

Denmark's Electronic
Research Library

Annual report 2004

DEff



“In 2004 John Regazzi asked a number of researchers and librarians to name their preferred scientific search resources. The difference was quite remarkable. Regazzi reports that the librarians answered: Science Direct, ISI Web of Science, MedLine. The researchers on the other hand favoured Google, Yahoo and PubMed. John Regazzi is a director in Elsevier Inc.”

Kim Østrup

Preface

The most important event for Denmark's Electronic Research Library (DEF) in 2004 was the Ministry of Education's decision to rejoin the DEF partnership. First and foremost this is a happy decision for the many institutions and libraries associated with short and medium-length education and their users. The decision is also a happy one for DEF as a whole, as it provides new opportunities for creating greater coherence and coordination of the service to end users.

The re-entry of the Ministry of Education brought about an extension of DEF's economic frame and of the organisation. An important task for the steering committee in the immediate future will be to adjust the DEF strategy to include the new partners.

Based on the existing strategy the steering committee in 2004 prepared an overall action plan for DEF 2004-2006 that revolves around the key issues: Collaboration, usage and dissemination. Collaboration became the pivotal point in 2004.

Apart from the new collaboration with the Ministry of Education's institutions, 2004 also offered new partnerships in relation to the universities. Partly inspired by DEF, the Danish Rectors' Conference launched a cooperation between the universities on digital administration. DEF is already part of this new initiative, and I hope that 2005 will mean an extension of this particular collaboration.

Other important partners are DEF's equivalent institutions abroad. In autumn 2004 the steering committee visited Dutch SURF and English JISC as part of a study tour. These activities do not only involve cooperation between libraries, but to an equal extent cooperation between the universities and other 'mother' institutions. The study tour provided inspiration for new forms of inter-disciplinary collaboration both between libraries and universities. The visit also produced valuable personable contacts and proved that Denmark is well advised to seek inspiration from some of the English and Dutch initiatives. I hope to be able to extend this international collaboration in a more formalised form during 2005 and am together with international partners working on the establishment of a Knowledge Exchange Centre in 2005.



Kim Østrup,
Chairman of DEF's steering committee
Vice President IBM



DEF steering committee

DEF steering committee (left to right)

- Deputy director Bo Öhrström, Danish National Library Authority
- Vice President Kim Østrup, IBM Danmark A/S (chairman)
- Chief librarian Niels-Henrik Gylstorff, Aalborg University Library
- Head of library Peter Rubeck
Hjørring College of Education
- Library director Karen Grundvad Kvist
The Administrative Library
- Director Ingo Østerskov, Ballerup Business School
- University director Gert Bechlund
Copenhagen Business School
- Director general Jens Thorhauge
Danish National Library Authority
- Director general Erland Kolding Nielsen, The Royal Library

DEF responsible

- Deputy director Bo Öhrström
Danish National Library Authority

DEF coordination committee

- Deputy permanent secretary Steen Kyed (chairman)
Ministry of Culture
- Head of division Niels-Jørgen Nielsen
Ministry of Culture
- Head of section Lotte Kristoffersen
Ministry of Culture
- Deputy permanent secretary Hans Müller Pedersen
Ministry of Science, Technology and Innovation
- Head of division Merete Reuss
Ministry of Science, Technology and Innovation
- Head of section Jan Windmüller
Ministry of Science, Technology and Innovation
- Director general Lars Mortensen
Ministry of Education
- Chief consultant Marianne La Cour Sonne
Ministry of Education

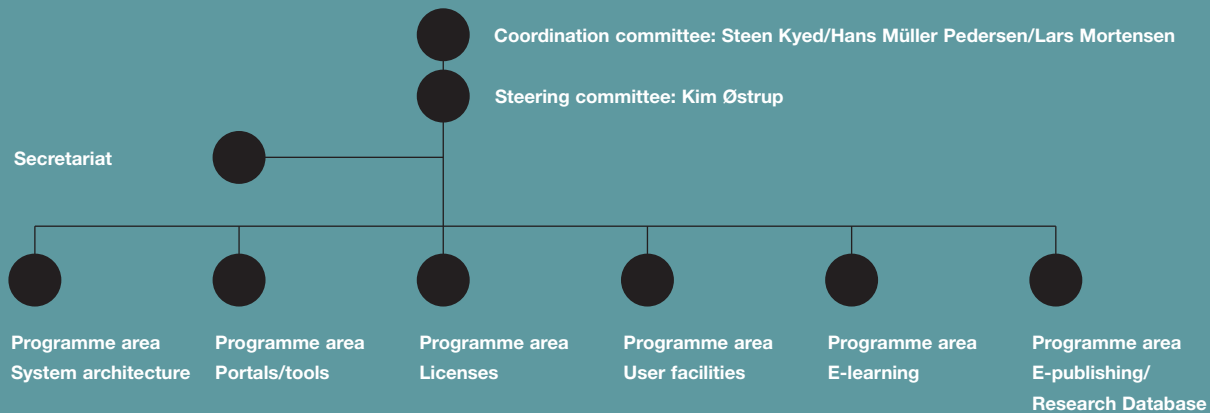
Introduction

The national budget for 2004 reflected the new strategy where DEF is first and foremost presented as an organisational and technological partnership. The programme committees for DEF's action lines are very active in the organisational collaboration and the technological collaboration was given a solid basis with the establishment in 2003 of a joint organisation within the

programme area System architecture. The Ministry of Education's re-entry into DEF in 2004 is not reflected in the wording of the Budget for that year, but it naturally brought an influence to bear on the organisation of DEF and the activities in 2004 and this report therefore also contains a section on the institutions of the Ministry of Education.

National Budget stipulations for DEF 2004

Denmark's Electronic Research Library (DEF) is an organisational and technological partnership between research libraries co-financed by the Ministry of Science, Technology and Innovation and the Ministry of Culture, contributing with 55% and 45% respectively of the total grant. DEF's purpose is to advance the development of a network of electronic research libraries that make available their electronic and other information resources to the patrons in a coherent and simple way. This is obtained partly through government funding and partly by joint purchase of licenses. The Danish National Library Authority runs the secretariat of the partnership.



