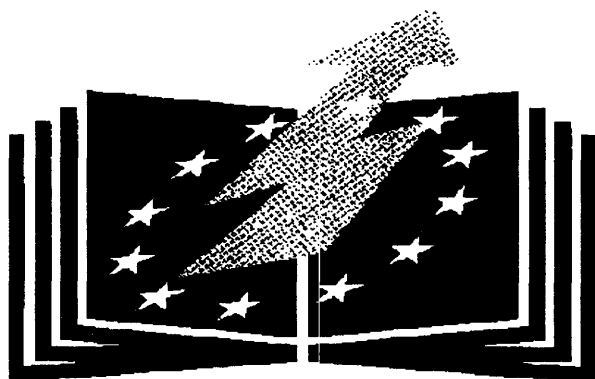


COMMISSION OF THE EUROPEAN COMMUNITIES



TELEMATICS FOR LIBRARIES
CONCERTATION MEETING

Exploitation of R&D results
Proceedings

Meeting held in Luxembourg on 17 and 18 June 1996

B.J.C. Bootink
F.H. Buining
R.A. Fisher

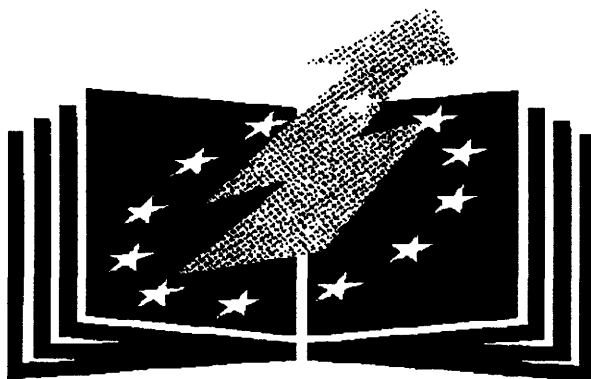
September 1996

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COMMISSION OF THE EUROPEAN COMMUNITIES
Directorate General XIII
Telecommunications, Information Market
and Exploitation of Research

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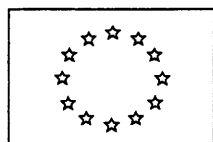
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1 Executive summary

The Libraries Sector of the Telematics Applications Programme (TAP) hosted a concertation meeting on exploitation of R&D results in Luxembourg on June 17 and 18, 1996.

Within the fourth Framework Programme exploitation of R&D results plays an important role. Many of the R&D projects, however, encounter difficulties when it comes to exploitation after a project (or its funding) has finished. Some of these problems are generic, others are programme (or area) dependent. Although Libraries Programme projects in general develop services and products that are close to the market, and thus overcome one of the main barriers to successful exploitation, they are facing major problems exploiting their results.

The main objective of the concertation meeting was to exchange experiences and information on programme independent problems (on day 1) and on library specific problems (on day 2) of exploiting R&D results. By discussing these problems and feasible solutions, the Commission (DGXIII/E-4) aimed at creating a clearer view of the possibilities and opportunities of exploitation.

Approximately 60 participants attended the meeting. A second workshop is planned in autumn 1996 or early 1997 to cover issues such as national and international stimulation mechanisms, private and venture capital and exploitation in Central and Eastern Europe.

Background research for the concertation meeting, carried out by Coopers & Lybrand, was based on the technical annexes and exploitation plans of Libraries projects and projects funded under other EU programmes. It is documented in a paper annexed to these proceedings.

On the first day a brief introduction was given by Commission staff, followed by a presentation of the background study. A consultant from "The Technology Broker" gave an overview of the structure of an exploitation plan, developed under the VALUE programme. In the afternoon exploitation efforts in ESPRIT (PROSOMA), RACE (RAMA) and Telematics for Transport (EUROCOR) were presented. The panel discussion focused on the generic issues (dissemination vs. exploitation, combination of private and public sector, collaboration agreements etc.) as well as the differences between EU projects (e.g. in terms of project size, project budget in relation to the exploitation planning budget, exploitation by public sector organisations etc.).

The second day of the meeting was centred around Libraries Programme projects and their experiences with exploitation. In the plenary morning session representatives from various projects presented the point of view of a national library (UseMARCON), a public library (SPRINTEL), a commercial library supplier



(MORE, ELSA) and an academic library (EURILIA) respectively. The parallel sessions in the afternoon covered topics such as commercial vs. non-commercial exploitation, organisational issues, legal issues, and products vs. services. Several cases were presented revealing numerous problems, solutions and good ideas.

Differences on exploitation are often due to contradictory commercial and non-commercial objectives of consortium members. Commercialisation, awareness creation and convincing for instance policy decision makers through the visible outputs of a project or simply by the very existence of the project, can all be called exploitation. The commercial and non-commercial partners each bring in their own expertise. The commercial partners bring in the market know-how and the Libraries bring in their domain specific experience.

Libraries are seldom independent organisations with power to make their own decisions. Also 50% EU funding and 50 % public money from other sources puts less pressure on the project than 50% venture capital or other private money would.

The consortia of Libraries projects all showed great flexibility adapting to technological developments, such as the Internet and the WWW in particular, but also to changed user needs and markets. Libraries have a great potential for using existing tools, rather than developing products and services exclusively for the Libraries market. Reaching the market with a high tech prototype can be as effective as with a plug and play product, as long as the consortium can get market players interested in the further development of the prototype.

One of the recommendations to the Commission was to provide a manual for drafting an exploitation plan. Presentation of project results at international conferences and exhibitions and on the Internet could be improved. Finally, it would help libraries to get advice on establishing legal entities for the purpose of exploiting project results.



2 Introduction

These proceedings summarise the two-day concertation meeting held by DG XIII/E-4 on the exploitation of R&D results in the Libraries Sector on June 17 and 18, 1996 in Luxembourg.

Exploitation of project results and their visibility are increasingly critical issues in the cooperative European R&D work. Despite the efforts made by the Commission as well as by project participants, there are still many problems to solve. Generic problems as well as Libraries-specific problems of exploitation can best be addressed jointly. Therefore, a concertation meeting where problems and the experience gained in solving these problems are discussed, is one way of catalysing satisfactory exploitation of project results.

The meeting was of course not intended to resolve all exploitation problems. Rather, it aimed to help the participants in Libraries projects to get a clearer view of the possibilities and the opportunities of exploitation. Moreover, there was an opportunity for the participants to bring forward ideas on how the Commission could assist further in the exploitation of project results.

The first day of the concertation meeting addressed general exploitation issues and exploitation actions in other EC programmes. On the second day the projects in the Libraries Sector were discussed in a plenary session and two parallel sessions. The plenary session addressed specific problems and original approaches to solving exploitation problems. The parallel sessions focused on "organisational structures", "legal issues", "commercial versus non-commercial aspects" and "products versus services".

Chapters 3 and 4 of the proceedings summarise the presentations of days 1 and 2. The conclusions drawn from the concertation meeting are given in chapter 5 together with some recommendations. The slides underlying the different presentations form part of Annex IV. The agenda, the list of participants and the background paper are all annexed as well (Annex I, II and III respectively).



3 Proceedings day one

The first day of the concertation meeting focused on general exploitation issues and exploitation actions in other EC-funded programmes.

3.1 Introduction and general exploitation issues

The meeting was opened by the chairperson, Ariane Iljon, who welcomed the participants. Robbert Fisher gave a general introduction to the topics of the workshop, followed by Brigitte Bootink (Coopers & Lybrand) who presented the background paper that had been prepared for the meeting. Edward Taylor of the Technology Broker then elaborated on the design and functions of an exploitation plan.

3.1.1 Welcome speech, A. Iljon

Proper and visible exploitation of R&D results is crucial for the success of Community funded R&D. Most EU Programmes acknowledge this principle, yet it is not always clear how it is implemented. Therefore it is significant that many of the participants in projects supported by the Libraries Sector are jointly focusing on exploitation at this concertation meeting. As a large number of the projects under the Third Framework Programme (FP3) are now terminated in a financial sense or in a project planning sense, results become available which deserve being spread. The origin of the FP3 libraries component, the draft plan of action for libraries in the EC, already had a special focus on exploitation because its purpose was to catalyse change in libraries which would have practical consequences and multiple spin-off effects.

In today's libraries' world change and modernisation are considered pressing issues. Phenomena like the Internet (including the WWW) and more organised standardisation activities add to this pressure. The Libraries Sector has little budget, but this does not mean that it achieves less than other sectors may achieve. On the contrary, the library area has a particular responsibility: if the initial results do not get widely disseminated or exploited in practice, then there is far less chance to catalyse change.

The EU research programmes have always put emphasis on exploitation. Under FP3 this was addressed in a separate programme called VALUE. In general, exploitation means dissemination, licensing and patents, collaboration agreements etc. We hope that after this first two-day concertation meeting within the Libraries Sector it will be possible to look ahead with confidence towards future exploitation. There will be no rough-and-ready solutions for all the problems mentioned, e.g. copyright. There is,



however, an opportunity to hear new ideas and to discuss and share problems in order to gain a better understanding of the fundamental issues.

3.1.2 Introduction Concertation Meeting, R. Fisher

EU projects are often reported to have difficulties with exploitation. Libraries projects are no exception to this "rule" but the problems they face are peculiar. On the one hand, libraries do have a close relationship with the market, so user needs or the real needs of the environment are catered for, which is one requirement for exploitation.

However, exploitation is often complicated by the fact that proper organisational, marketing and planning skills as well as money are lacking. Libraries are not generally used to exploiting results themselves; they need to form alliances, which is not easy, especially not in Europe, with its fragmented market.

In the Information Society libraries have a significant role to play; they ought to be one of the first and certainly one of the main providers of new electronic services. Exploitation of R&D projects aiming at setting up these services is therefore of great importance.

It is important to learn from the participants how the Libraries Sector could provide help and support. Some EU programmes provide little help in solving the exploitation problem; in other programmes specific guidelines are given. Each programme has its own approach to exploitation, which is not surprising as every area has its specific requirements and problems.

The aim of the workshop is not to provide clear-cut solutions. The aim is to stimulate the sharing of experiences, the exchange of ideas and hopefully to create new ideas.

On the first day approaches taken by other programmes will be addressed by specialists in the field. The second day will focus on the Libraries programme and its projects.

While preparing the workshop, it became clear that not all topics of interest could be covered during the two available days. A second concertation meeting is therefore planned, dedicated to topics such as: national and international stimulation; private and venture capital; Central and Eastern Europe.

In addition, new issues that will arise during the concertation meeting may be considered as topics for future meetings.

This meeting will be a success if at the end of the second day those in charge of running the Libraries Sector have a clearer picture of which actions to take, and if the participants are ready to explore new approaches.



3.1.3 Presentation of the background paper, B. Bootink

The background paper (see Annex III) discusses the results of research carried out with regard to exploitation and lists the topics to be discussed at this meeting. This research is based on technical annexes and exploitation plans of Libraries projects and also on other programmes or programme sectors, such as ESPRIT and Telematics for Transport.

Exploitation is very important for improving Europe's competitiveness. The essential concern of the Telematics Applications Programme is to investigate the developments in the market at an early stage and to involve users to the largest extent possible. Exploitation and dissemination are sometimes hard to separate.

The main problems for exploitation could be subdivided into library-specific and general problems. In general project partners tend to focus on their individual benefits as the project nears the end and the organisational structure ceases to exist. Researchers probably tend to focus more on the research than on the market. Research results are often far from a marketable product. Rapid technological and market developments and the slow progress of a project could limit the chances for project exploitation. IPRs (Intellectual Property Rights) are difficult to agree upon.

Library-specific problems are often due to the limited relevant experience of non-commercial consortium partners and the conflicting objectives of commercial and non-commercial consortium partners. Services require more involvement by project participants in exploitation activities than products. Markets can be too small for exploitation and sometimes resources are insufficient.

Other TAP (Telematics Application Programme) sectors have similar problems. The Education & Training Sector for example, faces limited budgets and relatively small markets. On the other hand, larger EU programmes or programme sectors, e.g. the TAP Transport Sector, devote much attention to exploitation already from the start of a project. The same applies to ESPRIT (the Information Technology programme).

Drawing up an exploitation plan is considered to be an ongoing process from the beginning of a project. The consortium should discuss at least the following elements of such a plan: market analysis, description of the deliverables and product/service functionality, documentation of the results, impacts and benefits, market estimates, organisational, legal and financial issues related to exploitation.

Regarding organisational structures, the options include setting up a new company, foundation or agency, and licensing of products. A reassessment of the consortium following a market analysis may often be necessary in order to find the best partners for exploitation. Legal issues are part of the research carried out under the ECUP project and will be dealt with on the second day.



The exploitation plans contained in current project descriptions are all very similar and often focus on dissemination only. They are sometimes a mere collection of the individual exploitation plans of the project partners. They should in fact be given more depth, and be based on the quality and attractiveness of deliverables. Future projects should be aware of this.

3.1.4 Discussion, chaired by A. Iljon

Many libraries depend on other institutions. Academic libraries for instance, depend on universities and public libraries usually depend on local government. They are therefore often unable to make decisions on their own. This is a potential problem when it comes to exploitation. Not only are libraries dependent, but also a large proportion of their customers are. Library developments are often linked to institutionalised research, an area prone to permanent cost reduction. Therefore it is difficult to add value to library developments.

The discrepancy between commercial and non-commercial exploitation has to be seen in the light of the importance of free or affordable library services. Clearly, this poses a problem a solution to which may be the "public domain". A public domain product is one which is freely accessible. This does not mean it cannot be used in a commercial way, for example through Internet business channels. Also, software needs to be distinguished from data as far as exploitation is concerned. Public domain software could be used to access commercial data and public domain data could be accessed by means of commercial software.

3.1.5 Exploitation plan, E. Taylor

The Technology Broker, a company set up 5½ years ago, intends to match research oriented companies with companies looking for technological solutions to specific practical problems.

It turns out that less than 15% of the contacted companies of the first type intend to exploit their research results. This is apparently due to a lack of planning at the beginning of the project and also to a lack of resources.

There are three main aspects all partners (and in particular the lead partners) in European projects should be aware of: the vision (business opportunity with regard to technology), the environment (user needs) and the technology (satisfaction).

The Technology Broker has developed a "programme" consisting of 20 steps which helps to identify exploitation problems and hence to lay out a feasible exploitation plan. Each of the 20 steps addresses a specific issue through a number of questions. Initial answers to these questions should emerge for instance from the exploitation interests of potential project partners, from brainstorming prior to detailed project



design, etc. The answers will most likely change as the project advances, so appropriate reviews have to take place in the course of the project.

The most important issues to be considered include:

- **Technology:** What does the technology do? What are the unique benefits? Is it usable for other applications (horizontal exploitation)?
- **Market overview:** What is the size of the market? How did it evolve? Who are the main players?
- **Business opportunity:** What is the market area to be addressed? What does the proposed system do for it?
- **Market trends:** Are there indications of acceptance, need? Who came up first with the idea? What do the other market players do (if there are any)? What risk is involved? What extra costs are necessary to create market awareness?
- **Market requirements:** Which market requirements must be met for success, such as market standards?
- **Typical life cycle:** How long will this technology be in the market place? What will the product look like at the beginning of its product life cycle (infancy) and in its maturity phase?
- **Positioning:** How is the consortium positioned in the market?
- **Potential exploitation channels:** Through which channels are vertical and horizontal exploitation feasible? How can companies outside the consortium be involved?
- **Competitive analysis:** What benefits, disadvantages do competing products have? What do all competing products have in common?
- **Legal strategy:** What is the structure of the intellectual property rights, collaboration and confidentiality agreements? The Commission's sample contracts imply that every member of the consortium owns the results, which could give rise to a 'deadly embrace'.
- **Exploitation during project development:** A consortium miss a market opportunity if they postpone the exploitation until the end of the project. Therefore exploiting intermediate project results or project results which at the beginning were not defined as deliverables can be beneficial.

