on a cost recovery basis. Communities building PLNs and the LOCKSS team together determine what support is required and how to pay for that work. Individual libraries may join the LOCKSS Alliance. Fees depend on an institution's size and nature. In 2013 US academic library fees range from \$2,300 to \$11,515 per annum. Examples of LOCKSS Program support include: technical development and maintenance, network monitoring and tuning, publisher communication, content processing, and opportunities for strategic alliances. In the UK there is a UK LOCKSS Alliance with membership fees and a locally based support service that works with the LOCKSS Program team.

## Portico

Portico<sup>5</sup> launched in 2005, is designed specifically as a third-party service for scholarly literature published in electronic form and provides three specific preservation services for e-journals, e-books and digitized/digital collections respectively. It is a part of Ithaka (which is also responsible for JSTOR). It provides insurance to libraries that the e-journal and other content they have subscribed to or purchased will be preserved and remain accessible for the long term. Portico's e-journal and e-book preservation services are on a community model, supported by both academic libraries and scholarly publishers.

Portico preserves publisher source and presentation files and delivers content in renditions appropriate to the current technology. It provides access to the content they have preserved after specified 'trigger events,' which cause e-content to no longer be available from the publisher or any other source. When e-journal and e-book titles have triggered, they are available to all participants in the Portico E-Journal Preservation Service, regardless of whether the participating institution has previously licensed the content. In addition, if a publisher has designated Portico as such, it can also serve as a potential mechanism for post-cancellation access (former subscribers who are Portico participants may request access to content through Portico). Currently 88% of e-journals titles in Portico have been designated for post-cancellation access. This post-cancellation mechanism operates as follows:

- 1) A participating institution makes a claim to Portico, which includes documentation such as past invoices of their former subscriber status (see Section 2.4 for further discussion of the importance of retaining documentation);
- 2) Portico notifies the publisher of the claim and allows 30 days for the publisher to ask questions or request any additional information it may need and confirm the claim;

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<sup>5</sup> <http://www.portico.org>

3) Upon publisher response, or at the end of 30 days, campus-wide access is provided by Portico to the requesting participating library.

Portico is funded by archive support fees from libraries and publishers. The standard annual fee to the e-journal preservation service for a library is set on a sliding scale based on a library's materials budget (LME) from \$24,720 - \$1,545 (or if under \$150,000 1.03% of LME) with a 5% discount for consortia.

UK libraries have access to a separate consortial agreement with Jisc where the annual fee is based on Jisc institutional banding and discounts are tiered depending on the number of participants. At the lowest tier 1 (9 participants) annual fees range from \$13,247- \$1,030 and at the highest tier 4 (60 or more participants) annual fees are discounted further to range from \$9,359 - \$202<sup>6</sup>.

Annual financial contributions by participating publishers for the support of the Portico archive for e-journals are tiered on a scale from \$250 to \$81,960 based on a publisher's total journals revenues (print and electronic subscriptions, licensing, and advertising).

Portico underwent a formal preservation audit in 2009, conducted by the Center for Research Libraries, and was certified as a Trustworthy Digital Repository in 2010. The audit report is publicly available through CRL (CRL, 2010).

### Local Hosting

Hosting refers to the service used for primary access to content. Local hosting of electronic materials is the holding of data files provided by a publisher under an agreement with the subscriber on a local server under the control of the subscriber themselves or a designated organization, other than the publisher, working in partnership with the subscriber. It is the alternative to access/hosting via the publisher's own servers. Local hosting provides archival protection and rights to the resources under local control. Control of the local server is under the subscriber who must provide the labour to maintain it and also maintain access controls to the content. The service may encompass elements of digital preservation and an archive, but this is usually not its primary function and it may be less comprehensive in these areas than dedicated services.

One institution interviewed (the Technical University of Denmark) operates local hosting and access to e-journals from a range of publishers for its library users.