The organisation of DEF

The organisation of DEF was in 2004 marked by two major changes in relation to 2003: Firstly, the re-entry of the Ministry of Education into the partnership and secondly the reduction from seven to six programme areas.

The coordination committee is still DEF's overall responsible and interministerial body. With the Ministry of Education's re-entry, the coordination committee was extended with representatives from the Ministry, headed by director general Lars Mortensen. Apart from the ministerial commissioners, the chairman of the steering committee and representatives from the

DEF secretariat participate in the meetings of the coordination committee.

The steering committee, which is responsible for the formulation of DEF's strategy and actual activities, was likewise extended in connection with the Ministry of Education's re-entry. Two new members were appointed with special insight into the Ministry of Education's institutions and their particular needs. The two new members are librarian Peter Rubeck from Hjørring College of Education in Northern Jutland and director Ingo Østerskov from Ballerup Business School.

DEF's programme areas

The number of programme areas was reduced to six following the steering committee's decision to suspend work on digitisation. The decision naturally reflected a prioritisation of the other areas, but also a need for a strategy for digitisation before more concrete activities are launched.

The other six programme committees each got a new member from one of the Ministry of Education's institutions.

The chairmen of DEF's programme committees



Peter Søndergaard (Roskilde University Library)
chairman of the programme committee for User facilities



Jakob Andersen (National Library of Education)
chairman of the programme committee for Licenses



Stig Broström (Technical Knowledge Center of Denmark)
chairman of the programme committee for E-learning



Karl Krarup (The Royal Library)
chairman of the programme committee for Portals



Annette Winkel Schwarz
(Technical Knowledge Center of Denmark)
chairwoman of the programme committee for E-publishing



Arne Sørensen (State and University Library)
chairman of the programme committee for System architecture

Members of DEF's programme committees

User facilities:

- Chairman: Peter Søndergaard, Roskilde University Library
- Niels Jørgen Blåbjerg, Aalborg University Library
- Holger Dyrbye, University Library of Southern Denmark
- Poul Erlandsen, National Library of Education
- Mette Hansen, Commercial Academy Library
- Ditte Jessing, Danish Veterinary and Agricultural Library
- Birgitte Lau, Roskilde University Library
- Lilian Madsen, State and University Library
- Niels Ole Pors, Royal School of Library and Information Science
- Gert Poulsen, Copenhagen Business School Library

E-learning

- Chairman: Stig Broström, Technical Knowledge Center of Denmark
- Mai Aggerbeck, CVU Vita, Occupational Therapy and Physical Therapy School
- Jens Bennedsen, IT-VEST
- Jens Dam, University Library of Southern Denmark
- Karen Harbo, Aarhus Business School Library
- Hanne Marie Kværndrup, DEF secretariat
- Jørgen Lerche Nielsen, Roskilde University Library
- Anette Lorentsen, Aalborg University
- Maj Rosenstrand, Aalborg University Library

E-publishing

- Chairwoman: Annette Winkel Schwarz, Technical Knowledge Center of Denmark
- Birte Christensen-Dalsgaard, State and University Library
- Harald v. Hielmcrone, State and University Library
- Lars Kofod-Jensen, Frederiksberg College of Education
- Karen Grundvad Kvist, The Administrative Library
- Hanne Marie Kværndrup, DEF secretariat
- Birgit Pedersen, Risø National Laboratory
- Adrian Price, The Danish Veterinary and Agricultural Library
- Mogens Sandfær, Technical Knowledge Center of Denmark
- Bo Öhrström, DEF secretariat

Licenses

- Chairman: Jakob Andersen, National Library of Education
- Hanne Alvi, Risø National Laboratory
- Arne Bak-Sørensen, Danish Veterinary and Agricultural Library
- Birgit Bregnebøl, Copenhagen Business School Library
- Lisbeth Fog, Silkeborg Business School Library
- Benedicte Kierkegaard, Gentofte Public Libraries
- Thøger Kristensen, Aalborg University Library
- Birgit Lange, Danish National Library of Science and Medicine
- Helle Lauridsen, State and University Library
- Barbara Melchior, The Royal Library
- Lisbeth Rasmussen, The Law Library
- Anette Schneider, DEF secretariat
- Lene Stampe Mortensen, Roskilde University Library
- Ingelise Stæhr, University Library of Southern Denmark
- Birgitte Sønderkær, Aarhus Business School Library
- Janne Vendt, Technical Knowledge Center of Denmark
- Bo Öhrström, DEF secretariat

Portals:

- Chairman: Karl Krarup, The Royal Library
- Morten Andersen, DEF secretariat
- Birte Christensen-Dalsgaard, State and University Library
- Per Steen Hansen, Aarhus Business School Library
- Jakob Heide Petersen, DEF secretariat
- Birgit Henriksen, The Royal Library
- Kasper Løvschall, Aalborg University Library
- Ingelise Stæhr, University Library of Southern Denmark
- Bente Thorup Andersen, Aalborg Commercial College

System architecture:

- Chairman: Arne Sørensen, State and University Library
- Birte Christensen-Dalsgaard, State and University Library
- Per Steen Hansen, Aarhus Business School Library
- Jakob Heide Petersen, DEF secretariat
- Karl Krarup, The Royal Library
- Ole Michaelsen, Technical Library of Copenhagen
- Mogens Sandfær, Technical Knowledge Center of Denmark
- Bo Öhrström, DEF secretariat

Action plan and strategy

Based on the strategy formulated for DEF in 2003, the steering committee in 2004 prepared an overall action plan for the period up until 2006 that provided the framework for the action plans for the six programme areas.

In the strategy DEF is defined as a cooperation organisation for research libraries. This means that the target groups for DEF and the research libraries are to a great extent identical and that the target groups are serviced primarily through institutions that participate in DEF.

The activities and objectives of DEF are therefore aimed at supporting the research libraries' performance and their general development. With this in mind, the DEF steering committee defined three overall objectives:

- The end users' exploitation of electronic resources has improved and become more extensive
- Cooperation between the research libraries is intensified and includes new partners
- The results are documented, disseminated and promoted. Research and research results are known to the public.