The Technology Broker advised starting with the individual exploitation plans. These could be combined into an umbrella plan. In this way the partners would be well aware of the individual responsibilities both during and also after the project. Getting end users involved in a project as part of horizontal exploitation could be very useful.



3.2 Exploitation under other EC-funded programmes

The following presentations focused on experience gained in other programmes such as ESPRIT and RACE, or programme sectors, such as Telematics for Transport. The final presentation, on the libraries project EDILIBE, had been scheduled for the second day, but had to be moved to the first day, because the speaker had to leave early.

3.2.1 *Exploitation actions in ESPRIT, A. Stajano*

Within ESPRIT, being rather industry oriented, exploitation had been on the agenda well before the Fourth Framework programme started. A first step towards stimulating exploitation was taken in 1993 in collaboration with The Technology Broker. This resulted in good exploitation plans, at least on paper. Follow-up was wanting though. Therefore a second step was necessary.

This second step led to a multimedia service for better presentation and dissemination of project results. It is called PROSOMA-esprit, meaning "**P**resentation Of Selected Outcomes providing **M**ultimedia Access to ESPRIT results", and has been developed as an extension of the traditional CORDIS service. (In fact weekly updates can be downloaded from the CORDIS databases.) Prototype versions are now available on CD-ROM (a demo can be obtained from DG III) and on the Internet. The PROSOMA Internet service will be operational in about one year's time. Presentations on the Internet are enhanced with links to relevant Web pages of members of the respective project consortia. The CD-ROM version fully exploits multimedia and thus allows lively presentations of sometimes rather abstract matters that would be otherwise difficult to understand.

Various other products can be derived from the (multimedia) information database underlying this service, for example the ESPRIT project book 1995 (distributed at the concertation meeting), but also material for presentations, to be used by project participants.

This service provides an opportunity to communicate in a timely fashion with potential market partners, on the executive level as well as on an engineering level. Its intended audience includes innovation industry, technology brokers, users, research institutes, technology developers, the academic community and new participants in the programme.

A collaboration agreement with the Information Engineering Sector of DG XIII E-4 has been concluded. The Libraries Sector is also invited to disseminate its results through this new service. Partners in libraries projects would have to provide their own raw material, video sequences, interviews etc.



3.2.2 Case study RAMA (RACE), D. Delouis

The RAMA project, started in 1992, aimed at the development of an international museum network, through which art from various museums can be displayed on-line and high definition digital images can be sold without infringing copyrights. The network will be used by museums and museum visitors through their multimedia systems. The project aimed at the construction of a legal organisational structure in order to exploit results such as the software to operate the virtual museum and to sell digitised art. A market analysis undertaken in 1993 proved that there was indeed a strong demand.

The exploitation phase involved co-operation between partners of two kinds: public organisations (cities and museums) and commercial organisations (software developers and others).

The RAMA partners were asked to join a company, created in 1995, while the project was still running. Each of the partners should add value to the company, for example the polytechnic university of Madrid would be the research centre of the company in exchange for the exploitation of their research results. The mission of the RAMA company is to hold the images and to distribute them, applying different pricing schemes for commercial use and for educational use.

Another company, called MUSEA, which has been registered this summer, will operate the network. MUSEA will develop online publishing partnerships to obtain some revenue from exploiting their images, through publishers or educational institutions. MUSEA's financial start-up problems are presently being solved through participation in an ACTS project which aims to improve the accessibility of other museums (e.g. in Russia).

The original RAMA company, called "Museums On-line", has been registered in Luxembourg and will distribute images via the Internet. "Museums On-line" is currently working together with a private company on solving the copyright problems and has another company produce high quality digital images.

Some of the general lessons learnt from RAMA are in fact quite commonplace: (i) cultural heritage often is a political issue and therefore decisions related to this issue tend to take a long time. (ii) The rapid changes in technology require shorter project periods. (iii) The clear identification of user needs is more important than the technology itself. (iv) Finally, collaboration is only possible if partners are willing to collaborate and the willingness can be measured while partnerships are formed.

3.2.3 Case study EUROCOR (Telematics for Transport), J. Chrisoulakis

This project under the Telematics for Transport Sector contributes to the integration of control measures for corridor traffic in urban peripheries. Existing traffic control

and simulation tools are integrated, further developed and tested with special attention to ramp metering, driver information and/or guidance and road traffic control.

Exploitation measures included extensive field trials on a limited set of corridors around certain cities, during the last three years of the project. The field trials show that the integration of the systems is successful. Drivers seem to understand and accept the system. The field trials created a considerable amount of interest among the traffic managers of pilot sites and their colleagues in other cities. Most of the cities are willing to expand the system over a large number of corridors and to support the development and validation of a macroscopic corridor traffic model. Presentations at popular conferences and publications in high quality technical journals underline the fact that the consortium members are now regarded as specialists in the field of corridor traffic systems integration and development and that they have comprehensive knowledge of the state-of-the-art of integrated urban and interurban algorithms.

The commitment and the ability of the project participants (such as site owners, administrators, public research institutions, universities, private research institutes and commercial managers) to disseminate and further develop the project results, were crucial for the success of the project. In future projects, dissemination activities should actually start on the very first day. Budget should not be a bottleneck in doing so as at least part of the advance payment may be used for this purpose.

There is a significant difference between the Third and Fourth Framework as far as exploitation is concerned. FP IV emphasises exploitation by starting research and development under the user needs perspective, an approach which quite naturally will lead to market- and user-oriented products and services. Market-oriented partners in the consortium accelerate exploitation, the effectiveness of which, however, is determined by the willingness of each individual partner to cooperate.

The Transport Sector and the Libraries Sector may have a few characteristics in common when it comes to exploitation (e.g. in both sectors projects tend to have heavy involvement of publicly funded institutions). Therefore common approaches to exploitation seem reasonable and should be discussed.

(As an aside the rapporteur of this case study mentioned that he was now in charge of managing a fairly large project the aim of which is to upgrade the library of his university. He invited the participants to contact him on new ideas and information about pertinent products, and suggested to use his university's library as a testbed for deliverables of library projects.)



3.2.4 Case study EDILIBE (Libraries Sector), M. Casalini

This presentation focused on the impact of project EDILIBE (Electronic Data Interchange for Libraries and Booksellers in Europe) on libraries and booksellers in Italy. The EDILIBE project was carried out in two phases, from 1991 to 1992 and from 1993 to 1995 respectively.

The scope of the project was to define Edifact subsets for business cycles (like ordering, invoicing, etc.) related to libraries and booksellers, and to implement electronic data interchange of those messages using Edifact as data exchange format and X400 as transfer protocol.

One of the constant concerns during the project was to ensure dissemination of information through articles published in specialised journals, through discussion at library meetings and book fairs and the organisation of workshops. In a way these activities contributed to two new initiatives at the beginning of 1995. First, a group of Italian libraries who cooperate with two EDILIBE partners, launched a new project called EDIBOOK. This project can be regarded as a follow-up of EDILIBE I and II. It will apply EDI standards for commercial and bibliographic data exchange in the book trade. Secondly, a foundation has been established under the name of EDILIBRO which currently has 42 member organisations. The aim of EDILIBRO is to promote EDI standards in the Italian book sector, and to participate in watching and updating the EDI standards.

Other initiatives regarding the application of EDI are now following the EDILIBE standards. It can be concluded that the EDILIBE project was a progressive step for the Italian booktrade and libraries business and hopefully will have the same degree of follow-up on an international level as it had on a national level.

3.2.5 Discussion; Chair: R. Fisher; Panel: E. Taylor, A. Stajano, D. Delouis, J. Chrisoulakis, M. Casalini

Salient points made in the discussion:

Libraries projects are smaller (in terms of budget) than projects under programmes such as ESPRIT. Therefore, dissemination costs (of printing, workshops, on-line support, etc.) take up a larger percentage of the project budget, which makes dissemination even more difficult.

European funding helps consortia to take bigger risks. Therefore it is likely that private sector partners object to dissemination at a very early stage, as failure in subsequent phases might damage their image.

Effective co-operation during and after the project requires adequate contracts and collaboration agreements between the partners, and good project management.



Collaboration agreements should extend beyond the final date of the project. They may also cover results which had not been defined as contractual deliverables. Thus a quick follow-up on the project will always be possible.

Good project management is crucial but still a problem, as consortia often do not have sufficient management experience. Hence management often consumes more time and budget than planned, usually to the detriment of exploitation and dissemination.

The network approach chosen by the RAMA partners may also be applicable to libraries sharing a common interest.

It must be kept in mind that the commercial value of deliverables may only become apparent as and when a project is nearing its end. Therefore a balance between commercial and non-commercial partners and objectives ought to be struck while a project is still running. Subsequent follow-up may involve two separate groups of partners, one aiming for non-commercial objectives and one aiming for commercial objectives. Suitable arrangements regarding future profits would have to be made.



4 Proceedings day two

On the second day the focus was entirely on libraries. There were three sessions, a plenary one in the morning and two parallel sessions, on legal aspects and on commercial versus non-commercial exploitation respectively, in the afternoon.

4.1 Plenary session

Four case studies (projects) were presented in the plenary session. These projects were selected either because they experienced specific problems or because the project participants have taken or will take a specific approach to exploitation.

The case studies reflect a representative mix of projects within the Libraries Sector. For instance, the projects USEMARCON, ELSA and MORE have developed products, whereas SPRINTTEL and EURILIA have developed services. The selected projects took quite different approaches to commercialisation. It may also be interesting to note that the rapporteurs of the five case studies represented different types of organisations: a National Library (USEMARCON), a Public Library (SPRINTTEL), a commercial company (ELSA/MORE) and an academic library (EURILIA).

4.1.1 USEMARCON, T. Noordermeer

One of the basic problems for the exchange of bibliographic data is the conversion of MARC formats, as there are over 50 different MARC formats available. The main objective of the USEMARCON project is to develop a general converter for MARC formats. The first phase (feasibility study) of the project started in February 1994. Phase 2 (development of an alpha version), based on a revised project plan, began in March 1995. Phase 3 (extensive testing/development and documentation) began only recently. After the first phase the consortium changed the commercial partner arrangement, due to a rather disappointing market analysis. The consortium chose to sub-contract to a commercial partner instead of taking on board a new full partner. Thus the remaining partners were in control of the ownership of the source code.

The deliverables of the project include: conversion software, conversion tables, format descriptions of several MARC formats for format checking, a set of conversion rules, user documentation and technical documentation. The software package is intended for use by national and university libraries, some large public libraries, vendors of library automation systems and special projects. The user (senior cataloguer) should meet certain qualifications, such as excellent knowledge of input and output formats and UNIMARC, and the capability of learning and applying a very formal, abstract language.



The market for USEMARCON is small, but important. The commercial partner (of phase 1) conducted market research as part of the feasibility study. Questionnaires were sent to libraries and software vendors. The market research showed that users do not have much budget available for conversions. On the other hand, conversion from one MARC format into another MARC format is an expensive operation, and therefore a generic converter would be of great benefit. Hence there is strong interest in the results of USEMARCON.

There are several considerations related to exploitation. The basic idea of USEMARCON was to help solving conversion problems within the libraries who participate in this project. (Of course, these problems are pressing in the libraries world at large.) Once this is achieved the library partners can no longer put their own money into the maintenance of the converter. Format descriptions have to be kept up-to-date. This is difficult, as formats change frequently. A solution could be that the National Libraries will become responsible for format descriptions in their respective countries.

If the USEMARCON partners market their software, they need resources for organising distribution, help-desk etc. Unfortunately they do not have these resources. Other considerations are: which package should they actually sell, at what price to whom and how will up-dates be organised? Another consideration is the ownership of USEMARCON. A small part of the software is owned by the commercial partner, so they have to make suitable licence agreements. The bottom line is: who is responsible for the exploitation of the software?

The concept of USEMARCON was developed four years ago. Since then things have changed. For instance, an on-line converter would be more appropriate now. This could be done, but it takes even more money. Another new development that may influence the exploitation of USEMARCON products is the attempt to merge several MARC formats, which would probably make USEMARCON less attractive.

4.1.2 MORE/ELSA, C. Lupovici

Jouve, a commercial organisation, co-ordinated project MORE and is currently co-ordinating project ELSA. Jouve invests in R&D projects because of their interest in the Library market. They are primarily a service provider, but also offer some products.

The MORE project ended in the middle of 1994. It was aimed at developing a prototype product for retrospective conversion, based on existing OCR/ICR tools. The participants had clear expectations regarding exploitation when the project was launched. The technical and economic feasibility was addressed positively. CRIN (Centre de Recherche Informatique, Nancy) will continue the research and will apply what they have learned. And in due time the Belgian Royal Library will start



conversion processes. Jouve will not exploit the software directly but decided to re-write it. As far as the prototype is concerned, expectations for exploitation were high. However, as expensive general purpose third party software (including networking software) licensed by Jouve forms part of the prototype, these expectations could not be fulfilled. Therefore, the prototype is no longer being maintained.

The MORE partners signed a consortium agreement before the project started. Back-and foreground information was clearly defined, as well as an exploitation plan covering a period of two years after the end of the project. Yet this exploitation was not possible because there was in fact no market. The partners also had different understandings of the very meaning of "exploitation" and - above all - "marketable product".

The objective of the ELSA project is to set up an Electronic Library of electronic scientific journal articles coded in SGML. This involves storing and indexing mechanisms as well as the creation of a user environment in an academic library. A publisher is involved who sees ELSA as an extension of earlier activities and is interested in testing user behaviour.

The project will soon enter its testing phase. There have been important technical changes since the project was launched: it has become necessary to take account of the WWW. This entailed a change of focus: the project now focuses more on document viewing than on search and retrieval and more on providing a rationale for using SGML instead of HTML. Current exploitation activities, such as involvement in international standardisation and the evolution of the concept of content delivery to libraries to create awareness, had not been anticipated when the project began.

The ELSA partners need more time for exploitation (not necessarily commercial) and more time for testing. For instance they need to extend testing to professional experts and possibly to other publishers, as was recommended by the review committee. Furthermore, Jouve will have to make a commercial decision on the evolution of the product ELSA is based on.

The ELSA consortium agreement was signed 1½ years after the project started, certainly too late. The participants have separate responsibilities in the development of modules to avoid cross ownership of the pieces of software. ELSA is a contribution towards future electronic publishing and towards building the electronic library. Its results, if turned into generic products, may well help libraries to redefine their position in the information world. Unfortunately, exploitation in that sense is wanting as not enough resources are available.

Nonetheless, Jouve strongly believes that it is important for libraries to take every opportunity to get out of the closed "library system". Libraries can do a lot by using (and rebuilding) existing tools, rather than by having products and/or services developed specifically for the Libraries market.



4.1.3 *SPRINTEL, J. van Vaerenbergh*

SPRINTEL started in 1994 and ended in February 1996 with good results and a positive final review. SPRINTEL stands for **S**Peedy **R**etrieval of library **I**Nformation on the **T**ELephone, which clearly describes the main objective of the project. SPRINTEL is a kind of high-tech answering machine with some outstanding user friendly features: it provides more information than simply on opening hours, the information is accessible in a more user friendly manner than through the one-way mode of most answering machines (SPRINTEL is interactive and uses speaker independent speech recognition), and finally the service is easy to maintain (there are a training manual and a maintenance tool).