### Consortial Hosting

In some cases institutions may co-operate to federate local hosting to regional or potentially national scale. These regional hosting consortiums are still relatively rare and they evolve and mature over long periods. A small number of regional consortia organize and provide their own hosting services for access and preservation of e-journals. Notable examples are OhioLink,<sup>7</sup> operated by the Ohio Library and Information Network, and the Scholars Portal<sup>8</sup>, operated by the Ontario Council of University Libraries. A TRAC preservation audit of the Scholars Portal was completed in 2012 and the audit report is publicly available (CRL, 2013).

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<sup>6</sup> <http://www.portico.org/digital-preservation/jisc-collections-agreement-for-portico> . This agreement runs to June 2014 and had recently been renewed but at time of writing an update is not yet online.

<sup>7</sup> <http://www.ohiolink.edu/>

<sup>8</sup> <http://www.ocul.on.ca/node/135>

## 2.5. WHAT IS HAPPENING IN OTHER COUNTRIES

Three countries (Germany, Netherlands, and UK), who are DEFF partners in the Knowledge Exchange where chosen by DEFF to be included in this report as comparators with what is happening in other countries. Additional information has been gathered via desk research, telephone interviews, and email for each country.

### Germany

The Alliance of German Science Organisations with funding from DFG negotiates at a national level with publishers on licences for e-Journals in Germany in a similar way to DEFF. In 2008 it commissioned a study (the public version of the report was published in February 2010) on a national strategy for permanent access in support of its goal to ensure the long-term availability of the digital media and contents that it was acquiring from around the world (Charles Beagrie Ltd and Globale Informationstechnik GmbH 2010). That report made a series of recommendations including:

- In the short-term many libraries can exercise post-cancellation access via hosting on publishers' servers. We have noted this is not sufficiently robust as a single perpetual access solution long-term. However given the immaturity of longer-term solutions this is the approach we would recommend for the immediate first horizon of the Strategy (perhaps years 1-3). ...In working towards longer-term solutions we recommend two options are explored in parallel:
- Development of independent perpetual access capacity in Germany with international partners. We believe the larger market, spread of risk, and broader combination of expertise and experience would make this our preferred option to developing a purely German solution which would have a higher risk profile.
- Participation in Portico, a US based not-for-profit archive. Possibly one institution in Germany could pilot this service over the first horizon of the Strategy (there are no German library participants currently). A dialogue could be established to discuss potential weaknesses from a German perspective and future directions.

In February 2014 a substantial 21 month project commenced to further progress ongoing dialogue with potential partners and explore/pilot solutions. The project consists of 7 work packages as follows: WP1 Scoping demand, what licences, what volume; WP2 Analysis of Portico and LOCKSS; WP3 Analysis and selection of preferred technical solution; WP4 Rights management and licensing systems; WP5 Specifying workflows and responsibilities; WP6 organisation and financing model; WP7 Acceptance and stakeholder dialogue on implementation. There have already been some preliminary talks with Portico and LOCKSS (primarily around private LOCKSS Networks) and they expect further detailed follow-up in September.

### The Netherlands

The Koninklijke Bibliotheek (KB) is the national library of the Netherlands and operates the e-Depot, its archive for the Dutch national deposit collection of electronic publications and other e-content (e.g. Dutch websites or master image files from KB digitization projects). The e-Depot became operational in January 2003 and focused initially on Dutch material. Recognizing the international nature of journal publishing (approximately 50–60% of all Science, Technology and Medical publishing is based in the Netherlands), this was extended during 2003 to international e-journals from the major publishers.

The KB intends to conclude archiving agreements for all the journals from 80 of the world's largest publishers and around 80% of open access publishers. Publishers wishing to make use of the services

provided by the e-Depot are required to conclude an archiving agreement with the KB and to deliver bulk content and specified metadata. The primary deposit file formats are PDF and XML.

The e-Depot could be considered a 'dim archive'. Generally, end-user access is restricted to on-site perusal at the KB for reasons of private research only and online access is denied. The archiving agreement specifies a number of trigger events when wider access would be permitted. The e-Depot does not currently provide for post-cancellation continuing access by licensees of the content. Note however, full online access is already granted to publications by open-access publishers such as Biomed Central and the content of publishers listed in the Directory of Open-Access Journals (DOAJ).