The end user

The first objective is, of course, the most important for DEF, but in order to realise it within the given frames, efficient collaboration is essential and results must be documented and mediated.

The obvious basis for more concrete objectives was the wishes of the library committee of the Danish Rectors' Conference in relation to the research libraries. These were formulated in the publication *Viden til Tiden*, 2003 and although they reflect the

situation in the university libraries, development trends and strategies are sufficiently general to being applied to the research libraries, too.

Three important functions for the university libraries are singled out. The university library must:

- Provide interfaces to the global knowledge system, tailor-made for the individual professional profile and needs of each university, institute, researcher and student
- Handle import of knowledge to the university such as printed and electronic knowledge resources
- Support the university's export of knowledge to the outside world through registration and making the material available.

On this basis a concrete objective was formulated to the effect "that university libraries can offer differentiated, seamless and personalised user access."

This means the development of systems that can authorise users so that different user groups do not have uniform access to a given information resource. It presupposes the development of authorisation systems as a supplement to the present authentication system.

DEF has formulated similar objectives for the other research libraries as their users must of course be offered services on a par with the university libraries. In some cases the solution for the smaller libraries might well be joint services presented to the user via the library's own interface.

Cooperation between the research libraries

It is difficult for an individual research library to develop services to improve and increase the patrons' use

of library resources. An important goal for DEF is therefore to strengthen present collaboration, particularly between the larger research libraries, and to increase collaboration with the smaller ones. Another goal is to involve new partners, such as the Ministry of Science, Technology and Innovation and the Ministry of Education. Yet another goal is to establish close concrete relations with international partners.

Dissemination of results

The most important goal within this area is that “the research libraries are central players in the universities’

dissemination of research to the public.” DEF wants to assist the individual research library with this and to establish common activities with a view to improved dissemination of Danish research. In order to do this, the results must be documented. Dissemination in more general terms must be directed at key decision-makers and the public. In certain areas DEF also wants to mediate actual results and promote the exploitation of these to e.g. public libraries and universities.

The above objectives provide the guidelines for DEF’s work over the next year.

DEF’s vision

“It is DEF’s vision that researchers, lecturers and students have access to all relevant information via user-friendly systems and guidance of high quality. All aspects of researchers’ and students’ work with information resources are thereby supported at the highest international level.”

DEF’s mission

“It is DEF’s mission to contribute to an optimal exploitation of research-based information resources. This will happen through cooperation between library partners, joint development projects and the establishment of a technical infrastructure. DEF’s target group is primarily serviced directly through the institutions that participate in DEF and through common services where this is expedient”.

DEF's
activities
in 2004

DEF secretariat

As described in the National Budget, the Danish National Library Authority is responsible for the DEF secretariat. The aim has been to establish a close connection between the Authority's overall initiatives and the work within DEF, and it is therefore the Authority's deputy director, Bo Öhrström who has the day-to-day responsibility for DEF.

The secretariat's fields of responsibility include administration of licenses, projects, homepage and the DEF portal – www.deff.dk – as well as servicing steering committee and coordination committee.

The secretariat comprises six members of staff, whose salaries are paid by DEF: The head of secretariat, a secretary, two members of staff working primarily with licenses and three working primarily with national infrastructure and subject portals. The head of secretariat and the secretary work primarily with financial matters, administration, service to the steering committee and project management.

Furthermore, one of the Authority's consultants is permanently attached to the secretariat, working primarily with electronic publishing, digitisation, e-learning and library-IT. The Authority's lawyer assists in contractual negotiations and deals with legal issues, while the Authority's communication unit handles DEF's communication activities.

In 2004 the secretariat was heavily engaged in assisting steering committee and programme committees in their preparation of future action plans as well as contributing to the coordination of the Ministry of Education's re-entry.

The secretariat's more technical tasks included the extension of DEFNet (access to journals) to more institutions, coordination of the migration of subject portals to common software and operating platform, as well as planning the merging of the two web sites deff.dk and deflink.dk.

Programme areas

The programme committees established in 2003 by the steering committee have carried out a large number of activities within the six action lines:

- Many development activities are based on the interdisciplinary basis organisation within System architecture that has been established between the IT departments at the State and University Library, The Royal Library and the Technical Knowledge Center of Denmark. The activities have focused on development of access control and XML-based web services and those experiences have i.a. been used by the public libraries in Bibliotekernes Netmusik (Libraries' net music) and Mit Bibliotek (My library)
- The portal group worked in 2004 primarily with migration of portals and formulation of projects concerning evaluation of portals and the study of new services, including personalisation and institutionalisation of user interfaces
- Focus on the user' interaction with the digital library has also been dominating the work in the User facilities group. The programme committee has concentrated especially on usability, virtual reference services, information competency and user questionnaires.
- Work in the License group has centred round organisational and distributional issues, as well as operational tasks, extension of the cooperation, needs analyses and purchase of e-books and back files.
- The E-learning group prioritised flexibility, that is to say easy access to learning resources which often requires these to be available in electronic form. The programme committee has been working on projects that integrate solutions from System architecture in the universities' e-learning initiatives.
- The close collaboration with the 'mother institution' is also vital for E-publishing and the group's work has included Open Access, research registration and dissemination and the building up of institutional archives for research at the mother institutions.

User facilities

A cooperation between development of the end user's information competency will be established and services developed which ensure that the end user can get guidance as well as instruction in information search via the Internet.

The programme committee for User facilities presented its first action plan to the DEF steering committee in 2004. In continuation of the DEF vision it states that the committee will “further the end users’ access to the research libraries’ information resources and remove the barriers that restrict this access”. The aim is to “inspire and initiate projects which will provide research library staff with tools, knowledge and qualifications to develop the libraries’ utility effect in relation to the patrons.”

The activities of the programme area in 2004 are outlined below, divided up according to action lines.