Public libraries are the lead partners in SPRINTEL and for them exploitation will be mainly non-commercial. The technical project partner, Voxtron, is of course interested in commercial exploitation. Even in the early stages, they expressed their firm belief that the project would result in a commercially viable voice product. In fact, with their involvement in SPRINTEL, Voxtron secured themselves four testbeds.

SPRINTEL was intended as a front end service, designed to be implemented between the user and the library desk. However the performance of the prototype turned out to be wanting. Depending on technical and environmental conditions the speech recognition rate varies between 60 and 90 %, which is insufficient for a public service. The technology is simply not yet good enough.

The original exploitation plan in the TA was actually a dissemination plan, dissemination of results being the first step towards exploitation, after all. The main concern of the public library partners was to integrate the service into their own organisations. They envisaged a second phase in which additional systems could be installed in the working areas of individual libraries. For this reason a 40% discount was negotiated with Voxtron for every new licence (an example of vertical exploitation). Voxtron, in turn, looked at possibilities of horizontal exploitation in related areas.

In the final review the consortium was praised for the harmony between the public and private partners in the consortium. This was probably due to the complete lack of competition between the partners. Voxtron acquired the IPRs; none of the public partners were even interested in the IPRs. This means that the commercialisation is completely in the hands of Voxtron. For extensions and new releases, the library partners have a maintenance contract with Voxtron. As far as the information content is concerned, there was no problem with copyright, as all the information that was made available is in the public domain.

The partners still believe in SPRINTEL's pragmatic solutions and strategic value. That is why a user group was established in which the partners committed themselves



to extend the project at their own cost. It is a matter of commitment to invest money and not to expect an immediate return, but it is also a matter of convincing the local authorities.

4.1.4 EURILIA, J. O'Flaherty

The EURILIA project will finish in February 1997. The EURILIA system aims to support the information process in the aerospace sector, which is a very well defined sector with specific needs. The participants wanted to establish a new service that would give access to full text and images from various sources of information for researchers and companies working in the sector.

The partners (five libraries and one commercial partner) wanted to extend the availability of their own collections, to access other people's collections and to extend the approach to other well defined sectors. EURILIA consists of two types of servers: for OPACs and images respectively.

The project had a user requirements phase in which each of the library partners chose ten people in their country that could be the key potential users, and had structured interviews with them. Unfortunately, in this pre-audit many questions remained unanswered, e.g. what business are we in? Throughout the project they tried to keep the users involved in the project. EURILIA has held four of the planned six workshops, which have given very useful feedback. It became clear that users are not really worried about the technology, but just want the product/service to work. The original potential users will be contacted again in a post-project audit in order to obtain a user reaction to the EURILIA service and answer the questions that remained after the pre-audit.

The most important factor influencing exploitation is that since 1991 things have changed, e.g. the expectations of users and the way they access and use information. There is an enormous amount available now on the Internet and the researchers browse the Internet themselves. Thus, little use is made of specialist information services.

The partners had intended to use Internet from the beginning but expected bandwidth problems. So they spent a lot of unnecessary effort in solving problems that have solved themselves, since Internet became the dominant medium.

The exploitation plans have changed accordingly. A new idea was to attract new users, for instance through organisations who would make their OPACs or image servers available on the EURILIA system. Another idea was to target other sectors, such as biotechnology, so that the EURILIA approach could become the basis of a family of services.



The consortium actually "designed" a business plan, using a decision support system. The main conclusions were that the EURILIA service as it had emerged from the project was not commercially viable but that the client software did have commercial potential. It became equally clear that content is all important. In that regard grey literature could provide a good market opportunity. Furthermore, the partners should establish links with major publishers in the aerospace sector.

The current exploitation plans focus on setting up the EURILIA foundation, with all six partners involved, as had been agreed prior to the start of the project. Setting it up as a European Economic Interest Group (EEIG) as originally intended, is not possible because none of the partners is willing to accept unlimited liability.

4.1.5 Discussion

Salient points made in the discussion:

Exploitation is a many-faceted issue. Non-commercial exploitation in particular can take a whole gamut of forms, ranging from putting (software) products in the public domain to raising awareness among librarians of the importance of certain standards. USEMARCON and EDILIBE are good examples of the latter. Improving public library services through the deployment free of charge of project results may be seen as yet another form of exploitation.

Commercial exploitation is usually based on suitable agreements between consortium members. Non-profit organisations may renounce their ownership of results and leave, as e.g. in the case of SPRINTEL, exploitation to a commercial partner, in return for special licensing conditions. Other possible arrangements include further joint development and royalty sharing.



4.2 Parallel sessions

4.2.1 Session 1 Legal aspects, chair R. Fisher

MUMLIB, L. Jensen

The aim of the MUMLIB project is to assess the possibility of an enhanced library service based on a CD-ROM product which can be integrated into the library environment. To this end tools and methods are being developed to prepare multimedia profiles of 45 modern authors from three European countries. The product will be tested in the libraries and user response will deliver suggestions on interface design, presentation and effectiveness. Finally the project will develop a co-ordinated strategy for copyright issues relating to the electronic dissemination of multimedia material.

Currently, an update of the marketing plan is being prepared, including a distribution plan. The consortium project agreement specifies that an exploitation agreement has to be concluded between the partners before the project ends. The first draft of this exploitation agreement describes the obligations of the partners related to the distribution of the product and the intellectual property rights.

As multimedia products in libraries have changed considerably since 1995, a market study will be carried out at the end of the project. Regarding the legal issues, there are two aspects to consider: the copyright pertaining to the specific product and the copyrights for the materials supplied.

The product copyright is shared equally by the partners as they have contributed equally to the development of the product. In the early phases of the project the authors and publishers waived their copyright, given the promotional aspects of the project. In a later phase differences arose due to different copyright situations in the countries involved. New copyright negotiations resulted in a fixed price per item of material. The price was agreed between the partners on condition the CD-ROM would only be used in libraries and educational institutions. Further negotiations will be necessary if the CD-ROMs are to be offered to private users.

Conclusions:

- it is important to agree with the partners that commercial exploitation should be discussed while the project is ongoing, even if no budget had been earmarked for that purpose;
- apart from the individual exploitation plans of the partners, an umbrella exploitation plan should be made at the beginning of the project;



- organisational differences between private and public organisations participating in a project can be minimised if the partners are prepared to contribute to the detailed planning of a possible commercialisation phase and to allocate time and resources to it.

ECUP+, E. Giavarra

ECUP+ is a Concerted Action co-ordinated by EBLIDA, the European Bureau of Library Information and Documentation Associations. Its aim is to enhance awareness among information professionals of copyright issues pertaining to present and future electronic information services.

Fifteen copyright awareness workshops were conducted in fourteen member states of the EU and in Norway. On these occasions views were exchanged and possible solutions to common problems were discussed. Representatives from rights owner organisations and from collecting societies attended the workshops.

The ECUP+ project set up a copyright focal point on the World Wide Web, serving as a "one stop shop" for librarians on European copyright developments. Furthermore the steering group will process the information from the workshops and will define recommendations on legislation regarding user rights in electronic services, to be lobbied for with national legislators.

4.2.2. Organisational structures, chair R. Fisher

AIDA, F. del Lungo

The AIDA project aims to develop modular software for managing interlibrary loan (ILL) and document supply through document supply centres and points of sale.

The consortium partners from Portugal, France and Italy will exploit the project results in their own country and the consortium as a whole will exploit the project results in the remaining European countries (vertical exploitation). This allows the partners to start up quickly the two national Document Delivery (DD) networks and to link them with the main international DD providers. Furthermore, the consortium can use the two national networks to promote the AIDA products in other countries.

Research centres, professional organisations and public entities can also use the system in their own business and therefore will be contacted in the future (horizontal exploitation). Finally the option of indirect exploitation will be considered through the use of the system for feasibility studies, corporate documentation management systems and process re-engineering. The project results, a product and a service, are commercially viable.



Van Eyck II, J. Hemsley

The Van Eyck II project aims to develop ISDN links and Internet connections to interconnect archives of historical photographs, of initially three libraries. The project uses the outcome of three previous projects: Van Eyck I (the feasibility phase of Van Eyck), VASARI (a visual arts system for archiving and retrieval of imaging) and RAMA (Remote Access to Museum Archives).

From an organisational point of view the exploitation can be seen on three levels:

- organisations separately;
- organisations in relation to others;
- the roll out plan of the project as such.

The last level is of course the most important but also the most difficult one. The Van Eyck II project is currently defining its exploitation strategy at all three levels.

DALI, G. Bingham

The aim of the DALI project was to develop a service for multimedia document search, retrieval and delivery in a distributed library environment. Initially the prototype will be tested in three countries. It will focus on oceanographic information and management studies information.

For the exploitation of the DALI project results two lines of action will be considered: through the coordinator's organisation and through an organisational structure to be set up jointly by members of the consortium.

The coordinator, Fretwell Downing Data Systems Ltd, is an experienced library software provider and has the marketing, implementation and customer support services in place for its existing line of products.

The joint organisational structure is still being discussed by the consortium partners. The list of options includes:

- joint ventures: a separate company of which two or more companies will have the controlling interest and which can be joined by other interested partners;
- local representation: a self-sufficient operation in a target market territory set up by one of the partners, for example as a wholly owned subsidiary. Especially for areas of no interest to the remaining partners, this would be a good option;
- third party distribution: any of the partners could set up a distribution relationship with a company already operating in the target market territory;



- licensing: this means that project partners have to waive all intellectual property rights to the software for the duration of the licensing agreement.

Fretwell Downing favours a licensing solution that allows third parties to use the system but which does not include IPR transfer.

4.2.3 Session 2 Commercial versus non commercial, chair B. Bootink

HYPERLIB, J. Corthouts

The HYPERLIB products improve existing library services and create new ones through hypertext technology. The products will support remote users and library staff by facilitating access to user guides, manuals, bibliographies and catalogues. They are based on text formatting standards (SGML, HTML).

Dissemination is critical for the use of the project results. A distinction has to be made between internal exploitation (towards the end user) and external exploitation.

Internal exploitation is directed towards the more of developed tools from an experimental to a production environment and towards the transfer of technology to other projects. Other projects at the University of Antwerp, such as AGRIPPA and VIRLIB make use of technology developed in HYPERLIB.

External exploitation centers around the idea of making developed products available to libraries outside the project. HYPERLIB “portable results” such as the toolkit for the production of hypertext manuals have been placed in public domain because the project partners were not interested in commercialisation; in fact they lack the resources for long term maintenance and support. Other HYPERLIB results, such as the database related resources no less portable and highly system specific (VUBIS software). Therefore licensing with a commercial vendor may be the best way of exploiting these less portable project results.

LIRN, A. Colleran

Project LIRN created a European Business Information Network. This network operates as a kind of electronic signposting system, meaning that the system efficiently locates, sorts and repackages information of interest to the European business community.

Two target groups of users had been identified: end-users and intermediaries, i.e. information professionals or librarians.

For future exploitation, which can be both horizontal and vertical, the project partners are seeking further funding and new partners. In the search for new partners they are



considering product developers and service providers in Western and Eastern Europe. They plan to integrate LIRN more closely with other services and other EU projects.

4.2.4. Products versus services, chair B. Bootink

ELISE II, R. Adams

This project is the follow-up of the ELISE project in which a prototype of image bank access software was developed. It demonstrates on a small scale the feasibility of a full image access and retrieval service based on distributed image banks. A stable infrastructure and technical robustness are needed to develop the prototype into an operational service. Hence, in addition to the ELISE partners, ELISE II has taken on board commercial suppliers, and agreements, based on technical solutions, will be made regarding copyright, pricing, charging and replication of image banks. Aspects of user-friendliness will be thoroughly tested.

Clearly, the way user and market issues are addressed will finally determine the success of the ELISE II project. User issues include scale of demand, the required quality of images and the viability of access routes. Market issues include cost-benefit ratios as well as licensing and fair pricing and of course the image suppliers' readiness to try out new distribution channels. As the project gains momentum it is expected to attract new users and supply sites.

BiblioTECA, J. Sarabia

This project aimed to develop tools for automatic analysis of information contained in documents such as catalogue cards, tables of contents, index summaries, subject indices and printed catalogues.

The original exploitation plan focused on selling the toolbox (the product); providing services got less attention. However, libraries are more interested in services. Therefore a shift of emphasis took place. Services currently provided include retrospective conversion of catalogue cards and conversion of printed catalogues to magnetic media. Getting librarians to use the tools themselves would require a fair amount of training and more elaborate user interfaces.

EQLIPSE, J. O'Flaherty

The aim of this project was to study the feasibility of an open system supporting quality management and performance measurement in libraries. A prototype has been developed and validated. It is based on a client server architecture and is compatible with various library systems.



The commercial partners MAC and Dynix will lead the exploitation by further developing the prototype into a product. Dynix will include EQLIPSE as an add-on module in their Horizon and other library information systems. EQLIPSE will also be made available as a stand alone PC product. By contributing to the development of the ISO9004 and draft ISO11620 standards, and corresponding practices in libraries, the project has created unique market opportunities.



5 Conclusions and recommendations

5.1 Conclusions

Exploitation has many aspects. Clearly, commercialisation is its most visible form, though often difficult to realise by libraries alone. But intangible effects are important as well, such as awareness creation and convincing policy decision makers.

Roughly, there are two categories of project results: the intangible, difficult to measure effects just mentioned, on the one hand, and concrete products and services on the other hand. The latter may give rise to:

- commercial benefits (tools for better or new services);
- replication of newly developed / applied techniques in other, comparable environments.

Differences on exploitation are often due to conflicting commercial and non-commercial objectives among the members of a consortium. Librarians who lead projects usually appreciate the market know-how of commercial partners. On the other hand commercial companies profit from their cooperation with libraries by gaining better insight in user needs.

In many cases the results of European funded projects have to remain freely accessible if they are to have an impact on developments at the national level.

In any case the involvement of private companies in library projects is an asset when it comes to exploitation, as they have a natural interest in obtaining a return on their investment.

Compared with the Libraries Sector, programmes such as ESPRIT support much larger projects with larger budgets. Their relative costs for dissemination, demonstration sites, etc. is therefore much less than those of library projects (0.5% of the project budget within ESPRIT and 20% within the Libraries Sector).

There was consensus among the workshop participants on the general objective of exploitation: i.e. to maximise the availability of useful products and/or services. Cost-effectiveness of the development of a product or service and of the product or service itself is important but making profit is not necessarily a prime objective. This was exemplified e.g. by the USEMARCON and SPRINTTEL projects.

While projects are running, changes regarding the market, the expectations of the project partners, the technologies or the user-needs are likely to occur (cf. for instance USEMARCON and EURILIA). A consortium must be suitably prepared to deal with them. The best mechanism for that is the Consortium Agreement, required to be



concluded at a very early stage in a project, and preferably before the project starts. This agreement should cover further collaboration, beyond the end of the project proper. Coping with change is also facilitated by early dissemination (and exploitation if possible) of (intermediate) project results. Thus feed-back on user needs and acceptance can be obtained and adjustments can be made if necessary.

It was observed that products (and, to some extent, services) developed under the Libraries Programme should not be limited to supporting traditional library functions. They should be targeted at the wider information market. In fact, libraries are well advised to integrate existing tools for their purposes and to take every opportunity to get out of the closed library market.

Experimenting with technically advanced but "unfinished" prototypes in a library environment may be a worthwhile approach to exploitation, as long as the consortium is aware that further development is required through extended co-operation supported by additional resources. SPRINTTEL has demonstrated this quite clearly.