The e-Depot is an intrinsic part of the Dutch national library, and therefore the Dutch government is the major funder of both the e-Depot and the R&D efforts for digital preservation at the KB. However, the KB intends to develop a sustainable business model for the international e-Depot which will reflect both public and private responsibility for digital scholarly and cultural heritage. The new business model is based on annual contributions from publishers and libraries, calculated on the publisher's annual revenues or the library's materials budget. The KB will introduce this model and contribution system in two phases: first starting with the publishers' contributions; when coverage is high enough, the KB will then start subscriptions for libraries.

In the Netherlands, SURFmarket negotiates e-Journal licences with the publishers on behalf of UKB, the consortium of the 13 Dutch university libraries and the Royal Library and SHB (the consortium of libraries at universities of applied sciences). Portico membership has been included in the SURFMarket suppliers of other services. In March 2014 Portico announced that four members of Netherland's SURFmarket joined Portico. The four institutions were Leiden University, University of Amsterdam, University of Groningen, and Utrecht University<sup>9</sup>. A fifth (Radboud University Nijmegen) has joined subsequently.

## The UK

In the UK Jisc fulfils a similar role to DEFF. Jisc Collections negotiates e-journal licence offers with publishers on behalf of UK universities and colleges using the National Electronic Site Licence Initiative (NeSLI) model contract and clauses. It has also concluded a consortium offer for Portico and for support of CLOCKSS, and also directly supported a UK LOCKSS Network and membership scheme for this.

To date, 60 UK universities and colleges have taken up membership of Portico via Jisc's consortial offers; 16 provide supporting contributions to the CLOCKSS archive and the University of Edinburgh is also a CLOCKSS archive node; and 15 institutions are members of UK LOCKSS.

The Jisc consortium agreement with Portico (see page 11) has negotiated significant tiered discounted rates for membership. This agreement was reviewed in June 2014 with no changes in terms but new tier fee rates now apply.

Incorporated within the Portico agreement are Scottish Libraries that joined Portico as part of the Scottish Higher Education Digital Library (SHEDL) previously brokered by Jisc. SHEDL effectively bundled "nation-wide" access licences with Portico as an "insurance fee" to maximise permanent access.

UK LOCKSS is a national level initiative and also part of the Global LOCKSS Network. The UK network was set up and established with Jisc funding in 2006 and it transitioned from a pilot to a membership service in 2008. It functions as a distributed archive, low cost to publishers, with costs as described below to the sector.

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<sup>9</sup> <http://www.portico.org/digital-preservation/news-events/news/library-support-for-portico-expands-across-europe>

The UK LOCKSS has received on-going Jisc Innovation funding to support its activities. It supplements funding from Jisc (£73,267 in 2012-13) with fees from members of which there are currently 15 institutions. Membership fee income for 2012/13 was £50,850. In addition to member fees, institutions are required to:

- Supply hardware. (For a new, modest 1U rack-mounted server, this costs around £2,000 and assumes a 3 year life time).
- Support staff resourcing: typically an e-Resources Manager (or Assistant) to manage the collection and an IT System Administrator to manage the hardware and software administration. Staff allocation is typically in the order of a few hours per month (max) and has been estimated at approximately £3,230 per annum.

This amount of institutional commitment can prove prohibitive for some institutions that don't readily have the expertise or the IT strategy and policy to support one-off bespoke solutions. Hence a managed private LOCKSS network is under consideration for the future.