Usability – a project

This was a project which involved 11 major Danish research libraries and 11 midway reports were produced during the summer. The reports form the basis for an analysis of how each of the participating libraries can improve their web sites. The final report (*Det brugervenlige digitale forskningsbibliotek – (The user-friendly digital research library)* by Jens Sandberg Madsen and Julia Garner, UNI-C, 2004 can be downloaded from <http://www.deflink.dk/arkiv/dokumenter2.asp?id=1531>) was published in late 2004. One main conclusion in the report is that libraries face the very important task of making the use of electronic resources more user-friendly. The report also suggests several ways in which to solve this task. The project

was completed in March 2005 with a seminar to discuss the realisation of one of its visions, i.e. to establish fora where usability competence of research library staff can be maintained and developed, also after the project has finished. In 2004 the usability project has provided inspiration to a new, smaller project on patrons’ use of the Arcade-libraries’ portal expected to be launched in 2005.

In continuation of the major usability project, the committee began to outline a provisional marketing project on the use of electronic resources in the project libraries. This project is also expected to get off the ground in 2005.

Development of user information competences

The committee has also in this field given input to collaboration on starting new projects, and committee member Niels Jørgen Blåbjerg has introduced a project on remake of the interactive information competence software SWIM to the programme area for e-learning. Initiatives on library instruction in information competences has also been discussed, with a view to an upgrading of instructors and the committee has subsequently approached the Royal School of Library and Information Science about this.

Access to information resources

The committee, represented by Poul Erlandsen, helped organise a seminar in November at The Royal Library where the American performance measurement ILL-specialist, Mary Jackson, presented the results of her latest performance report to 100 Danish, Norwegian and Swedish library staff. DEF provided financial support for the seminar.

E-learning

A concrete cooperation is established on integration of library services in virtual learning environments. The cooperation includes clearance of rights, standards, preservation and general exchange of experience concerning support for e-learning.

The programme group for e-learning was established in its present form in spring 2004 with a view to providing greater coherence between e-learning and library services.

Two action lines

The programme group has over the past year defined its work and decided to concentrate on two action lines in particular. One has mainly concentrated on reporting on integration of DEF's digital services and resources directly in e-learning portals. The other action line was directed at the development of models for involving research library resources – particularly library competences – directly in teaching programmes, often (in library circles) referred to as models for development of students' competences.

In its long-term plan the programme group for e-learning works with areas designed to further develop cooperation with the world of further and higher edu-

cation and institutions under the Ministry of Education, such as commercial academies, CVUs (centres for further education) and MVUs (medium-length further education). The group also wishes – when relevant – to place DEF in a national context where DEF will be involved in digital administration projects. This applies particularly to standardisation, single-logon, copyright, digitisation of teaching aids etc.

Projects

A number of projects were granted financial support from DEF in November 2004 and will be running all through 2005. One project is a further development of SWIM (Streaming Webbased Information Modules) which is run by Aalborg University Library. The new version of SWIM (named SWIM, vers. 2) will be in English and composed by a number of learning objects. Under IT-vest an integrated IT-teaching portal was launched, called DIGITEV. The project will utilise existing DEF resources by bringing them closer to the users. And finally, a very ambitious project run by the Danish Research Network has started with the State and University Library and Danish Radio's digital film archive as partners. The project looks very promising indeed for the development of digital teaching aids.

E-publishing

Models for e-publishing will be developed and there will be cooperation on standards and software. The Danish National Research Database will be extended as an index of all Danish research.

Scholarly publishing and dissemination

The Danish National Research Database (DNRD) was evaluated in 2004. The evaluation identifies a great need among scholars, businesses, research advisers and mediators to be able to search for Danish publications and projects. The evaluation points out that the database should be improved in terms of coverage and quality. With this in mind, the steering committee initiated a pre-project in order to examine the basis for establishing a Danish research portal which would present research subjects in a journalistic style aimed at a broader target group and provide one of the entries to DEF. DEF must be further strengthened in order to become extensive and relevant for the target group.

Local electronic archives

In 2004 the Ministry of Science, Technology and Innovation put dissemination of research on the agenda and thereby also focus on the universities' knowledge production. In future universities must promote and give access to research results etc. in the form of articles, conference proceedings and teaching aids. In 2004 a project with three universities have worked with three different aspects of establishment of local institutional repositories: Establishment based on an Open Source without significant in-house development (DSpace at Roskilde University Library), an interplay between Den danske forskningsdatabase (Danish Research Database) and own archive (ORBIT at Technical University of Denmark) and establishment seen as part of the submittal process in connection with theses (DiVA at Aarhus University). The project arranged a workshop in April.

Standardisation of e-published information

Standards as the basis for digital preservation and guaranteed access to e-published information has been examined and described by a working group appointed by the programme area. The subsequent report – *Survey of standardisation initiatives in e-publishing* – is available at www.deflink.dk. The programme committee is represented in the working group for public information online which deals with unambiguous, continuous identification and addressing of objects.

Copyright

Danish scholars must be given the opportunity to deposit own publications in local institutional repositories. This requires a solution to the problems in connection with scholars' copyright. Basically, scholars own the right to their own works, e.g. an article in a journal, but this is often transferred to the publisher of the journal. A project outlining possible solutions to the copyright questions completed its work ultimo 2004 and was run by the State and University Library. Final report on the project E-publishing – questions of copyright is available at www.deflink.dk

Electronic publishing of journals

The Administrative Library, The Royal Library, Copenhagen Business School and Technical Knowledge Center of Denmark are partners in a pilot project aimed at assisting scientific journals, published by universities, libraries or societies, in connection with migration from printed to digital production. When changing to electronic publishing, small editorial offices might need to get a general idea of what systems are available. The project describes a number of different systems for e-publishing which can be used by journal editorial offices. The hope is to give the individual offices the possibility of choosing a system that fulfils their needs.

Licenses

In a cooperation between the research libraries the pledged cooperation in connection with purchase of digital information will be extended. Cooperation on registration of periodicals and user statistics will also be established.

“The vision of DEF programme area Licenses is that scholars, teachers and students have access to all relevant information from publishers and scientific societies via user-friendly systems.”

From DEF Licenses – Long-term plan for 2004-2005.

Once again the work within the programme area was in 2004 divided into two: The actual administration largely managed by the secretariat, and examination of new ideas and initiatives done in a cooperation between secretariat and license group.

DEFNet – a search tool for journals and an administrative system – started operating on 1. April, 2004. The system is used by about 30 institutions who can fully exploit the facilities, and anyone interested has access to parts of the search facilities.