5.2 Recommendations to the Commission

Various recommendations were made by workshop participants on how the Commission could support future dissemination and exploitation. They include

- providing a manual for drafting exploitation plans;
- supporting presentations of library projects at suitable international conferences and exhibitions;
- giving advice on the establishment of legal entities for the exploitation of project results;
- disseminating of project results via the Internet: e.g. through guidelines for setting up project Web sites;
- organising a home page on the WWW and a search engine specifically tuned to the Libraries Programme.

Not all of these recommendations can of course be followed up by the Commission, e.g., the Commission cannot assume the role of a consultancy firm. On the other hand, some of these recommendations are already partly or fully implemented: library projects are explicitly encouraged to participate in international conferences and exhibitions, and to budget for that; guidelines for presenting project deliverables have only recently been completed and there are support actions to help Telematics projects organising their own Web sites; finally, a Libraries Sector Web site exists which gives not only pointers to most of the projects supported by that sector, but also to many library related resources worldwide.



Annex I

Agenda Concertation Meeting

AGENDA
WORKSHOP ON EXPLOITATION OF R&D RESULTS IN LIBRARIES PROGRAMME PROJECTS
LUXEMBOURG,
17-18 JUNE 1996
BATIMENT WAGNER, SALLE GLESENER A+B

Monday 17 June

11.00	Registration	
11.30	Welcome	Mrs. A. Iljon (DGXIII E)
11.45	Introduction Workshop	Mr. R. Fisher (DGXIII E)
12.00	Presentation background paper	Mrs. B. Booltink (Coopers & Lybrand)
12.30	Discussion	All participants; Chair Mrs. Iljon
13.00	Lunch	
14.15	The exploitation plan	Mr.E. Taylor (The Technology Broker)
14.45	Exploitation actions taken in Esprit	Mr. A. Stajano (DG III)
15.15	Coffee	
15.30	EUROCOR and other cases from Telematics for Transport	Mr. J. Chrisoulakis (Truth)
16.00	RAMA- a case from RACE	Mr. D. Delouis (Telis)
16:30	EDILIB II	Mr. M. Casalini (Casalini)
16:50	Discussion panel	Mrss. Taylor, Stajano, Delouis, Chrisoulakis, Casalini Chair: Mr. R. Fisher
17:30	Closing of the meeting	Mrs. A. Iljon (DG XIII E)
20:00	Informal Dinner	

Tuesday 18 June

09.30	Plenary Session	
	Introduction to cases from the Libraries Sector	Mrs. B. Bootink (Coopers & Lybrand)
09.45	Usemarcon	Mrs. T. Noordermeer (Koninklijke Bibliotheek)
10.15	MORE and ELSA	Mrs. C. Lupovici (Jouve)
10.45	Coffee	
11.00	SPRINTEL	Mr. J. van Vaerenbergh (Openbare Bibliotheek Leuven)
11.30	EURILIA	Mr. J. O' Flaherty (University of Limerick, MAC)
12.00	Discussion	
13.00	Lunch	
14.00	Introduction topics for parallel sessions (1 and 2) Grouping	Mr F. Buining (Coopers & Lybrand)
14.10	Parallel sessions	
	Session 1	Chair: Mr. R. Fisher
	a) Legal aspects, IPR	
	- MUMLIB	Mrs Lea Jensen (Dansk BiblioteksCenter)
	- ECUP	Mrs Emanuella Giavarra (EBLIDA)
	b) Organizational structures	
	- AIDA	Mr Fabrizio del Lungo (Studio Staff)
	- Van Eyck II	Mr James Hemsley (Vasari)
	- DALI	Mr George Bingham (Fretwell Downing)
	Session 2:	Chair: Mrs. B. Bootink
	Commercial versus Non-commercial	
	- Hyperlib	Mr Jan Corthouts (UIA)
	- LIRN	Mr Andrew Colleran (LASER)
	Products versus services	
	- Elise II	Mr Roy Adams (Montfort University)
	- Biblioteca	Mr Jaime Sarabia (Universidad de Madrid)
	- EQLIPSE	Mr Joh O'Flaherty (University of Limerick, MAC)
15.50	Summary	Mr. F. Buining (Coopers & Lybrand)
16.10	Closing	Mrs. A. Iljon (DG XIII E)



Annex II

Participants list

Concertation Meeting
on
Exploitation of Results of R&D Projects in the Libraries Sector
17-18 June - Luxembourg

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Annex III

Background paper

Exploitation of R&D results in Telematics for Libraries

Background paper for the concertation meeting
on 17 and 18 June 1996

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Luxembourg

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1 Introduction

1.1 Introduction

Exploitation of results of projects funded by the European Commission is essential for the success of the projects and therefore for the success of EC funding. However exploitation in general is not a strong point of Europe as is mentioned in the Green Paper on Innovation: "In this regard, Europe seems less well placed than its main rivals. The paradox is that it has an excellent scientific base but it is less successful than others in converting its competence into new products and market shares, this is especially true in high-technology sectors." Since the EC finances research with the objective of improving the competitiveness of Europe, the project participants are in principle obliged to exploit the project results.

In the Libraries Sector (Telematics for Libraries) many of the projects within the Third Framework Programme (FP3) have reached or are reaching their final phase. Therefore dissemination and exploitation of the results of the projects within but especially after the EC funding are becoming essential and current subjects. Bringing results of a research project to an exploitable product or service is generally difficult. It is likely that especially Libraries will have difficulties with exploitation of R&D results because they generally have limited experience with commercial and marketing issues.

In order to get a better insight into the problems of the participants of the Libraries projects with exploitation and to exchange experience and information on exploitation a two day concertation meeting on 17 and 18 June 1996 has been organised. This report will serve as a background paper for that concertation meeting. The next chapters outline the exploitation plans within the Libraries Sector (chapter 2), the exploitation situation in other EC Programmes (chapter 3), exploitation issues in general, such as organisational and legal issues (chapter 4) and finishes with conclusions and exploitation issues where support may be needed, to be determined in the concertation meeting (chapter 5).

1.2 Exploitation versus dissemination

Two means of 'using' the results of projects are generally required in EU funded projects: dissemination of results and exploitation of results. Many projects have extensive dissemination plans and activities (workshops, conferences, publications, Web pages, etc.) which fit well in the research tradition and is often well catered for. Fewer projects have detailed ideas concerning the (commercial or non-commercial) exploitation. Although dissemination and exploitation in these R&D projects are difficult to separate completely, it is the aim of this concertation meeting to focus on 'real' exploitation itself and not on the dissemination mechanisms.

1.3 The importance of exploitation

The Libraries sector started its R&D activities at a European scale under the Telematics Programme in the 3rd Framework Programme. One of the main aims in the Libraries sector

under FP3 was to stimulate the European market for telematics products and services for libraries. One of the indicated ways of doing so is by gaining and increasing visibility of the results by dissemination, multiplication and exploitation. Most of the projects started under FP3 have finished recently or are about to finish in the next year. Those projects had to address exploitation issues already during the preparation phase.

The Libraries Sector is currently one of the sectors under the Telematics Applications Programme. Under this programme the Libraries Sector has continued its emphasis on exploitation, in line with the objectives of the Telematics Applications Programme. The Programme aims to promote further the competitiveness of European industry and the efficiency of services of public interest and to stimulate job creation. The second objective is to promote research activities necessary for other common policies.

The importance of exploitation is clearly stated by the basic principals of the Telematics Applications Programme within the Fourth Framework Programme (FP4) which emphasizes exploitable results of research projects from the beginning of the projects:

- Be user-oriented and cost-effective rather than technology-driven.
- Start with market research and an analysis of users' needs.
- Associate users' representatives at each stage of a project.
- Devote adequate resources to validation in user environments.
- Exploit results, including standards, procurement and implementation recommendations.

The essential thought is to start projects with investigating the market and to keep the (potential) users in mind and to involve them during the whole project.

As said, in the Libraries Sector under FP4 a lot of emphasis is put on the exploitation of the results. One of the goals of the sector is to start activities that enhance the exploitation and transfer of results, defined as: "Encourage and demonstrate technology transfer through moving successful projects from an experimental to an operational environment and replicating them in other contexts. Additional mechanisms are needed to support exploitation of results from the libraries actions under the Third Framework Programme." Priority is and will be given to projects and applications based on real needs and requirements, leading to concrete results with practical and visible demonstrators and capable of replication and multiplier effect.

1.4 Problems with exploitation of R&D results

The main problems for exploitation of project results in the Libraries Sector are partly related to exploitation difficulties in general and partly to the nature of the Libraries Sector.

Exploitation problems with (funded) research in general:

- the research organisational/legal structure ceases to exist after the project funding is over, which makes it difficult for the participants to stay involved and committed;
- research participants are often more committed to the research itself than to the commercialising of the results;
- when consortia fall apart after the project there is a risk that instead of focusing on the general benefits of the research, the participants start to focus on the benefits for their organisations;

- EC funding generally concerns pre-competitive research, which is often too far away from a product or a service that is commercially viable and exploitable;
- the protection and ownership of research results, especially in research consortia, may cause insuperable problems;
- the developments in (information) technology are so rapid that markets may have overtaken the technological developments as foreseen at the beginning of the project, especially since the projects may take a long time.

Exploitation problems specifically related to the Libraries Sector:

- Libraries have often limited experience and sometimes no direct interest in the commercialisation of products or services, which can restrict the (commercial) exploitation;
- as consortia often involve commercial as well as non commercial partners, the roles may be difficult to define and the objectives may conflict, for instance regarding the confidentiality of the results;
- in some cases the market may be too small to be commercially attractive;
- several Libraries projects are directed at a service instead of a product, which often causes additional difficulties concerning the long term involvement of the participants and the maintenance of the service;
- Libraries often lack the financial strength or possibility to take up the exploitation without external help, whereas substantial follow-up (and capital) is often necessary to make the project results exploitable.

Additional barriers for pan European projects especially those dealing with the information market relate to issues as copyright and differences in legislation in the Member States represented in the projects. These kinds of barriers are not discussed in detail in this paper although they can be equally important. Other activities, such as the ECUP+ action in the Libraries Sector, are better placed to deal with these matters. The relevant activities of ECUP+ are briefly described in chapters 3 and 4.

2 Projects Libraries Sector

2.1 Categorisation of projects

Under FPIII of the Libraries Sector 51 projects and 3 concerted actions were launched. Of these projects about 17 have recently finished and the remaining projects will finish within one year. The concerted actions are described in paragraph 2.4.

Before getting into the projects and their exploitation plans a categorisation of the projects has been made, for the categories determine to a large extent the possibilities and the means for exploitation. The projects under FPIII were classified into four action lines. These action lines convey the contents of the work and are closely related to exploitation issues. Furthermore a categorisation is made with respect to the results and the target groups of the projects and the commercialisation potential.

The classification according to the four action lines concerns:

- Computerised bibliographies (Action Line 1): to create, enhance and harmonise machine-readable bibliographies (principally national bibliographies user for international bibliographic services) and union catalogues, as well as the development of tools and methods for retrospective conversion of catalogues of internationally important collections;
- International linking of systems (Action Line 2): to further stimulate the international linking of systems holding such source data for specific library functions, and thus foster the development and application of a range of international standards;
- Innovative library services using the new technology (Action Line 3): to provide for cost-effective, innovative services enabling libraries to satisfy user needs more efficiently and visibly and to better exploit the resources already available;
- Market stimulus in telematic products and services for libraries (Action Line 4): to encourage the development and production of prototypes of new technology-based products, services and tools specifically for libraries and their more efficient management.

Another relevant categorisation is the distinction in the result of the project as being a product or a service. Although the projects within Action Line 3 are focused on services, it is possible that the main deliverable to be exploited is (also) a product.

A third categorisation can be made as to the target group of the various results of the projects. Generally the two target groups are:

- the libraries and librarians, which fall themselves into various categories: national libraries, public libraries, academic and research libraries, special libraries, corporate libraries, etc.;
- the end-users of library services: these are the traditional users of the libraries services but also new end-users who can take advantage of the library services because of new telecommunications technologies.

Some project results though are more widely applicable than the categories of libraries mentioned above and other target groups may therefore also benefit from the results. Some of these other target groups may not even be foreseen at the beginning of the project.

The distinction in target groups is closely related to horizontal and vertical exploitation. The projects foresee exploitation of the product or the service as it is developed and in the market for which it is developed; this can be called vertical exploitation. In many cases however exploitation in a related or even totally unrelated area by replicating the service or the product to that area (with only minor adjustments) is feasible but often not well understood. This horizontal exploitation deserves more consideration because it can be an effective and cheap way to multiply the results of a project and make exploitation commercially more attractive. A barrier of course can be that often alliances with new partners (active and knowledgeable in the other area) have to be found and taken on board, which is not easily done.

As a fourth categorisation a distinction can be made whether the results of the projects are commercially or non-commercially exploitable. This distinction is hard to make and is hardly ever predetermined or fixed. Many projects result in several deliverables of which some have commercial potential and others do not. The categorisation is based on an estimation of what is most likely for the main deliverable(s) of the projects.

For practical reasons only a subset of the projects has been selected to be examined in some detail on their plans and possibilities for exploitation. The projects were selected because they are finished, near completion or have a specific problem or approach to exploitation. The table on the following page presents an overview of the selected projects.

	Action line	Result	Target group	Commercial isation potential
AIDA	III	service	libraries	commercial
BAMBI	IV	product	libraries, other	commercial
BIBLIOTECA	IV	product/service	libraries, other	commercial
BORGES	III	product	libraries, other	commercial
CASELIBRARY	IV	service/product	libraries, other	commercial
DALI	III	product	libraries	commercial
EDILIB II	II	product	libraries, other	non-commercial
EDUCATE	III	product	libraries	commercial
EURILIA	III	service	libraries, other	commercial
EUROPAGATE	II	service/product	libraries, other	non-commercial
FASTDOC	III	service	libraries	commercial
HYPERLIB	III	product	libraries	non-commercial
INCIPIT	IV	product	libraries, other	commercial
JUKEBOX	IV	service	libraries, other	non-commercial
LIRN	II	service	libraries	commercial
MECANO	IV	product	libraries	commercial
MUMLIB	IV	product	libraries, other	commercial
PLAIL	III	service/product	libraries	non-commercial
SPRINTEL	III	product/service	libraries	non-commercial
SOCKER	II	service/product	libraries, other	non-commercial
USEMARCON	I	product	libraries	commercial
VAN EYCK II	IV	service	libraries, other	commercial

2.2 Exploitation plans in TA's

In order to encourage the project participants to pay attention to exploitation, the Commission requires exploitation plans in the Technical Annex (TA) of the Libraries projects. The TA guidelines prescribe that the members of the research consortium should describe how the results of the project or significant parts of them will be exploited by each of the partners and identify the specific benefits to each. Furthermore the guideline for FPIV advises to foresee a special workpackage in order to produce an exploitation (or implementation) plan which must be submitted by the end of the project. This chapter will deal with exploitation plans in the TA's and will therefore indicate to what extent these guidelines have resulted in an actual working out of exploitation ideas.

In general the exploitation issues are addressed marginally in the Technical Annexes of the projects. Most TA's present a global overview on how the project participants plan to

disseminate (part of) the results. General means which are foreseen are publications, articles in (library) journals, (presentations at) conferences/workshops, Internet publishing and in several cases demonstrations.

The ideas on exploitation in the TA's are mostly limited to a brief description on how the individual participants are planning to implement the results in their own organisation and sometimes what actions will be taken to promote further exploitation within their own country and/or network. If there is no commercial partner in the consortium some exploitation plans indicate that the commercial exploitation will be limited (such as HYPERLIB and EDUCATE) or foresee an alliance with a commercial partner (like PLAIL). From the above cases there was one example where an estimation of the market penetration was presented (CASELIBRARY).