Summing these elements, total costs to the UK sector in 2012/13 were:

<b>UK LOCKSS</b>	<b>Cost to UK HE Sector 2012/13</b>
Jisc grant	£73,267
Subscription income	£50,850
Members approximate example costs(including hardware and support)	£3,896 x 15 members = £58,440
<b>Total</b>	<b>£182,557</b>

In August 2014 Jisc commenced a pilot project (SafeNet) with funding of £320,639 over two years to explore developing a managed private LOCKSS network for post-cancellation access rights. This will have a network of 6 LOCKSS nodes. It is seeking to identify priority collections for post-cancellation access and developing a negotiation strategy for publishers (however no publishers have been approached or have given permission as yet). An option under consideration for exploration with CLOCKSS would be whether SafeNet could take existing files from CLOCKSS to streamline ingest costs. The project is aiming to see if a UK solution can be developed to complement and provide additional options to available international solutions.

### 3. POSSIBLE NATIONAL STRATEGY OPTIONS AND POTENTIAL COSTS

#### 3.1. NATIONALLY FUNDED OR A NATIONAL FRAMEWORK?

As noted in section 2.1 the majority of interviewees would prefer a national solution to permanent access i.e. nation-wide funded centrally by the Danish Government via DEFF or the Ministry of Culture and that it is not funded by individual libraries. However a caveat was also expressed that some were not optimistic it could be achieved.

In fact currently nation-wide mandated solutions are rare and funded by the participating libraries e.g. the Scottish Higher Education Digital Library and Portico. The UK LOCKSS is partially subsidised centrally by Jisc but also has member library contributions (membership would need to be higher for it to be solely library funded). Germany has been moving towards a national solution since 2009 that might be based on a mix of national and state central funding but this is complex and ongoing, and its final funding model is still to be decided.

More common is a national framework for permanent access that is similar to the access licences: individual libraries opt-in to offers negotiated centrally by a national consortium from potential providers. A national framework is offered by Jisc for CLOCKSS, UK LOCKSS, and Portico; and by SURFNET for Portico.

A “mixed mode” might also be envisaged where central funding could be used to transition a service (e.g. as for UK LOCKSS) or a potential framework offer from a provider until a target take-up is achieved that could be self-financing (this is common for Jisc on innovative products licensed to its community).

**Recommendation 3:** We suggest national central funding to support implementation of a solution for Danish Libraries is explored. If central funding is not available, develop a national framework agreement with permanent access solutions that Danish libraries can opt into. Explore if central funding might be available for a fixed period and/or on a part-funded basis for a transition phase to encourage take-up.

#### 3.2. THE POTENTIAL DEFF REQUIREMENTS AND POSSIBLE SOLUTIONS

##### Potential Requirements

Section 2.1 presents the views captured in the DEFFF member library interviews. These may provide a starting point for consideration of DEFF requirements that could be refined by the Steering Group and in the DEFF November workshop with member libraries. It may be helpful to consider allocating requirements to three categories: Mandatory (now); Desirable (now); Highly Desirable or Mandatory (future) to assist with this process.

None of the potential solutions will be perfect (or perfection may only be achievable at an unacceptable cost), so a consensus may need to be reached on what is “good enough” in terms of DEFF requirements and a solution for permanent access.

Each of the solutions is still evolving its coverage (these are partly dependent on the willingness of the publisher to participate in the solutions). An important consideration for DEFF to use a solution will be the coverage of titles it has for its licensed content and how new titles will be selected and prioritized. Coverage between the main archives has been shown to be quite variable. At this time



Portico is the largest in terms of breadth (number) of titles; LOCKSS is free to publishers so tends to have a better range of smaller publishers. The DEFF 2013 report includes at annexe 2 a comparison of publishers participating in LOCKSS, CLOCKSS and Portico as of November 2012. The coverage of DEFF national framework e-journal publishers has not yet been analysed. The Keepers Registry may make this an easier task (particularly at title and volume level) as reports are developed. The acceptable coverage for a solution at this point in time will also need to be discussed and agreed within DEFF.