The Ministry of Education's re-entry into the DEF cooperation means that many new institutions are now given access to participation in the license collaboration. DEF offers easy terms of access to some of the products to give the institutions the chance to adjust their budgets in relation to the new possibilities.

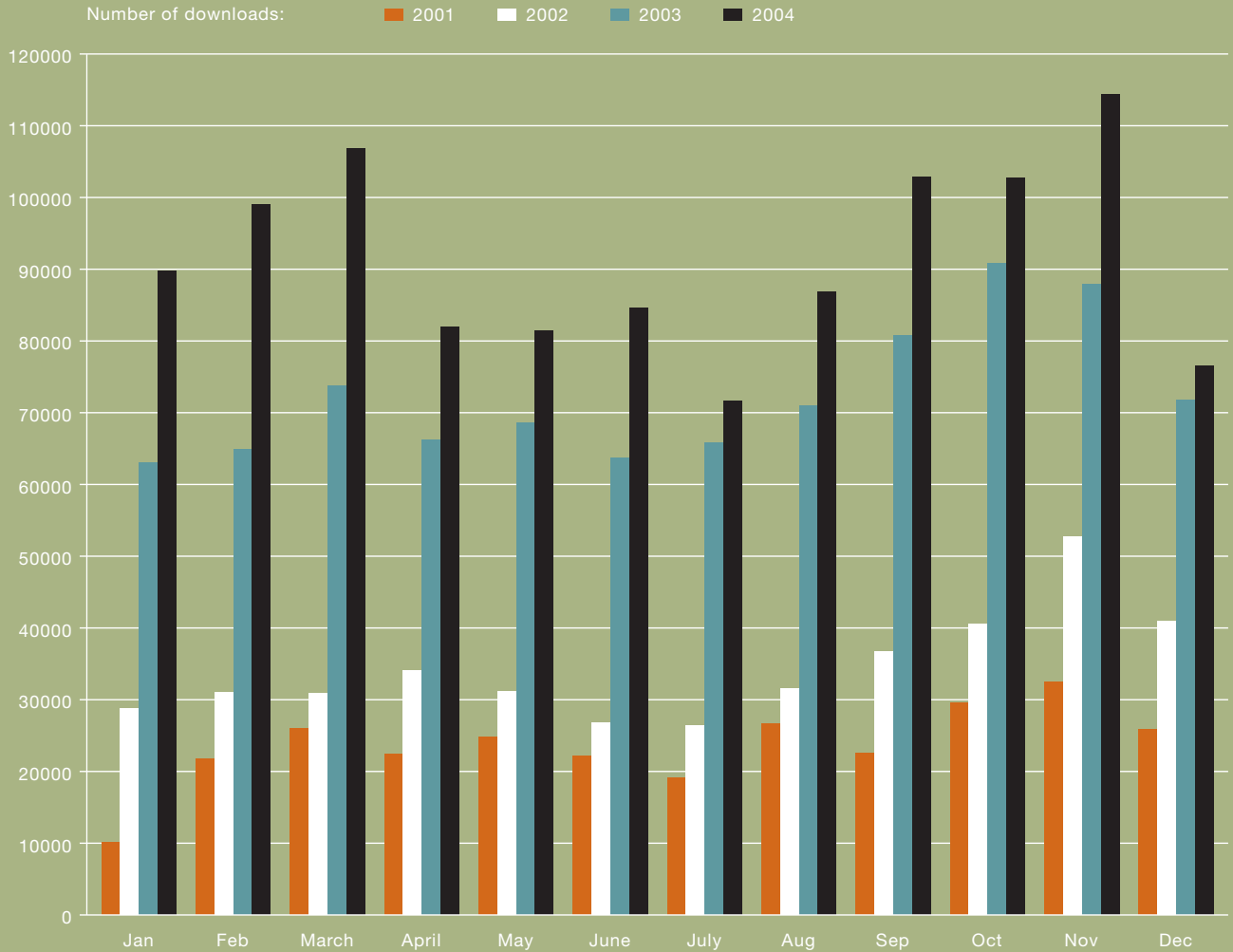
Back files to ISI and Institute of Physics have been purchased and back files to Royal Society of Chemistry are soon to follow. The publishers' deals have been closely examined and work has started on investigating the possibilities for dealing with archiving and ensuring continuous access to journal data in Denmark.

E-books is a popular subject with some libraries. Licenses for e-books have therefore been the subject of an analysis to be completed during 2005. Licenses for e-books are similar to licenses for journals in some ways, but there are also definite differences which the institutions have to make up their minds about.

The license group has also conducted animated discussions about distribution models for payment of licenses. The general consensus is that models based on subscriptions to printed journals are not really feasible in the long run, but as to what exactly should replace them, opinions tend to differ.

The general increase in the use of electronic services continues, but a few institutions have now had access to the services for such a long time that saturation point is close. By the end of 2004 licenses for more than 130 products had been signed, and the number of participants risen to 140.

DEF's activities in 2004/Elsevier downloads 2004



The figure shows the number of downloads from the publisher Elsevier's electronic journals as counted monthly from 2001-2004. It is very clear that usage is rapidly increasing. Part of the explanation is the increased number of participants in the license from 2001-2004 and the fact that more titles have become available. But the development from a total number of downloads of 283,440 articles in 2001 to a total number of downloads in 2004 of 1,098,607 articles – an increase of 287% – clearly indicates that the end user has 'embraced' the electronic journal. Data from DTV's DADS-service are not included

Portals

In a cooperation between research libraries there will be developed subject-specific and personalised entries to the libraries' common information resources as well as tools for the establishment of such entries. A cooperation will be established on relevant parts of common information resources (DEF-Kat).

The programme area held five meetings during 2004. The area's first project application was approved as early as autumn 2003 by the DEF steering committee – called Migration of DEF subject portals to Keystone. The project actually started in 2004 and is expected to be completed during the first six months of 2005.

Migration of portals

The action line has had a busy year. Six portals have been moved to the Keystone platform and the seventh is on the way. The six portals are ARKADE, Bizigate, Food-i, Transportalen, Pedagogy- and Psychology Portal and the Energy portal.