The exploitation plans set out in the TA's show no real difference whether the project results in a product or a service. Some projects resulting in a service brought up the maintenance issue (such as SPRINTEL and LIRN).

2.3 Case studies

This paragraph outlines several case studies of libraries projects. These projects were selected because they have either a specific problem or approach to exploitation. The case studies reflect a representative mix of projects regarding the categorisation issues mentioned in paragraph 2.1. These projects will be presented at the concertation meeting.

USEMARCON

At the (national) libraries in the EC about ten different standards of MARC formats are used. The objective of the USEMARCON project is to develop a toolbox able of converting bibliographic records from any MARC format into any other format through a central conversion format. The most significant deliverable will be the prototype converter software. The project is due to finish in 1996.

Exploitation

In the TA no detailed exploitation plan was included. The project participants intend to stimulate the use of USEMARCON for future bibliographic conversions and to make it commercially available. At the moment the participants discuss the possibilities with the commercial partner and are developing a plan. The project co-ordinator has specific ideas on how exploitation can be handled.

SPRINTEL

The objective of SPRINTEL is to investigate the effectiveness of voice recognition technology in providing an automatic response requests for information in the (public) library environment. The main deliverable is a prototype system. The project was completed in November 1995 and had a good mix of commercial and libraries partners in the project.

Exploitation

The TA of the SPRINTTEL project presents a relative extensive description of the exploitation issues. Exploitation plans are developed with regard to the intermediate results, the spin-offs, the end-users of the system and specific plans by each partner. To exploit the system each partner will organise an intensive publicity awareness campaign to promote the availability of the service to the general public and to specific target groups. This is achieved by press releases, broadcast interviews, local library promotion, information days and contacting target groups. The development of a system providing librarians with the tools necessary to maintain the database is essential. A commercial partner in the project intends to market a commercially viable Sprintel-prototype, but difficulties are expected in the financial resources of single libraries and with software companies who may think that the potential market is too small to justify the research and development costs.

EURILIA

The project aims to extend the access to and availability of major aerospace library collections in Europe. The project established a standardised international service for information access, retrieval, image browsing and document delivery. Although the service is developed for the aerospace industry, it will be applicable to other sectors. The project will finish in February 1997.

Exploitation

As the service can be applied to other industrial sectors, the EURILIA project will produce deliverables that can be made available on a commercial basis. The project partners have agreed that one of the commercial partners will do the marketing of these deliverables. To ensure that the partners offer the deliverables to the marketplace in an effective way and to secure an equal share of the commercial returns, the consortium envisages the establishment of an EURILIA Foundation. It is the intention of the partners to assign the deliverables including their IPR's exclusively to the Foundation. The Foundation will take care of the system marketing and sales and will operate as a financial clearing-house of royalties to the partners. Besides the Foundation a network exploitation strategy will be developed. This strategy aims to allow the network to expand while providing franchiser-like commercial returns for the project partners.

MUMLIB

The project MUMLIB aims to employ the technology of multimedia on CD-ROM to create profiles, bibliographies and synopses of 45 writers from Denmark, Ireland and Portugal to make them available to libraries throughout Europe. It uses multimedia techniques as a means of attracting library users to literature which might otherwise escape their attention. The main deliverable is the CD-ROM of authors.

Exploitation

In the TA exploitation plans are set out by each partner. Within the project some interesting work packages have been carried out:

- a market analysis that covers amongst others a marketing plan;
- copyright issues, in which copyrights regulations in the three partners' countries were investigated and the copyrights have been negotiated for sales of the CD-ROM to libraries.

DALI

DALI aimed at developing, testing and assessing a service for multimedia document search, retrieve and delivery in a distributed library environment. DALI is based on open systems architecture incorporating different protocols. The main deliverable is a prototype modular software operational at three sites in three countries. The project will end in January 1997, according to the current plan.

Exploitation

The TA of DALI indicates that the pilot service could be extended throughout the European marine research community and the software package could be applied by any group of libraries, document providers and users. The service can be of particular value in corporate information centres which need collaborative working. The partners will jointly determine the ownership and the IPR. The partners intend to place all research reports in the public domain. The lead partner is the supplier of 'Oracle Libraries'.

AIDA

AIDA is a pilot project to set up Italian and Portuguese library networks to provide a fast, cost-effective international Interlending and Document Supply (IDS) service. The project was completed in December 1995.

Exploitation

As part of the project an IDS market analysis of user requests and library opportunities in the two countries was carried out in order:

- to describe the present demand and supply of IDS services with respect to type of services, volumes, and practices;
- to estimate benefits and results expected from AIDA network implementation.

The analysis shows a not negligible demand of IDS services in spite of the unfavourable conditions in which services are presently offered.

VAN EYCK II

VAN EYCK is a two-phase project to develop technical means of storing, selecting and transmitting high quality art photographic images. The first phase was completed in March 1994 and resulted in user/market analyses, dealing with issues of subject and artist identification and copyright and a telecommunications design. The second phase will deliver a series of prototypes and will finish in February 1997.

Exploitation

The market survey in the first phase indicated considerable potential interest inside and outside the art history library community. The exploitation of the results is foreseen at different levels; the main levels include the partner level and the project level. Each project participant presented their exploitation plan in the TA encompassing the relevant actions and plans for their own purpose. A general consortium exploitation is envisaged of the VAN EYCK project in providing an operational system and service.

HYPERLIB

The objective of HYPERLIB is to improve access to library on-line services by implementing hypertext interfaces to a variety of information resources. The project has been completed and led to a comprehensive On-line Public Access Catalogue (OPAC) on the World Wide Web.

Exploitation

As both partners of the project are university-based, the TA indicates that direct commercial exploitation would be limited. However the TA stated that the partners would retain joint rights to any software developed, with the possibility of marketing it in the library community. It is anticipated that the results of the project will be exploited through consultancy services by a consultancy company that is linked to one of the universities. The basic HYPERLIB product (toolkit) will be made available in the public domain. This causes some stumbling-blocks that should be overcome, such as the provision of documentation.

LIRN

The objective of LIRN is to offer international multilingual access to business information via the X.500 directory standard. The service will respond quickly to enquiries from the European business community. The project finished in March 1996 and delivered a working pilot system.

Exploitation

The exploitation plans set out in the TA indicates that the project intended to result in demonstrating feasibility and that it is likely that significant work would be needed after the project to complete any commercialisation. The exploitation plan distinguishes a medium and long term exploitation. In the medium term, during the lifetime of the project, a pilot service will be demonstrated. In the long term plans will be drawn up concerning maintenance, plans for introduction of the system into new sites and the extension of the information base to other subjects.

Interesting about LIRN is that the review report clearly states the commercial potential of the project, although the partners may not be aware of this potential.

ELISE and ELISE II

The principal target of ELISE was to develop a system to provide access to full colour image information banks. The project was successfully finished in February 1995 resulting in a working system for accessing images from databanks. A follow-up project ELISE II is carried out in order to set up a commercial service with the objective to develop and demonstrate an operational electronic image retrieval service in several Member States of the Union. This service will be extensible and it will include a model for protection of rights, fair pricing for educational and cultural use, and mechanisms for charging. The consortium of ELISE will be expanded with new partners and work towards the formation of a legal entity to support the services.

Exploitation

The exploitation issues in ELISE II are dealt with in a workpackage on market and supply side needs and a workpackage on planning and implementing a commercialisation programme. In the commercialisation programme issues will be covered such as strategy,

IPR's, investment and distribution channels. Furthermore research will be done on the options and establishment of a legal entity.

BIBLIOTECA

The main goal of the project is to devise a toolbox which allows an easy analysis of the field/subfield structure underlying bibliographic documents. The product of the analysis should be used to enhance bibliographic references and to make possible easy access to information which originally was presented using different formats. The BIBLIOTECA toolbox will substantially decrease the cost, time and effort involved in creation and update of bibliographic databases. The project finished in December 1995.

Exploitation

The exploitation plans set out in the TA indicates that the results will be of use for the individual project participants. The product would be commercially viable, though in the TA the participants express their concern whether the product can be offered at a competitive price without funding.

2.4 Concerted actions

The Libraries Sector is augmenting the impact of its projects which are supported by launching a number of concerted actions. These actions will help the main projects by supportive activities such as obtaining agreement on common objectives. Three concerted actions were launched under FPIII (COBRA, ECUP and EFILA) and are continued under FPIV. Momentarily the concerted actions include the following:

CoBRA+: an action involving national libraries in Europe, building on a concertation activity (COBRA) set up in 1993, with the goal of promoting initiatives and actions in the area of national bibliographic services at European level. CoBRA+ will continue work already under way but will widen its focus beyond national bibliographic services to include collection based issues, particularly those concerned with deposit collections of electronic publications and related service developments in national libraries. One of the CoBRA+ task forces is dedicated to exploitation.

ECUP+: a concerted action to enhance awareness among information professionals of copyright issues. ECUP+ builds on earlier activities which included the establishment of a European copyright user platform for libraries. Considerable attention will be given to the increasing problems confronting libraries concerning copyright in electronic services. The action will include provision of a help desk and information server. ECUP+ as such is specifically aimed at helping libraries to overcome the barrier of copyright in exploiting their electronic services.

EFILA+ (European Forum for Implementors of Library Applications) is a group on networking standards and related standards for libraries where implementors, manufacturers, users and others interested in library automation can together create the climate for change and awareness. It serves as a common platform for all libraries projects dealing with these issues, the goal being to promote the development of a European Library infrastructure.

PUBLICA: a concerted action for public libraries, with the objectives of stimulating more public library participation in the current programme, assisting the EC in ensuring public libraries benefit from the results of projects, and reducing disparities between public library services in the different Member States. This action will, in particular, encourage public libraries to address information society issues. As public libraries constitute half of some 100.000 libraries throughout the EU, the Commission is keen to ensure that they are fairly represented.

CAMILE: a concerted action on management information for libraries in Europe, addressing performance measurement and decision support. Drawing on the experience and expertise of four existing Libraries Sector projects and a study on performance indicators, this action should lead to long-term consensus, the development of common approaches and the application of new standards.

3 Exploitation in other EC Programmes

3.1 Introduction

A number of other programmes and sectors in FPIII and FPIV have been analysed in order to get some insight in the problems, the solutions or the actions taken in those areas and to identify where the Libraries Sector can learn from the experiences. Again for practical reasons a number of the FPIII and IV programmes have been selected.

The sector Telematics for Education and Training was chosen because of its close relation to the Libraries Sector. Both sectors are dealing with comparable players and it is likely to find a lot of similarity between the sectors with regard to exploitation issues.

Telematics for Transport was selected for very much the opposite reasons: to see how a quite different programme with different players and scales deals with the exploitation issues.

ESPRIT obviously has a lot of experience in this field and is known to have made major efforts to have project participants exploit the results of the projects. Despite the clear differences between this programme and the Libraries Sector (such as the size of the programme and area, the size of the players, the fact that in ESPRIT mostly IT products are developed against telematics products and services in the Libraries Sector etc.) much can be learned from the approach and actions developed.

Two case studies from other EC Programmes will be presented at the concertation meeting and are described in paragraph 3.5. One case is called EUROCOR, which was a very well organised project funded within DRIVE (Telematics for Transport). The second case study is the RAMA project, within the ACTS (RACE) programme, which is more closely examined because of the involvement of museums in the project and the unique solution chosen.

3.2 Telematics for Education and Training

The aim of Telematics for Education and Training, as part of the Telematics Applications Programme, is to extend research on telematics for education and training to keep up with the advances of other developed countries by making use of the continuous progress in multimedia communications via broad-band networks or satellites, and advances in interactive simulation or virtual environments. The Sector is a follow-up of DELTA under FPII and FPIII.

The expected problems with exploitation in the Telematics for Libraries were clearly recognised within Telematics for Education and Training projects. Also in Education and Training Programme the project participants have often no or little experience with commercialisation. Moreover the market is in some cases considered too narrow to be commercially interesting. The project results within the Programme are seldom commercially exploited as a total. If there is any commercial exploitation it is generally one or some modules of the project results.

General solutions or guidelines concerning the exploitation of the project results are not available within the Programme. To stimulate project participants to think through the exploitation is most of all a personal influence of the Project Officer, for example to stress

the importance and elements of a consortium agreement. The presence of at least one industrial partner in the consortium is considered as crucial. The success-stories have one or often more commercial partners in the project. Another important factor for the eventual exploitation success seems to be to carefully conclude a sound consortium agreement at the beginning of (or even before the start of) the project. A crucial element in this agreement is that all partners declare the rights they bring into the project and waive any further rights.

3.3 Telematics for Transport

The Programme Telematics for Transport, as part of the Telematics Applications Programme, will continue and consolidate research on telematics in road transport, which was the objective in FPIII (DRIVE). In FPIV the scope of the programme has been extended to other modes of transport (sea, inland waterways and railways) and in particular to air transport, in order to better contribute to the achievement of the common transport policy while strengthening the competitiveness of European industry and allowing a significant deployment of transport telematics systems and services before the year 2000.

The critical issues concerning exploitation are generally different from the ones in the Libraries Sector. As the projects within the Transport Programme often involve local authorities most attention is paid to political and transnational issues. The projects seem to be more focused on the eventual implementation of the system. However obstacles related to property rights, privacy and security need to be addressed and solved in order to implement the project results successfully.

In order to set up a general strategy and a framework for the deployment of telematics in the road transport sector, a High Level Group of representatives from the Member States was installed. This group plays an important role in facilitating and accelerating the exploitation (implementation) of project results.

The examination of a selected number of exploitation plans of finished projects in the Transport Programme showed that in many cases the exploitation ideas of the individual partners were written down, meaning an account of how the partner intends to use (some of) the results of the project in the own environment. Some projects started and ended with a market research. The objective of the second market research can be a re-assessment of the market potential: what has changed and does the project result (still) meet the market requirements?

3.4 ESPRIT

Esprit supports an integrated programme of industrial research and development and industrial applications in information technologies, with the aim of helping improve the competitiveness of all European industry. User industries are major participants, alongside information and telecommunication technology suppliers and the research sector. The programme emphasises the use and usability of tools, techniques and technologies, and best practice in their application. New and evolving approaches to implementation, such as a new focus on industrial impact and on technology transfer help ensure the programme can respond to the priorities of the European Union at the turn of the century and to changing market needs and industrial demands.

Within the ESPRIT Programme an effort has been made to present the results of the projects more attractively. PROSOMA-ESPRIT is a new service contracted this month of June, that will show on the WEB and on CD-ROMs results and improved performance in business originated by esprit RTD. The service addresses on one side the collection, editing and integration of result-related material into a multimedia information base, and on the other, the implementation and wide distribution of a new tool, the MM Showcase, delivering easy and efficient access to and exploitation of the results. It provides a powerful infrastructure for the presentation and dissemination of the results. A pilot CD-ROM shows the main functionality that will be offered. A results book describing over 100 successful applications of ESPRIT project results was printed in 1995, and a new one will be published in November 1996. Each result profile briefly describes the market opportunity addressed by a particular research result or application.

3.5 Case studies

EUROCOR

The EUROCOR (EUROpean urban CORridor control) project was funded within the DRIVE Sector and is a traffic management implementation project. It concerns the improvement, development and application by field trial on two test sites of urban corridor (i.e. integrated urban networks and motorways) control strategies. The two test sites (in Paris and Amsterdam) have partially different user requirements, traffic and environmental conditions and road and network characteristics. The different implementation tasks had their own timing and method for each site. However a co-ordinated plan has been specified to guarantee the achievement of the overall objectives and to ensure that the evaluation procedures will lead to results that allow direct comparison between the sites.