DEFF member interviews and the majority of views expressed might point to the following (note these may reflect the views of a majority but may not apply to every Library):

<b>Provisional Table of Potential DEFF Member requirements for Permanent Access Solution</b>		
<b>Mandatory (now)</b>	<b>Desirable (now)</b>	<b>Highly Desirable or Mandatory (future)</b>
Supports post-cancellation access Supports long-term access (i.e. has digital preservation function) Improves on current position (licensing and solution issues) International solution Coverage of DEFF national framework licences [mandatory % not defined] Cost is affordable [not defined]	Out-sourced Subscription model [Ideally?] response time instant for customer  [Ideally?] based in or mirrored in Europe 100% Coverage of DEFF national framework licences	     based in or mirrored in Europe 100% Coverage of DEFF national framework licences

**Recommendation 4:** Validate the provisional table of potential DEFF member requirements for permanent access solution(s)

**Recommendation 5:** Analyse the current coverage of DEFF national framework e-journal publishers within potential solutions.

## Potential Solutions

Six potential solutions that could apply to Denmark are discussed in section 2.4: Post-cancellation access via the publishers platforms; CLOCKSS; LOCKSS (Global LOCKSS or Private LOCKSS Network); Portico; Local Hosting; and Consortial Hosting.

If the above provisional table of potential DEFF member requirements is confirmed then:

- **Publishers Platforms:** the “improves on current position” and “supports long-term access” mandatory requirements would rule out relying solely on publishers platforms for permanent access;

- **CLOCKSS**: the “supports post-cancellation access” mandatory requirement would rule out CLOCKSS;
- **Local Hosting** (for access and by default preservation): A number of the mandatory and desirable requirements would rule out local hosting for the majority of DEFF libraries (other than the Technical University that already has local hosting);
- **Consortial Hosting** (for access and by default preservation): would also be ruled out by a number of the mandatory and desirable requirements.

**This would leave three options as possible solutions to be considered: Global LOCKSS; a Private LOCKSS Network; or Portico.**

The degree to which each of these matches potential requirements is discussed below.

<b>Global LOCKSS</b>		
<b>Mandatory (now)</b>	<b>Desirable (now)</b>	<b>Highly Desirable or Mandatory (future)</b>
Supports post-cancellation access (✓) Supports long-term access (i.e. has digital preservation function) (✓) Improves on current position (licensing and solution issues) (✓) International solution(✓)	Out-sourced (✗) Subscription model (✓/✗ partial) [Ideally?] response time instant for customer (?) [Ideally?] based in or mirrored in Europe (✓)	100% Coverage of DEFF national framework licences (?)
Coverage of DEFF national framework licences [mandatory % not defined] (?) Cost is affordable [not defined] (?)	100% Coverage of DEFF national framework licences (?)	100% Coverage of DEFF national framework licences (?)
<p><b>Costs:</b> LOCKSS Alliance which has a scale of fees, depending on the size and nature of the institution. US academic library 2013 fees range from \$2,300 to \$11,515 per annum. In addition each participating library needs to budget for a LOCKSS box and its local support, and staff input to selection of titles, etc. LOCKSS is a preservation technology so the institution must have infrastructure for access if LOCKSS content access is triggered.</p>		
<p><b>Notes:</b> Several interviewees felt that the Global LOCKSS model was unattractive to their institution. However it may be attractive to some.</p>		