At the moment work is going on with the migration of the last portal, i.e. The Virtual Music Library – DVM. This is the largest DEF portal and it has been a considerable challenge to move the portal from the eleven toolkit installations that form the old DVM portal to

one Keystone installation. Much time has inevitably been spent on data conversion and development of a new functionality that allows for DVM's particular complexity. Migration of DVM is expected to be completed in late spring. In 2004 the programme area arranged a special seminar on Keystone and similar initiatives will be taken in 2005.

Development of subject portals – an evaluation project

Another project started in 2004 concerns the evaluation of the research libraries' work in connection with the development of either subject guides or subject portals. A number of people in the research libraries are being interviewed, and the project seeks to identify how the building up of links collections has fared and to which extent the libraries expect to spend resources on this work in the future.

Personalisation and institutionalisation

In late 2004 the programme area started a project under this action line. The aim is to implement a system of recommendation of library materials in two Danish research library catalogues in order to improve the catalogues with a new functionality. The project is expected to run for six months.

System architecture

In a cooperation between research libraries, IT-systems will be purchased or operated which will strengthen the individual research library's service level. The systems comply with common standards, will be part of the common (three-layer) architecture and will be made freely accessible to the extent this is appropriate.

At the beginning of 2004 the programme area System architecture defined a collaboration framework and a professional content covering a period of three years. The most important action lines are access control (AAI – Authentication and Authorisation Infrastructure) and XML/web services (XWS). These are very complex areas and cannot be handled sufficiently well through individual projects with changing staff from IT departments in different libraries. The programme committee therefore designed a model that included an agreed basis group from three of the strongest IT departments among the research libraries. The basis group carries out projects that run for shorter periods (typically 6-12 months) and are often run in collaboration with IT experts from other research libraries. The DEF steering committee approved the applications from the programme committee for this model and for six individual projects in January and May 2004 respectively.

Each of the two project areas is organised in project suites with activities running over the three years:

- Cultivating national and international relations
- Spreading and dissemination of results

- Service to Danish libraries at development stages within the area.

Nationally

Relations to two important groups have been established at national level:

- The Ministry of Science, Technology and Innovation (STI/National IT and Telecom Agency) with special focus on standardisation and digital management. Both groups have participated in a number of each other's activities. For example STI's work on user management and digital signatures with concrete relations to AAI, and XML standardisation work where two people from the System architecture group participate in a new XML-domain committee for the university sector
- The Danish Rectors' Conference has together with STI established a 2-year Project Digital Management which is organised in three steering committees: 1. Personal data and access management, 2. XML and the research libraries and 3. Common portals. Expansive exchange of information has been agreed for steering committee 1, including mutual contributions to technical workshops. Steering committee 2 has two library-affiliated representatives, both associated with DEF System architecture.

Internationally

Several relations have been established at international level:

- Current collaboration with Cornell University Com-

puting and Information Science on Fedora “Repository Architecture Built with XML and Web Services”. Fedora representatives spent a week in Denmark in August to take part in DEF workshop and seminar

- Contact has been established to the Swiss AAI-project Switch, and six members of staff from three Danish libraries visited the project in May.

For further information about the two project suites and the above activities and relations, see:

AAI: <http://deff.dk/aai/>

XWS: <http://deff.dk/xws>

The six development projects are:

- AAI – Local authentication: Establishment of a common basis for web-based single sign-on solutions
- AAI – Statistics module for DEF proxy servers: Retrieval of uniform statistics from local DEF proxy servers’ log files
- AAI – Pilot project: Counting system and pay-per-view solution for joint purchase of electronic resources
- XWS – 2 DEF Pilot XML WebServices based on Fedora: Danish JSTOR and DEF e-prints
- XWS – Open Source XML WebServices for Z39.50 gateway based on ZING project
- XWS – Pilot WebService: Danish library guide as web service.

Most of the projects are about to be completed or will be at the beginning of 2005.

DEF – information supply to Danish research and education.

DEF is a collaborative organisation which develops information supply to (and from) Danish research and education.

In DEF terms, development means that information supply becomes digital and a close collaboration is established between those libraries that supply information.

The collaboration includes content in the shape of joint purchases of electronic databases and journals and cooperation on electronic publishing. The technical infrastructure for information supply is also developed, e.g. web services and access management. Finally the cooperation includes the end user's use of the content through portals, e-learning and other user facilities.

The overall objective is to contribute to an optimal handling of the libraries' tasks and to develop an information supply ranking among the best in the world. In the view of DEF, this can only happen through cooperation. Cooperation in DEF offers a number of obvious advantages:

- Exchange of experience – no duplication work*
- Consolidation of systems*
- Standardisation of systems*
- Joint development*
- Competence development*
- Equal access for the end users*
- Reduction of running and administration costs*
- International cooperation*
- Effect.*

Ministry of Education rejoins the DEF cooperation

In 2003 DEF became a permanent activity and was included as such in the National Budget. A resumption of the cooperation with the Ministry of Education within the frames of DEF was consequently discussed, including access to important relevant electronic information in youth education.

Through the five-year project period 1998-2003 DEF has acquired extensive knowledge and experience of the digital library. The libraries have gained in competence within a number of areas – library professional and technological. DEF has contributed to creating a viable collaboration between the participating libraries which means that knowledge, competences as economic resources are exploited to the full in the DEF community. In future the education libraries will now be invited to be part of this community.

Commercial academies and CVUs

The purpose in entering the DEF collaboration is i.a. to upgrade commercial academies and CVUs so that they may fulfil the role as knowledge centres and increase the quality in education libraries and their service to students, teachers and the external customers. The Minister for Education is convinced that joining DEF is essential – not least because known collections of material and book stocks are at present being supplemented with or replaced by offers of

access to national and international electronic knowledge sources.

Most of 2004 was spent on getting formalia straight. On 10. November the Finance Committee approved the document which made it economically viable for the Ministry of Education to actually enter into and contribute to the DEF cooperation. This is the reason why many have had to delay starting their projects and purchase of licenses.

Criteria for funding of projects

The education institutions and their libraries have over the last months in 2004 been given the opportunity – in line with DEF's other libraries – to apply for DEF approval and funding for projects that:

- Contribute to the realisation of the DEF vision being in accordance with DEF's mission, create value for DEF's target groups, have a lasting effect
- Make sure the user is included
- Produce results which can be reused by more libraries.