RAMA

Funded within the RACE II programme (predecessor of ACTS) the RAMA project presents an interesting case in setting up a network and a commercial service company in order to exploit the RAMA network. The RAMA (Remote Access to Museum Archives) project addressed the benefits museums can have by using broadband telecommunication. The project partners intend to set up a new company (the RAMA Company) and have come up with a legal structure to operate an International Museum Information Network (IMIN) which will provide museums and their visitors the access to multimedia information systems. The exploitation planning sets out the legal structure for IMIN which is proposed to be a 'non for profit organisation', a possible Value Added Service architecture and it proposes a way to distribute the services. A 'distribution channels analysis' identifies the main players and the means by which on-line services are marketed and sold. A financial business plan is the basis of the expected revenues and costs of the organisation.

4 Exploitation issues

4.1 Elements of an exploitation plan

It is important to view the exploitation plan as an ongoing process. The exploitation plan must be reviewed and if necessary adjusted considering developments in technology and the market environment. Of course the exploitation plan will be less extensive and thorough in the initial project description (in the Technical Annex) than towards the end of the project. However, the intended project results must still be matched to the market requirements and needs in the project plan and there should be a general idea of how the exploitation, commercial or non-commercial, will take place. Serving the European purpose in general (i.e. co-operative research), this should preferably go further than the implementation of the results in the partners' environment.

Attention should not only be paid to the exploitation of the main deliverables of the project, but also to the spin-off or by products of the projects and to the information and expertise dissemination.

There are many marketing models to choose from in the construction of the exploitation plan. Regarding the specific issues dealing with consortia, the basic elements of the plan should in some way include:

- a **market analysis**: in which an overview of the markets/users (target groups) is presented and future market trends are identified (in most projects a market analysis is part of the workplan to be carried out in the early stages of the project, a re-validation of those earlier results towards the end of the project is often necessary);
- a description of the **deliverables** of the project, including the functionalities and the requirements;
- the **documentation** of the results, which is of crucial importance for the operation and maintenance of the deliverable and for further upgrading and development of the results;
- the **impacts and benefits** of the deliverables, which means a match between the market needs and the project results;
- the **market estimations**, in terms of the market size and if possible the market penetration or market share (if relevant in relation to competitors);
- **organisational issues**, considering issues such as organisational structures (exploitation channels), product support, maintenance, training etc.;
- **legal issues**, such as intellectual property rights, patents, trademarks and so on;
- **cost and finance** of the exploitation, since the funding comes to an end.

All these elements should at least roughly be addressed in the project plan and need further definition during and at the end of the project. Thinking about these issues in an early stage can help reducing most exploitation problems described in paragraph 1.3.

4.2 Organisational structures

There are many organisational structures possible when going from an R&D consortium to an exploitation relationship. A few likely examples of new organisations and alliances are:

- a **new company** in which the project partners participate: this would be the most far-reaching choice and has been decided for in a few cases within ESPRIT and for example in RAMA;
- a **non for profit organisation or foundation** owned by the partners, such as the one planned for in the EURILIA project, where all deliverables are assigned to and exploited by the foundation and the non for profit organisation IMIN described in the RAMA case;
- a **joint venture** can be a choice when organisations are complementary in technology, markets and/or resources and is meant here as a strategic alliance where a new legal entity is established;
- **strategic partnerships** can be an option when the partners want a close relationship and can be effective for marketing purposes;
- **agreements** can be reached where the individual partners of the R&D consortium operate as the local **agencies** (i.e. in their country) in order to exploit the results;
- **co-operation contracts**, which can encompass all kinds of agreements, i.e. joint marketing or joint selling agreements;
- **third party distribution**, such as:
 - **distribution agreements**, where a third party has distribution rights but cannot make any changes;
 - **value added resellers**, who add value to the product or service and can thus be a good choice when the product or service is widely applicable in several markets;
- **licensing** is frequently used in the Libraries Sector and is suitable when the licensor can not or will not exploit the results and when there is a commercial partner in the R&D consortium or a third party to license to.

4.3 Intellectual property rights

The co-operative R&D as stimulated by the EU Framework Programmes and the subsequent mix of interests and rights of the different partners often result in complex Intellectual Property Rights situations.

The general conditions annexed to the R&D contracts make provisions for dealing with IPR's in the projects by giving basic principles and guidelines.

In general the results of a research project belong to the project partners who have obtained them. However, all the project participants have the right to exploit all the results from that project.

Partners in a project will often bring in background information and background rights which can be used for developments in the project. Participants will always maintain the property rights over that background knowledge and will have to make it available to other partners under special conditions for research purposes. After the development the partner

is still obliged to (non-exclusively) license the background information/rights if they are needed for the use and exploitation of the foreground information and rights.

One of the crucial elements for successful exploitation of the results of a project is the way in which the IPR's are organised and protected. Legal instruments for the protection of results include:

- patents, granted for technical inventions;
- copyright, to protect works of art and original creations which encompasses the protection of software;
- industrial design, protecting the aesthetic attraction of a creation;
- trademark;
- confidential agreements.

The organisation of the IPR's already starts before the project with the consortium agreement. All partners should specify the rights and information they bring into the project and under which terms and conditions they can be used and later on be exploited (through the foreground rights and information) and waive any other background rights in relation to the work specified in the project.

The partners should also agree on who will own which results (of the co-operative R&D) and how these will be exploited. The interests of the partners individually and the consortium as a whole are often difficult to weigh. Project partners must be aware that both over-protection of the consortium as a whole and over-protection of the partners as individuals will lead to frustration of the exploitation.

In the Libraries sector all projects are required to conclude a consortium agreement at the start. The guidelines issued by the sector indicate the rationale and the main elements of the agreement. Since the agreement is between the project partners, those partners are free (within reasonable margins and ofcourse conform the general principles as laid down in the general conditions) to determine what should be covered by the agreement. In most consortium agreements the IPR's and the exploitation issues are dealt with in some level of detail.

The Technical Annex of a project describes the deliverables of the project and indicates their status (confidential, restricted or public) which determines their distribution. The Technical Annex together with the consortium agreement should give a clear picture on who can do what with which result. For the reasons mentioned above, it is of great importance to clarify misunderstandings and unclear descriptions, or even the lack of description at as early a stage as possible.

In the Libraries Sector most of the projects will only be concerned with IPR protection through copyright. Two different objects of protection must be distinguished, the protection of the developed software and the protection of the information content. The principles in the general conditions and the consortium agreement initially aim at the protection of the developed technology. In the development of services in the Information Society at large and specifically in the libraries sector, the copyright matters related to the information content are also extremely complicated. Individual projects in the Libraries sector can not solve those problems themselves, but they can try to reach agreements with rights owners to allow for exploitation of the developed service mainly through bilateral negotiations.

This ofcourse is not the ideal situation; it is often difficult to reach an agreement on the use of electronic information, it always is extremely time-consuming. The ECUP+ action therefore is designed to look at the copyright issues related to electronic services at a more generic level; it aims at formulating a libraries position on the use of electronic information by the libraries in their provision of services (traditional and new services) to the end-users. The action covers areas as licensing and library priviliges and deals with relationships between libraries and rights owners, and also with relationships between libraries and collecting societies and other intermediaries. In addition ECUP+ will set up a focal point for copyright (related) questions aimed at the library community in general and te libraries programme projects specifically.

5 Conclusions and further guidance

5.1 Introduction

The exploitation plans set out in the Technical Annexes of the projects in the Libraries Sector are mostly not sufficient to ensure an optimal exploitation. Many exploitation plans are dealing with dissemination issues rather than exploitation. Although the first experiences with exploitation are beginning to show now, it is likely that further guidance will be welcome.

In other EC programmes the same problems with exploitation are recognised and several activities have been undertaken to handle these issues. The Innovation Programme of DGXIII-D is currently working on guidelines and a standardised format for reporting on exploitable results available to third parties. Using these guidelines the CORDIS RTD-Results will be used to disseminate the information on exploitable results to a wider audience. For the project participants in the ESPRIT Programme a document has been published which gives a set of guidelines for exploitation options and how to construct an exploitation plan. Although some elements could be useful for the Libraries Sector, there are still several exploitation issues to be addressed that are very specific for libraries.

Besides exchanging experiences on exploitation, the concertation meeting can point out further needs for support and support tools desired. The libraries cases show several trends which can be verified and discussed at the concertation meeting.

5.2 Trends and issues for the concertation meeting

One of the trends concerns the construction of the consortium. If there is a commercial partner in the consortium, the commercial potential is addressed earlier and more thorough from the beginning of the project. So, there is a lot to say for involving a commercial partner. When the deliverables and market situation is determined in the beginning of the project, it is advisable to re-assess the construction of the consortium and to analyse if the consortium also meets the requirements for exploitation and whether additional project partners are required.

Examining the case studies the most important problem the project participants seem to have is how to make the results commercially attractive. The market is often considered to be too small and/or the participants lack the financial resources to transfer the project result into a commercially viable product or service. These issues are seldom dealt with in the project plans. In this respect possibilities for horizontal exploitation can play an important role in making the exploitation commercially more attractive.

Whether the project will result in a service or a product will likely make a difference in the composition of the consortium and the issues to address in the exploitation plan. In case of a product more attention will be paid to sales and distribution channels, whereas a service needs more focus on the organisational structure, maintenance issues, information provision, etc. In the concertation meeting two parallel sessions are organised concerning the exploitation of a product respectively a service.

In several libraries projects the organisational structure after the R&D project and ownership issues bring about problems for project participants. On the organisational structures and legal issues as dealt with in chapter 4, two parallel sessions will also be organised in the concertation meeting.

As mentioned before, the exploitation plans in the TA's deserve more attention. Guidelines for constructing an exploitation plan can be useful, though prescribing a format carries a great risk. A good example in that respect are the guidelines for setting up the TA. Many project participants limited themselves to a brief description of how each partner planned to exploit the results instead of also thinking about the best means for exploitation as a consortium. This implies that it is important to be careful with support tools. Probably a guideline should not be more than a checklist and possible means for further information and assistance. In this respect it would be helpful to look at possible means of national or EU exploitation funding and private financing, since financial issues are a major problem.



Annex IV

Presentation slides

Day 1

Background Paper	Mrs. B. Bootink	Coopers & Lybrand
The exploitation plan	Mr. E. Taylor	The Technology Broker
Exploitation in Esprit	Mr. A. Stajano	DG III
EUROCOR	Mr. J. Chrisoulakis	Truth
RAMA	Mr. D. Delouis	Telis
EDILIBE	Mr. M. Casalini	Casalini Libri

Day 2

USERMACON	Mrs. T. Noordermeer	Royal Library
MORE and ELSA	Mrs. C. Lupovici	Jouve
SPRINTEL	Mr. J. van Vaerenbergh	Public Library Leuven
EURILIA	Mr. J. O'Flaherty	University of Limerick
MUMLIB	Mrs. L. Jensen	Dansk BiblioteksCenter
ECUP	Mrs. E. Giavarra	Eblida
AIDA	Mr. F. del Lunge	Studio Staff
Van Eyck II	Mr. J. Hemsley	Vasari enterprises
DALI	Mr. G. Bingham	Fretwell Downing Data Institute Ltd
HYPERLIB	Mr. J. Corthouts	UIA
LIRN	Mr. A. Colleran	LASER
ELISE II	Mr. R. Adams	Montfort University
BIBLIOTHECA	Mr. J. Sarabia	Universidad de Madrid
EQLIPSE	Mr. J. O'Flaherty	University of Limerick

Background Paper
Coopers & Lybrand

Mrs. B. Booltink

Problems with exploitation (II)

- ✓ Specifically related to the Libraries Sector:
 - limited experience with commercialisation
 - composition of the Consortium
 - projects resulting in a service often experience additional problems
 - the market can be too small
 - lack of financial resources to take up the exploitation

Coopers
&Lybrand

Solutions
for Business

Projects Libraries Sector

- ✓ Examination of the TA's of a subset of projects:
 - exploitation issues are addressed marginally
 - limited attention for markets, exploitation channels and the finance of exploitation
- ✓ Choice of case studies:
 - product versus service
 - commercial versus non-commercial
 - participants' profile

Coopers
&Lybrand

Solutions
for Business

Exploitation in other EC Programmes

- ✓ Most problems are recognised in other Sectors, especially in Education & Training
- ✓ Transport: larger applications and much attention is given to implementation
- ✓ Some activities were undertaken to stimulate exploitation, mainly in ESPRIT:
 - attractive presentation of results
 - guidelines for constructing an exploitation plan
- ✓ Two case studies which have an interesting approach to exploitation

Coopers
&Lybrand

Solutions
for Business

Elements of an exploitation plan

- ✓ The construction is an ongoing process
- ✓ Basic elements should include:
 - market analysis: potential users and trends
 - deliverables of the project
 - documentation of the results
 - impacts and benefits: match market and results
 - market estimations (competitors)
 - organisational issues: structure, support, maintenance etc.
 - legal issues
 - cost and finance of exploitation

Coopers
&Lybrand

Solutions
for Business

Exploitation of R&D results in Libraries

commentary on background paper

Coopers
&Lybrand

Solutions
for Business

Contents

- ✓ Introduction
- ✓ Problems with exploitation
- ✓ Projects Libraries Sector
- ✓ Exploitation in other EC Programmes
- ✓ Elements of an exploitation plan
- ✓ Organisational and legal issues
- ✓ Issues for the concertation meeting

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Solutions
for Business

Introduction

- ✓ In improving the competitiveness of Europe, exploitation is crucial
- ✓ Essential thought of the Telematics Applications Programme:
 - investigate the market at the beginning of projects
 - keep (potential) users in mind and involve them in the project
- ✓ Exploitation in relation to dissemination

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Problems with exploitation (I)

- ✓ With (funded) research in general:
 - the structure ceases to exist after the funding:
 - difficult to stay involved
 - more focus on benefits for their organisations
- research participants are often more committed to the research itself than to commercialisation
- the research funded is often (too) far away from a commercially viable / exploitable product
- rapid developments in technology
- protection of ownership

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Organisational and legal issues

- ✓ Examples of organisational structures:
 - new company (several ESPRIT cases, RAMA)
 - non for profit/foundation (Eurilia, RAMA)
 - partners operating as agencies (Transport cases)
 - licensing (several Libraries cases)
- ✓ Legal issues:
 - most important protection in Libraries is copyright
 - Consortium agreement is crucial
 - difficult to balance individual and Consortium interest

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Issues concertation meeting

- ✓ Construction of a Consortium (commercial partner involvement)
- ✓ Exploitation plans deserve more attention
- ✓ Commercial attractiveness:
 - market size
 - financial resources participants
- ✓ Parallel sessions:
 - product versus service and commercial versus non commercial
 - legal aspects and organisational issues

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Solutions
for Business

The exploitation plan

The Technology Broker

Mr. E. Taylor

The Exploitation Plan

1. Technology Description
2. Market Overview
3. Business Opportunity
4. Market Trends
5. Market Requirements for success
6. Typical Life Cycle
7. Positioning
8. Relationship with other external products
9. Relationship with other internal products
10. Customer Profile
11. Potential exploitation channels
12. Pricing
13. Training
14. Customer service and support
15. Competitive Analysis
16. Risk analysis
17. Export issues
18. Legal strategy
19. Q&A
20. Exploitation during project development

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What is the function of the Exploitation Plan ?