Private LOCKSS Network for Denmark		
Mandatory (now)	Desirable (now)	Highly Desirable or Mandatory (future)
<p>Supports post-cancellation access (✓)</p> <p>Supports long-term access (ie has digital preservation function) (✓)</p> <p>Improves on current position (licensing and solution issues) (✓)</p> <p>International solution(✓/✗ partial)</p> <p>Coverage of DEFF national framework licences [mandatory % not defined] (?)</p> <p>Cost is affordable [not defined] (?)</p>	<p>Out-sourced (✗)</p> <p>Subscription model (✓/✗ partial)</p> <p>[Ideally?] response time instant for customer (✓)</p> <p>[Ideally?] based in Europe (✓)</p> <p>100%Coverage of DEFF national framework licences (?)</p>	<p>100% Coverage of DEFF national framework licences (?)</p>
<p><b>Costs:</b> Unknown. There will be a capital cost to research and pilot (UK SafeNET pilot £320,000 over two years is a possible indicator for this), implementation and scaling up, and then ongoing revenue costs (UK LOCKSS for 15 institutions global costs of c £182,000 per annum may provide an indicator for this). A governance and funding model will be required. A private LOCKSS Network can buy-in to LOCKSS Alliance support for the Stanford LOCKSS team. A managed private network would require a minimum of 6 LOCKSS boxes. The network would need to decide support, and staff input to selection of titles, etc. LOCKSS is a preservation technology so the network must have infrastructure for access if LOCKSS content access is triggered.</p>		
<p><b>Notes:</b> No private LOCKSS Network is currently used for post-cancellation access but a UK pilot project (SafeNet) for this commenced in August 2014. A Private LOCKSS Network may also be a future option for Germany.</p> <p>Several interviewees stressed that Denmark is a small country. Both the UK and Germany are much larger in institutional size and national budgets. Potentially at this stage a Private LOCKSS Network is a higher risk undertaking for post-cancellation access. A clearer view of this options costs and risks may be available in 2-3 years.</p> <p>Several interviewees felt that the LOCKSS model was unattractive to their institution. However it may be attractive to more institutions if it can be entirely out-sourced to a managed private network.</p>		

<b>Portico</b>		
<b>Mandatory (now)</b>	<b>Desirable (now)</b>	<b>Highly Desirable or Mandatory (future)</b>
Supports post-cancellation access (✓) Supports long-term access (ie has digital preservation function) (✓) Improves on current position (licensing and solution issues) (✓) International solution (✓) Coverage of DEFF national framework licences [mandatory % not defined] (?) Cost is affordable [not defined] (?)	Out-sourced (✓) Subscription model (✓) [Ideally?] response time instant for customer (?) [Ideally?] based in or mirrored in Europe (✗) 100% Coverage of DEFF national framework licences (?)	mirrored in Europe (?) 100% Coverage of DEFF national framework licences (?)
<p><b>Costs:</b> Unknown as will depend on consortial offer. Two indicators of cost – Portico standard pricing based on library materials expenditure of from \$24,720 - \$1,545 (or if under \$150,000 1.03% of LME); UK libraries have access to a separate consortial agreement with Jisc where the annual fee is based on Jisc institutional banding and discounts are tiered depending on the number of participants. At the lowest tier 1 (9 participants) annual fees range from \$13,247- \$1,030 and at the highest tier 4 (60 or more participants) annual fees are discounted further to range from \$9,359 - \$202.</p>		
<p><b>Notes:</b> Portico’s standard subscription costs were seen as high by some interviewees. Some had also found it difficult to work out a Library’s Materials Expenditure that might apply to them.</p> <p>Portico is a “fully out-sourced” solution based on a subscription model. As part of Ithaca, the JSTOR infrastructure is used to provide the access if content is triggered or subject to a post-cancellation request.</p> <p>If a publisher has designated Portico as such, it can serve as a potential mechanism for post-cancellation access. Currently 88% of e-journals titles in Portico have been designated for post-cancellation access.</p>		

**Recommendation 6:** Consider Global LOCKSS or/and Portico as current solutions. Determine potential consortial costs for them. Monitor development of Private LOCKSS Networks for post-cancellation access: in the medium to longer-term evaluate and cost if this might be a viable option for Denmark.

### 3.3. INTERNATIONAL CONTEXT AND COLLABORATION

Publishing of e-journals is now largely undertaken by International companies and concerns over their preservation and permanent access cross national boundaries. Northern European countries and the USA have some of the most advanced digital preservation and digital library activities internationally. These European countries are also arguably the most advanced in terms of national co-ordination and multi-national coordination, collaboration, and knowledge exchange over digital content.

Denmark's active involvement in the Knowledge Exchange with partners from Germany, the Netherlands, and the UK provides a potential forum for joint discussion, knowledge exchange, and actions over permanent access to e-journals. Areas such as lobbying of specific publishers over permanent access terms, sharing of experience with providers and pilot projects, and potentially shared negotiation or provision of services might be explored within that framework.