Organisation

Organisationally the renewed cooperation has meant that the Ministry of Education is now represented in coordination committee, steering committee and all the programme areas.

At the turn of the year 2003-2004 the Minister for Education, Ulla Tørnæs decided that education institutions and their libraries should join the DEF cooperation, this decision being made on the basis of deliberations and negotiations during 2002 and 2003. On 1. January the decision took effect. The minister made this move in order to create coherence and ensure similar conditions for users of the libraries in education institutions across geography, affiliation and training. She also felt that DEF's resources and competences will be able to contribute to at very great extent to guarantee a continuous qualifying of the non-research-based education institutions' library-related performance.

Together with their libraries and the DEF programme areas the education institutions can help develop new services and utilisation of digital information, for example development of the digital learning space and thereby support the transition to the new teaching concept with problem-based teaching as well as using the open learning space.

Future cooperation

DEF and the education institutions will in future cooperate on:

- Licenses, including the formation of consortia, negotiation and contract agreement
- Information competence – joint development projects on target-oriented e-learning modules at national level
- Virtual learning spaces – development projects on models for application of the new Virtual Learning Environment and e-learning in close cooperation between library and instructors
- Open learning centres – development projects on models for cooperation between library, instructors and students in connection with the establishment of problem-based teaching at CVUs
- System cooperation between library functions in CVUs, research academies and larger research libraries.

International

During 2004 DEF was involved in a number of international activities, like for example participation in international fora, international visits to Denmark and study visits. The license experts in the secretariat have also had continuous contact to suppliers who normally travel to Denmark for their meetings.

International fora:

- DEF participates actively in the organisation ICOLC (International Coalition Of Library Consortia) i.a. through planning the annual conference which took place in Barcelona in October. DEF also took part in the annual conference in UKSG (United Kingdom Serial Group) where inspiration can be found in lectures and workshops and where useful contacts and meetings are provided
- Nordic license work is organised in a Nordic License group which means a good opportunity to put pressure on the supplier for better prices and better conditions. A joint meeting was held in Finland and meetings with suppliers were held in some of the Nordic countries. Together with other Nordic colleagues DEF was invited to Norway, i.a. to advise ABM-utvikling (Archives, Libraries and Museums) on their potential involvement in license work in Norway
- In the beginning of December DEF participated in Online Information 2004 in London Olympia. Apart from network cooperation, participation in this annual event is purely for the purpose of arranging a large number of meetings with suppliers about prices, contractual conditions and outstanding business concerning electronic resources. In particular renewal of extensive contracts with Elsevier, ISI and Springer/Kluwer were being considered. The event provides excellent opportunities for keeping up with development within the area, and DEF presented a paper on selection and implementation of a journal search engine
- DEF took part in the LIBER conference which this year was held in St. Petersburg in Russia. There were several interesting presentations at the conference itself and as usual a pre-conference had been arranged, organised by SPARC Europe (Scholarly Publishing and Academic Resources Coalition Europe) on the subject OA (Open Access). Inspiring presenta-

tions were given on status for OAAI (Open Archive Initiative), Institutional Repositories, Berlin Declaration and prospects for university libraries

- DEF was invited to a JISC strategy seminar in London and was given the chance to comment on an initiative from a number of American and English researchers as to future development and research within digital libraries.

International visits to Denmark:

- A number of international organisations visited DEF in Denmark in connection with study tours etc. The steering committee for the project Norwegian Digital Library visited DEF to gather experiences for the national Norwegian project in continuation of a DEF presentation in Norway
- In the spring LIBRIS department from the Royal Library in Stockholm visited DEF in Copenhagen. They were followed by a group of ten Polish library people from the Polish National Library and other libraries in Poland, lead by the head of the Danish Institute of Culture in Poland. Finally a very large

group of librarians from various Polish libraries arrived by bus. All in all they amounted to 45 people, including interpreters, and consisted of library directors of public libraries and university libraries as well as teachers from library schools

- Finally DEF was visited by a Spanish delegation from Catalonia who has subsequently invited the Danish National Library Authority to arrange various teaching courses in Catalonia.

Study tours:

- DEF was invited to participate in a Nordic study tour, i.a. with a view to e-learning initiatives and general national initiatives. The tour was also used to strengthen cooperation with the organisers JISC and SURF
- The DEF steering committee visited SURF in Utrecht in The Netherlands and JISC in Bristol in England. The week's visit provided much new information and ideas for new activities were generated. Both trips resulted in closer contact to SURF and JISC and a more formal cooperation is expected to be established in 2005.