To show in document format

- The intent of the partners
- A description of the potential business opportunity
- The capability of the partners to 'pull it off'
- The resources that the partners will use so that technologies developed will be in accordance with EU guidelines

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Exploitation Plan Advice to Consortia

- The writer of the Exploitation Plan should be the most marketing aware partner in the consortium
- Use the exploitation Plan to sell the idea to the evaluators
- Make the Exploitation Plan easy to read and to follow
- Look at the Plan from an outsider's point of view

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1. Technology Description

- What are the features and benefits of the technology?
- Does it rely on a specific piece of hardware or software?
- Does it offer any other functionality to the customer in addition to what it was designed for?
- Is it portable in any way?
- What will it look like to the person who is using it?

3. Business Opportunity

- What is the opportunity for your organisation to win here?
- What is the timing of this opportunity?
- Has anyone else recognised the opportunity?
- What is the real reason for developing the technology, i.e. revenue, position, etc.?

2. Market Overview

- What is the environment into which the technology will be introduced?
- What is the history of this marketplace, how did it evolve?
- What is the size in ECU of this market?
- What are the shows, affiliations, magazines etc.
- Who are the leaders in this market?
- Who are the leading academics? Where are they?
- Is the market only European or worldwide?

4. Market Trends

- Are there patterns, strategies emerging you can see?
- Are you jumping on a band wagon?
- Will you need to be a missionary?
- Are the market research reports reliable?
- Do you need any additional market research?

5. Market requirements for Success

- Are there mandatory features this technology must have to win?
- Will it comply with industry standards?

6. Typical Life Cycle

- What will it look like in its birth, death, old age, etc.?
- Do you have clear distinctions between different phases of the development of the technology?
- How will it be enhanced, re-released, etc.?
- Are other technologies on the way which will prolong its life?
- How will it be supported when it dies?
- When will it die? Why?
- Will the technology belong to a family?

7. Positioning

- What is the one thought prospects should have in their mind when they think of this technology?
- Do you have the necessary resources to achieve and retain this position?
- Will you be number 1 in this position?
- Should you align yourself with another technology or organisation?
- Is anyone else trying to take this slot now?
- Has anyone else failed to get this slot, why?

8. Relationship with other internal technologies

- Is this technology reliant on any other internal technology?
- Do their life-cycles dovetail?
- Should you be promoting these relationships?
- Are there synergies and should you develop and exploit them?
- Will this affect your pricing?

9. Relationship with other external technologies

- Does this product rely on any other organisation and its technology?
- If so, what are their plans, futures etc.?
- Is your product 'safe' from changes in the other company's strategy?
- Should you be thinking of a form of partnership with this other organisation, - strategic, marketing, sales etc.?

10. Customer Profile

- Who will make the decision to purchase the technology ?
- Will he also be the user?
- What are his goals for the technology ?
- What risks will he be taking if he buys your technology ?
- What would make him into a hero? Can you do it?
- What will your relationship with him be after the sale has been made?
- What are the additional things, other than the technology which will make your customer happy and successful?

11. Potential Exploitation Channels

- Licensing
- Cross Licensing
- Joint R&D Partnership
- Sale
- Strategic Partnerships
- Distribution Agreements
- Value Added Reseller (VAR) programmes
- Product Development
- Corporate spinoffs
- Consultancy

12. Pricing

- Upon what basis are you pricing this technology ?
- Have you researched the pricing?
- Do you need to price on value or what the market will bear?
- Will you have volume discounts?
- Do you need to pay royalties or license fees?
- Will you get royalties?
- Does the pricing support the strategic image of the organisation?
- Are you charging separately for technical or customer support?
- Do these charges need to be included in the technology price?

13. Training

- How will the staff be trained for the introduction?
- Is it necessary to give face to face training? Will any other medium do?
- How will training be organised geographically?
- How much will this cost?
- What training will the customer need to use your product?
- Who will do that training?
- How long will it take to prepare the training materials?
- Is it in the budget?

15. Competitive Analysis

- Who are your competitors?
- Should you do competitive analysis in-house or can it be done better by an independent contractor?
- Do you receive all your competition's press releases?
- How current is your information?

14. Customer Service & Support

- Have you made the distinction between free and chargeable service and support?
- Is this a revenue generator for your organisation?
- How will customer service personnel be trained on the technology?
- How will customer service be sold?
- Will contracts be automatically renewed or sold separately each year?
- How is technical support for this technology going to work?
- How will technical support personnel be trained?

16. Risk Analysis

- What are the up sides and down sides of this technology?
- Specifically, for which reasons could this technology fail?
 - ▶ Competition?
 - ▶ Lack of revenue?
 - ▶ Lack of management support?
 - ▶ Timing?
 - ▶ Project management?
 - ▶ Lack of financial support?
 - ▶ Technology failure?

17. Export Issues

- Can the technology legally be exported?
- What are the issues relating to taxation?
- Does the buyer have access to dependent technology needed to use yours ?

18. Legal Strategy

- How are you going to protect your deal?
- What relationship will you have with your customers after the deal is closed?
- How will you ensure your customer abides by the agreement?
- Will the agreement be monitored?
- Who will do that?

19. Q&A

- Who is responsible for assuring the quality of this technology ?
- Who will establish criteria for Q and A?
- Will there be any follow through with the customer following purchase?
- What will be the purpose of that follow through?
- What will be done with the data generated from the Q and A function?
- Are there any legal Q and A regulations which your technology should meet?

20. Exploitation During Project Development

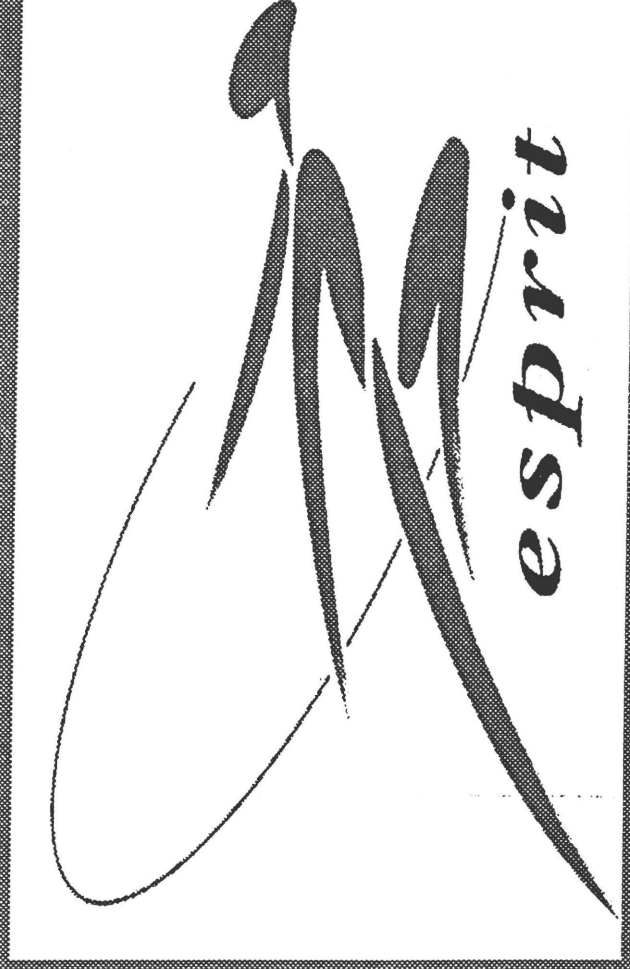
- Be ready to exploit deliverables as they emerge
- Prepare the Exploitation Plan for every deliverable
- Keep it live
- Have a team support it
- Monitor and change the exploitation strategy based on market conditions

Exploitation in Esprit

DG III

Mr. A. Stajano

Technology Transfer and Exploitation



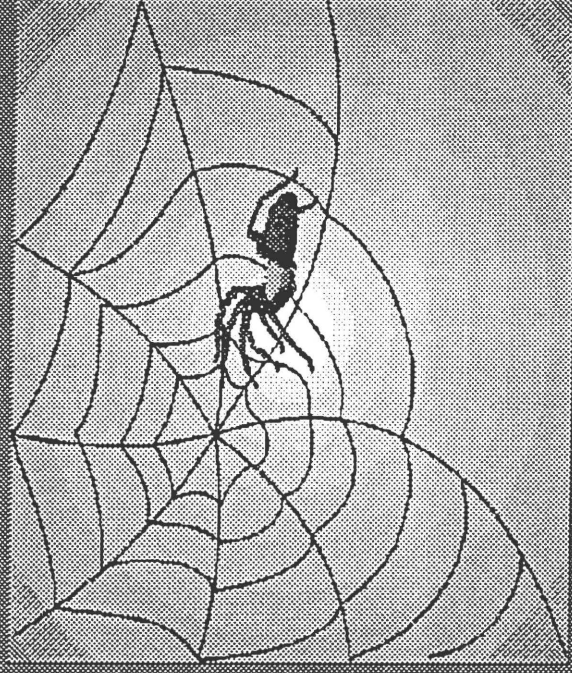
Luxembourg, 17 June 1996

Topics

- PROSOMA esprit: a project for industrial impact via the diffusion of results
- Pilot Cd-ROM
- Proposed collaboration with DG XIII programmes

Prosona/esprit

Presentation of selected outcomes
providing multimedia access to *esprit*
results



PROSOMA esprit

Helping turn innovation into business

Overall purpose

PROSOMA esprit

Helping turn innovation into business

Overall purpose

To increase the competitiveness of
European Industry

PROSOMA esprit

Helping turn innovation into business

Overall purpose

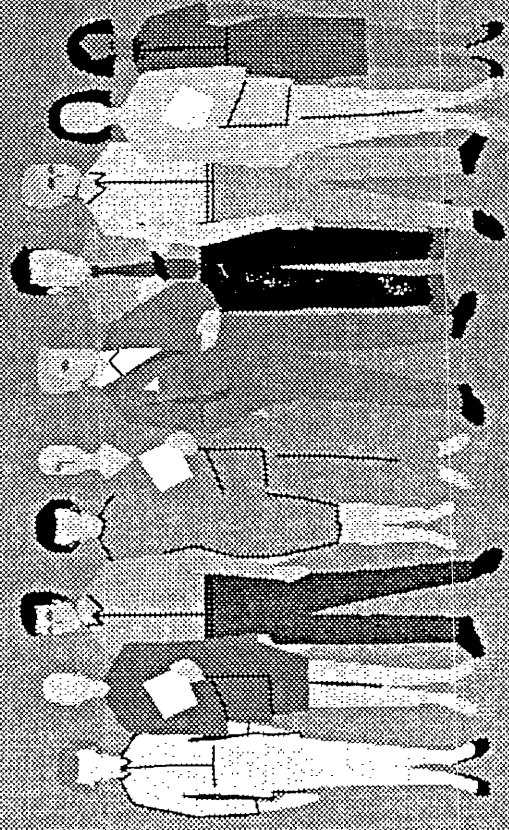
To increase the competitiveness of
European Industry

To pave the way from research
to marketplace

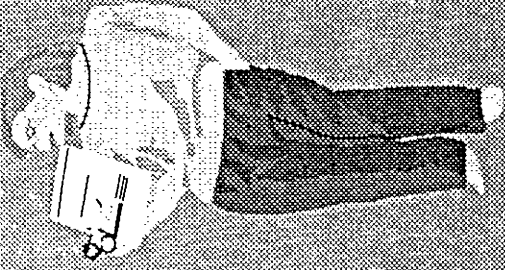
PROSOMA esprit

Helping turn innovation into business

- Innovation agencies
- Technology brokers
- IT users
- Technology providers
- Researchers, students



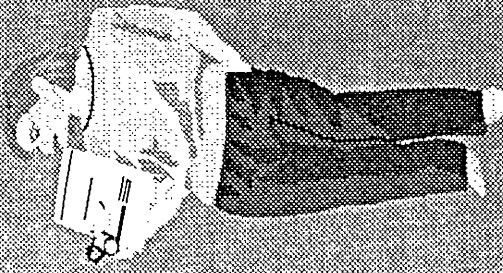
PROSOMA esprit
Helping turn innovation into business



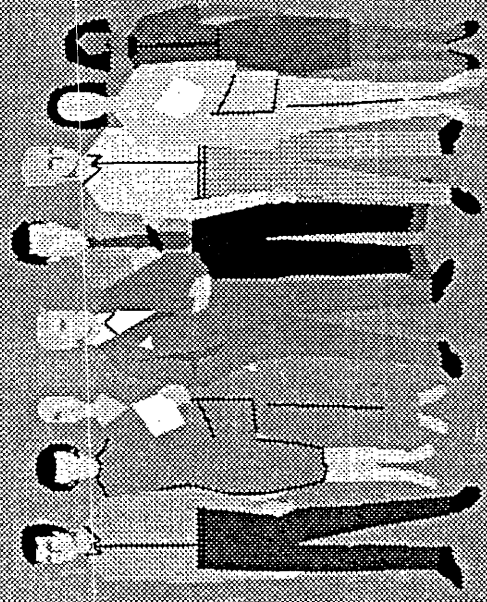
IPR owner

PROSOMA esprit

Helping turn innovation into business



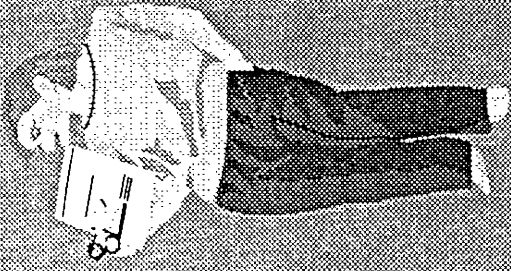
IPR owner



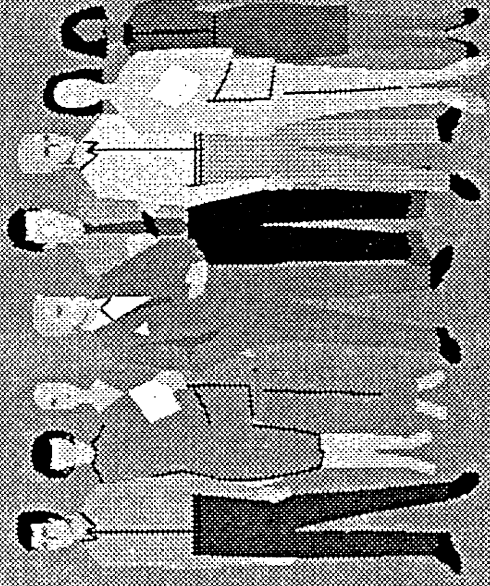
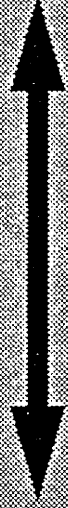
Target users