Another area to consider is the issue of open-access. Although this is outside the scope of the DEFF 2013 study and this report as they focus on international subscription e-journals, it is closely connected as an issue. The steering committee may therefore wish to consider a supplementary recommendation (recommendation 8) addressing this.

There is a growing trend towards open access in e-journals, and Denmark and other countries and international agencies increasingly support open-access mandates. This will have implications for the implementation of solutions for permanent access and open-access policies within Denmark and partner countries. Challenges that arise include ensuring appropriate archiving permissions for open-access articles and funding of the preservation of international open-access journals. It is worth noting therefore that permanent access and preservation of open-access content are also undertaken by both Portico and LOCKSS as part of their work with publishers.

**Recommendation 7:** To follow the European and international initiatives in this area and build on existing information exchange and shared practice within the Knowledge Exchange partnership of Denmark, Germany, Netherlands, and United Kingdom.

**Recommendation 8:** To consider permanent access when implementing Open Access at the national level in Denmark. Support and integrate the contribution that a national strategy on permanent access for e-journals can make to this.

## 4. SUMMARY OF RECOMMENDATIONS

**Recommendation 1:** We would endorse the view that Knowledge Exchange Model clauses for continuing access are included in all future DEFF and individual licences.

**Recommendation 2:** In addition we would recommend DEFF follows the recent JISC practice of an annex to the agreement in which the actual options for permanent access and post-cancellation solutions agreed by the specific publisher and DEFF libraries are recorded; and that DEFF follows Jisc practice of periodic audit of compliance with the agreed options by the publisher.

**Recommendation 3:** We suggest national central funding to support implementation of a solution for Danish Libraries is explored. If central funding is not available, develop a national framework agreement with permanent access solutions that Danish libraries can opt into. Explore if central funding might be available for a fixed period and/or on a part-funded basis for a transition phase to encourage take-up.

**Recommendation 4:** Validate the provisional table of potential DEFF member requirements for permanent access solutions.

**Recommendation 5:** Analyse the current coverage of DEFF national framework e-journal publishers within potential solutions.

**Recommendation 6:** Consider Global LOCKSS or/and Portico as current solutions. Determine potential consortial costs for them. Monitor development of Private LOCKSS Networks for post-cancellation access: in the medium to longer-term evaluate and cost if this has become a viable option for Denmark.

**Recommendation 7:** To follow the European and international initiatives in this area and build on existing information exchange and shared practice within the Knowledge Exchange partnership of Denmark, Germany, Netherlands, and United Kingdom.

**Recommendation 8:** To consider permanent access when implementing Open Access at the national level in Denmark. Support and integrate the contribution that a national strategy on permanent access for e-journals can make to this.

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## APPENDIX 1: DEFF INTERVIEW LIST

Library	Contact	Interview	
KB	Erland Kolding Nielsen	23.6.	14.00
Group/KB	Inge Berete Moltke	23.6.	14.00
SDUB	Lone Madsen Bjarne Christensen	23.6.	14.00
RUB	Lene Stampe	27.6.	10.00
	Claus Vesterager	27.6	10.00
AUB	Niels Jørgen Blaabjerg	27.6.	10.00
AUB	Lone Katberg	27.6.	10.00
SB	Lillian Madsen Vibeke Christensen	1.7.	10.00
DTU	Mogens Sandfær Annette Schneider	1.7.	10.00
Group/AUL	Anna Mette Morthorst	1.7.	10.00
UC	Peter Flodin	1.7.	14.00
CBS	Rene Steffensen Birgit Brejnebøl	1.7.	14.00

KB is The Royal Library

SDUB is the University Library of Southern Denmark

RUB is The Library of Roskilde University

AUB is the Library of Aalborg University

AUL is the Aarhus University Library

SB is The State and University Library

DTU is The Library of the Technical University of Denmark

UC is the Library of the University College Metropol

CBS is The Library of Copenhagen Business School

Group is a person from the project group.