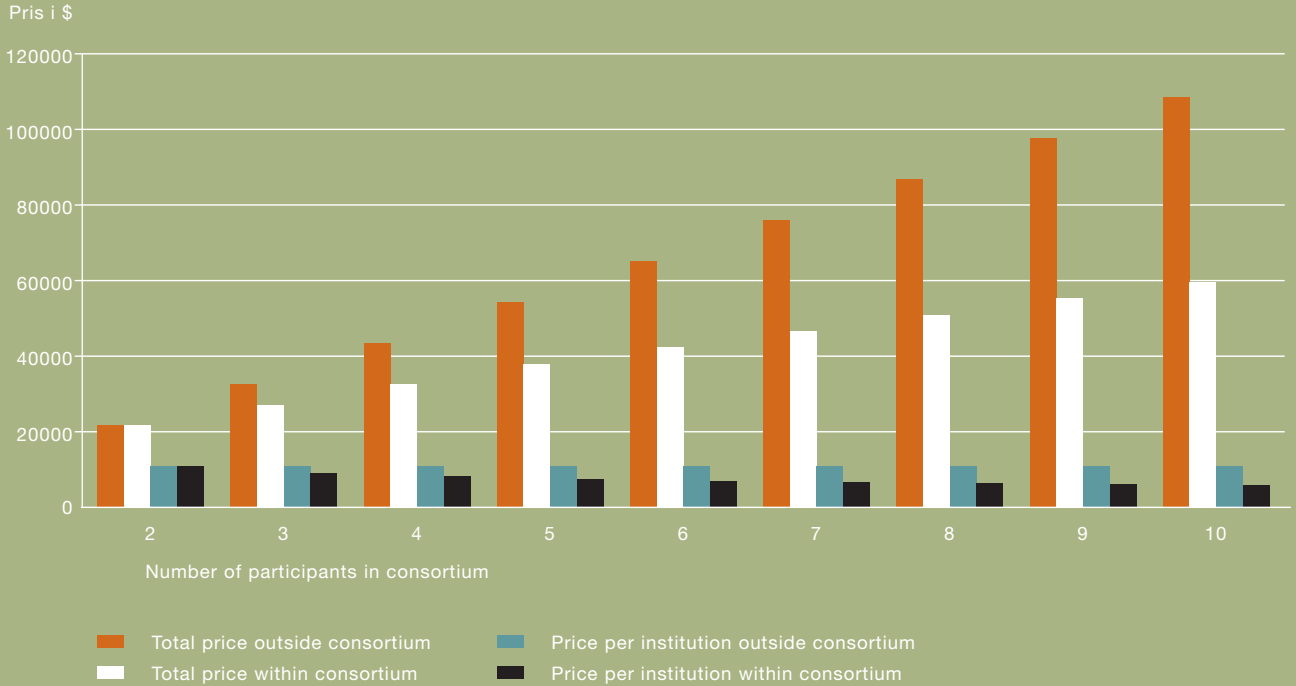
Savings by license cooperation

The price which the individual institution pays for scholarly journals in both printed and electronic form is normally based on the institution's original subscriptions for printed journals. It means that it can be more expensive for the institution to enter into consortia because it has to pay an extra electronic fee. This extra fee means, however, that the institution gets access to the consortium's collective stock of journals, consequently getting more for the money as well as the chance of greater flexibility in relation to the end users' actual usage. It turns out the end users' use at the individual institution is spread over the total holdings of the consortium. The type of consortium agreement that gives the institution access to the entire package is called a 'big deal'. In the following two examples of saving by consortia agreement are presented.

American Chemical Society: The agreement consists of about 30 journals at a total value of USD 47,550 (2005). Twelve libraries participate. If the libraries were to pay full price individually for all journal titles, the total price would be USD 570,600. However, the consortium only pays USD 190,211 – a saving of USD 380,389. The institution's historic collection of journals means that the saving for the individual institution varies. A library which previously had no subscriptions pays USD 500 and gets full access. The library that had most subscriptions already pays USD 39,564 and gets the same access. In relation to the total price for all the journals of USD 47,550 both institutions save money.

ACM Digital Library: This agreement gives a discount dependent on how many libraries participate. If a single library wishes to get access the price is USD 10,845. The Danish consortium has nine participants, and the price is therefore USD 6,146 per participant or a saving of USD 4,699 per institution. See figure.

Payment for license to ACM online



The figure shows the payment for access to the online product ACM, dependent on whether the agreement is signed with a consortium or with individual institutions. The horizontal axis shows the number of institutions and the vertical axis shows their payment collectively and individually. This consortium has 9 participating institutions. Each institution in the consortium pays USD 6,145. The corresponding payment per institution outside the consortium would be USD 10,845. This means the individual institution saves about 40%.

Accounts

DEF carried forward 5.7 mil. DKK from 2003.

The reduction in expenditure in 2003 was primarily due to the fact that the establishment of the framework for DEF, such as organisation, strategy and action plans was not completed until 2004. The framework was an important prerequisite for a sensible prioritisation of resources.

The ordinary National Budget grant for 2004 was supplemented with a contribution from the Ministry of Education, making the total amount 18.5 mil. DKK.

Expenses for activities within the action lines came to about 23.3 mil. DKK. The greater part of the funding went on action lines System architecture and E-publishing and was spent on the activities described elsewhere in the report.

The majority of the projects approved in 2004 will be completed in 2005. The figures therefore to a great extent reflect funding for projects that are carried out in 2005.

Much of the work of the DEF secretariat consists of negotiating, purchasing and administrating licensed material on behalf of libraries and other institutions. In 2004 the turnover in this area was about 75 mil. DKK. As the material is purchased with institutional means, these do not appear in the closing statement.

Total balance of accounts

Transferred 2003	5.709.600
Appropriation 2004	18.500.000
Total appropriation	24.209.600
Costs – action lines	21.293.748
Secretariat (incl. rent etc.)	2.837.241
Total costs	24.130.989
Carried forward from 2004	78.611

Marked increase in the use of Web of Science



The figure shows number of queries in the database Web of Science distributed on participating institutions, counted monthly from 2001-2004. Again the figures show a marked increase in the use of this license. For 2002 the figures from June, July, August and September are missing.

Objectives in 2005

The coming year will be characterised by an extension of existing collaboration. A more formal international collaboration with i.a. JISC and SURF will hopefully be established. A Knowledge Exchange Center with address in the Danish National Library Authority is under way and will be manned by two people. Partners in Knowledge Exchange are expected to be JISC (Joint Information Systems Committee), Great Britain, SURF (SURF Foundation), The Netherlands, DFG (Deutsche Forschungsgemeinschaft), Germany, DEF (Denmark's Electronic Research Library).

Core activities will be sharing of information and expertise, common policy development and identification of best practises as well as identification and stimulation of joint projects and programmes.

DEF also wishes to strengthen collaboration with the project of The Rectors' Conference 'Digital Management' by ensuring coordination and cooperation on concrete projects.

The steering committee is going to focus on the existing infrastructure and wants to involve important stakeholders in a discussion about The Danish Research Database and its role in future dissemination of research. Moreover, the committee will be working on plans for actual consolidation projects on the basis of a report from 2004. This work will hopefully include the entire library sector and will be done in collaboration with the Danish National Library Authority.

The steering committee also wishes to conduct a proper review of both technical infrastructure and activities in general. This work will mean bringing in international experts. The review is to form the basis for a new strategy for DEF from the year 2006, prepared by the steering committee in the autumn.

DEF's work and activities in 2005 can be seen on www.deff.dk when DEF's new web site is launched in the spring.

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Annual Report 2004**

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