PROSOMA esprit

Helping turn innovation into business



IPR owner



Target users

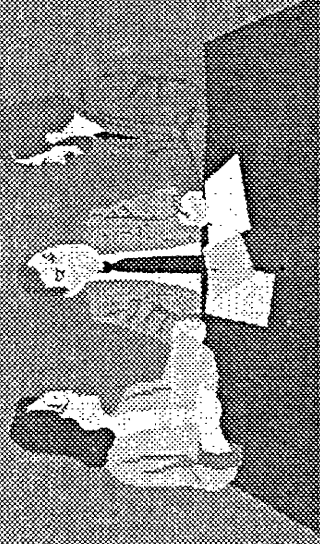
bring supply and
demand together

PROSOMA esprit

Helping turn innovation into business

HOW

Build a bridge between
RTD and the market

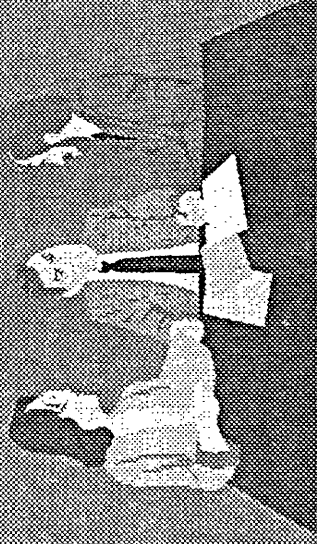


PROSOMA esprit

Helping turn innovation into business

How

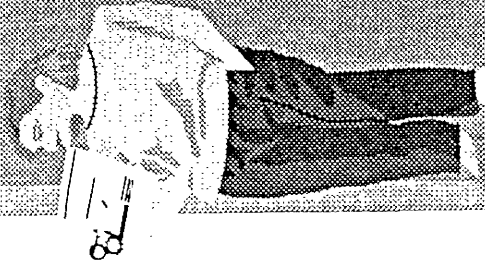
Build a bridge between
RTD and the market



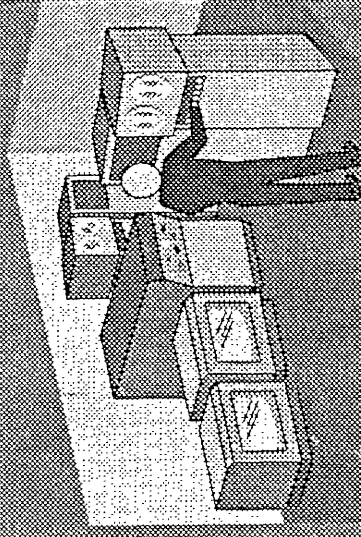
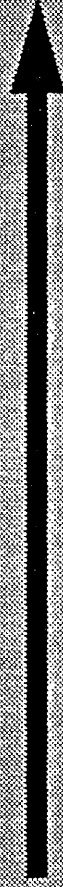
by providing a powerful infrastructure for
the presentation and dissemination of results

PROSOMA esprit

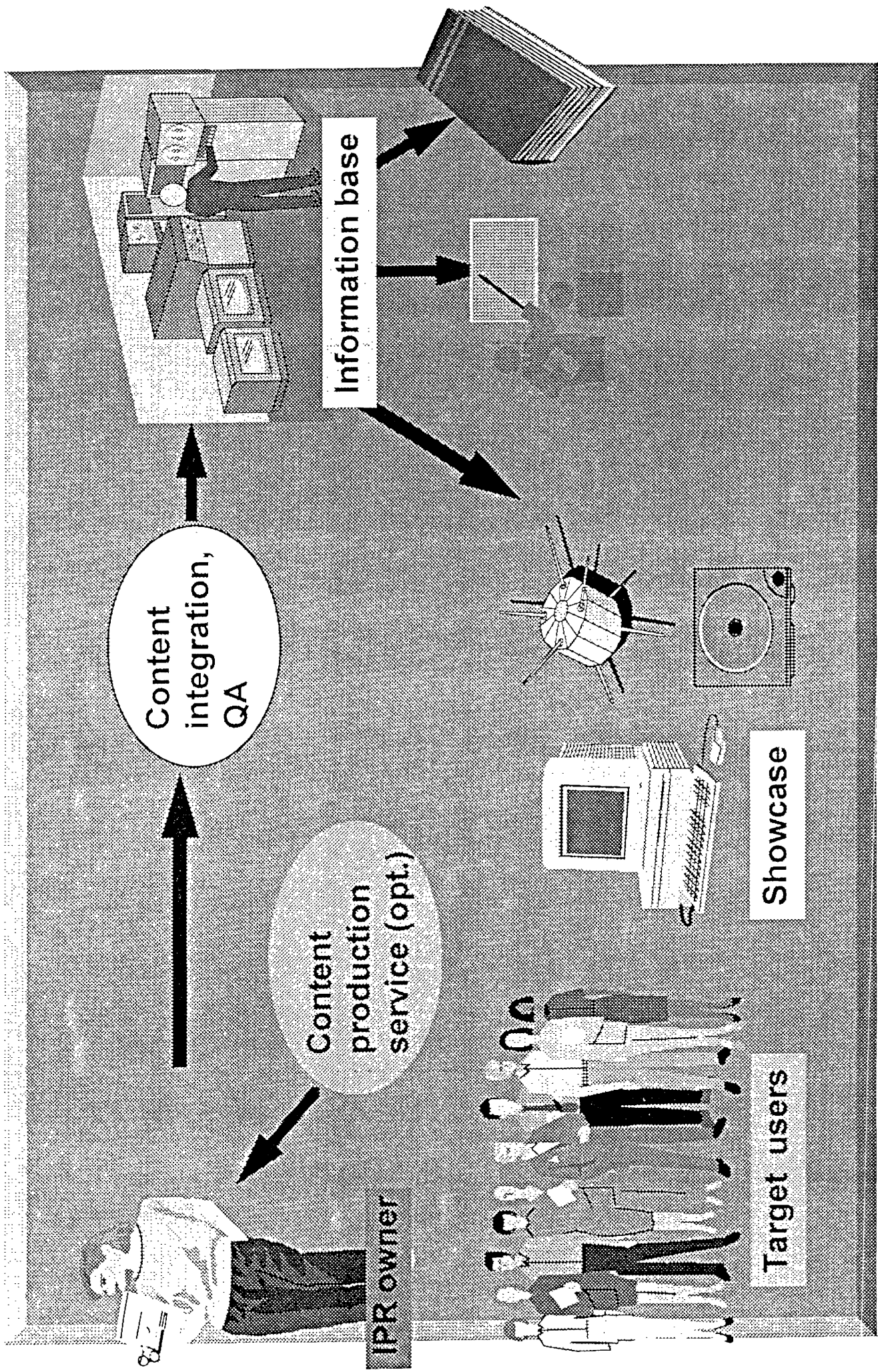
Helping turn innovation into business



IPR owner



Information base



Information base

Content integration, QA

Content production service (opt.)

IP owner

Showcase

Target users

PROSOMA esprit

Helping turn innovation into business

Pilot CD-ROM

~~Not a prototype:~~

PROSOMA esprit

Helping turn innovation into business

Pilot CD-ROM

a working example:

PROSOMA esprit

Helping turn innovation into business

- Pilot CD-ROM
- a working example:
- to demonstrate feasibility
- to explore functionality
- to facilitate the understanding of the concept
- to pave the way to the new service

Prosome/esprit

A demonstration
of the pilot

Prosooma/esprit

A demonstration of the pilot

- Search engine / presentation tool
- Marketing tool

PROSOMA esprit

Helping turn innovation into business

Summary

- Support the marketing of result owner
- Support the IRC's contacts with their customers

PROSOMA esprit

Helping turn innovation into business

Content Development Schedule -PROSOMA

Contract starts

1 July 1996

Data collection

ongoing

Beta test

1 Q 97

First release

2 Q 97

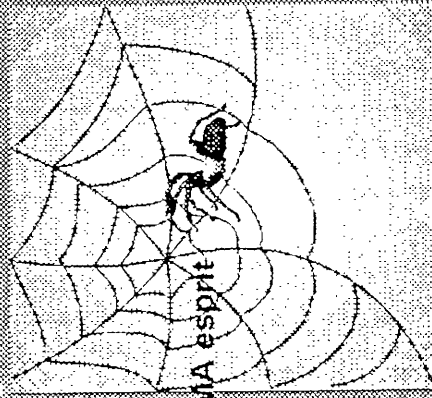
Proposed collaboration with DGXIII

Participate in Prosooma beta tests

Use Prosooma as a dissemination channel

PROSOMA esprit

Helping turn innovation into business



PROSOMA esprit

EUROCOR

Truth

Mr. J. Chrisoulakis



European Urban Corridor Control

Partners

TRUJIN
TUM
INRETS
RIJKS WATERSTAAT-NAV.
TRL
CMSU
SRIOLOG
TUC

Ville de Paris
RIJKS WATERSTAAT-NH
Strathclyde Reg. Council

Service Provider
University
Research Institution
Research Institution
Service Provider
Service Provider
University

Municipality of Paris
Public Authority
Public Authority

EUROCOR addresses INTEGRATED modelling and control of CORRIDOR traffic networks with application to the sites of:

- Corridor Peripherique in Paris
- A-10 West in Amsterdam

In EUROCOR a corridor is defined as a mixed network including both motorways and the adjacent street network.

The principle aim of EUROCOR was to contribute to the integration of control measures by taking the following steps:

1. Develop (where necessary) new integrated corridor traffic models (METACOR) and apply existing tools (FLEXSYT, MCONTRM, SATURN)
2. Develop and test by simulation integrated control approaches to corridor traffic, taking into consideration in particular ramp metering, driver information and/or guidance, and road traffic control.
3. Field trials in the Corridor Peripherique in Paris.
4. Field trials in A-10 West in Amsterdam.
5. Evaluation of field trials and recommendations.

CONCLUSIONS

EUROCOR has completely met the envisaged objectives

Field trials completion and evaluation will be completed with minimum delay and without any additional resources.

The following end products have been produced and are available.

1. Simulation Package METACOR for integrated urban/interurban traffic
2. Integrated Control Algorithm for Traffic Corridors.
3. Real time Algorithm for Estimation of Travel Times from Loop Detectors in Urban Areas.
4. Ramp metering impact on Adjacent Street Network.
5. RWS-C-meter
6. Simulation of the A10-WEST using FLEXSYT
7. Road Network Layout Editor
8. Display of Travel Time



Development of high efficiency end products.

Validation and positive user acceptance of EUROCOR field trials.

Know-how of the most advanced integrated urban and interurban algorithms.

EUROCOR V 2017 EXPLOITATION AND COMMERCIALISATION

8. PILOT EXPERIMENTS, FINDINGS, CONCLUSIONS AND FUTURE POSSIBILITIES

The first experiments within EUROCOR has been taken place in C.P. Paris, and A-10 West Amsterdam. Pilot experiments within EUROCOR are aimed to improve and demonstrate the efficiency of some of the tools developed.

Pilots contacted in C.P. Paris were very successful. They were related with the application of VMS control strategy and the practical evidence of the impact of ramp metering in the corridor context. Pilots contacted in A-10 West are related with local and coordinated ramp metering and VMS.

A considerable amount of both R&D work and field trial related work has been undertaken within EUROCOR since its start some 5 years ago. This work has produced a number of important results which had a significant impact on developments and implementations beyond EUROCOR's lifetime. Many of these results are included in corresponding articles, presented in popular conferences and high quality technical journals. Feedback and Reviewer Reports from these publications have been very positive and underline that EUROCOR's results have been at the very front of related efforts worldwide.

More specifically, findings, conclusions and future possibilities can be summarised as follows:

- The macroscopic corridor traffic model METACOR has already been successfully applied to the three EUROCOR sites (Paris, Amsterdam, Glasgow) and to the Aalborg site within QUO VADIS project. Feedback from presentations and publications includes strong interest for METACOR acquisition by consultants and authorities from many, notably non-European countries. METACOR is also expected to serve as a useful tool within the European 4th Framework tasks.
- The fully integrated control algorithm is a valid and innovative, though as yet not practically tested, tool for maximising synergetic effects of individual control measures in the corridor context. Future work will have to prove feasibility in a fully integrated control environment.
- The field evaluation of ramp metering impact on overall corridor traffic conditions has raised a strong interest in the international traffic engineering community and may serve as a catalyst for future ramp metering installations in Europe and elsewhere.

- The VMS control installation in Corridor Peripherique is (even before the finalisation of the technical evaluation) judged a big success. Reports in daily press and TV have been extremely positive. Driver's answers to questionnaires indicate a high degree of comprehension, acceptance and satisfaction. As a result, the site owner (Ville de Paris) decided to continue the use of EUROCOR strategy beyond EUROCOR's experimentation phase and plans a significant increase of VMS from currently 350 to some 800 in the near future. Moreover, EUROCOR's work will play an important role in future evolutions within C.P. and the Ile-de-France network.
- EUROCOR Consortium currently incorporates the most advanced know-how (in terms of available algorithms and practical experiences) on ramp metering in Europe and admittedly belongs to the leading groups worldwide. Successful ramp metering applications in A10 West (Amsterdam) and C.P. (Paris) have opened the way to future expansions of this control measure that are planned by the according authorities.

- Due to the good results obtained with different measures in the field of ATT, including field trials with ramp metering and VMS, the Dutch Ministry of Transport, Public Works and Water Management is aiming at an intensification of the dynamic traffic management policy. Ramp metering is mentioned in the field of queue-management. It is envisaged that on locations where the motorway system is sensitive for queueing and disruption of the traffic stream, ramp metering will play an important role to cure the congestion on the motorway.
- Last but not least, the simulation investigations being performed within EUROCOR for integrated control in the M8 corridor (Glasgow) provided useful insights and will facilitate future development in the general field of Urban/Interurban Integration and the particular Glasgow network application.

During the first week of the field trials in Paris, local radio, TV and several journalists of National and local newspapers described them in very positive terms. Several papers have been published describing these field trials in the international congress and revues (Transportation research, AFCET...).

On A-10 West the local ramp metering systems have been installed and are operating in a technically satisfactory way. The coordination system is completed. Assessment of the strategies is completed. Today from a traffic management viewpoint, no results can be given except that the daily plots of the local systems show that acceptance by the public is reasonable but also that many days, traffic on A10 West is disrupted by motorlorries being too high for the tunnel.

The functional specification of the coordination system is already part of the development of other systems in The Netherlands. The technical aspects of this system rely for a large part on the findings within DRIVE-II project V2044 GERDIEN. The functional specification of the local on-ramp controllers, the resulting software and the interface between the local on-ramp controllers and the TCP/IP communication network became part of standards for three types of controllers. All of these efforts came into a situation in which the systems are really open and distributed.

Thanks to the conglomerate of experiments and experience (partly within DRIVE context) with motorway traffic signalling (MTM), route-information signs (VMS) and ramp metering, the Dutch Ministry of Transport has broached a plan for the next 15 years in which the main part of the country will be equipped with the MTM-system, in which around the major cities VMS-signs will give information about queues and delays on the motorway and in which ramp metering installations will control access to the motorway in order to keep it running. In addition, information systems will be developed for park-and-ride facilities and special attention will be paid to multi-modal aspects.

2. POSSIBLE THRUST AND DIRECTION OF EXPLOITATION PLANS

A considerable amount of both R&D work and field trial related work has been undertaken during the last three years within EUROCOR. This work has produced a number of important results which are expected to have significant impact on developments and implementations beyond EUROCOR's lifetime. Many of these results are included in corresponding articles presented in popular conferences and high quality technical journals. Feedback and Reviewer Reports from these publications have been very positive and underline that EUROCOR's results have been at the very front of related efforts worldwide.

The most significant exploitation plans could be summarised as following:

- Development and validation of the purely macroscopic corridor traffic model METACOR, which has already been successfully applied to the three EUROCOR sites (Paris, Amsterdam, Glasgow) and the Aalborg site within QUO VADIS project.
- The fully integrated control algorithm is a valid and innovative, though as yet not practically tested, tool for maximising synergetic effects of individual control measures in the corridor context. Future work will have to prove the feasibility in a fully integrated control environment.
- The field evaluation of ramp metering impact on overall corridor traffic conditions has raised a strong interest in the

international traffic engineering community and may serve as a catalyst for future ramp metering installations in Europe and elsewhere.

- The VMS control installation in Corridor Peripherique is judged as a great success. Reports in daily press and TV have been extremely positive. Driver's answers to questionnaires indicate a high degree of comprehension, acceptance and satisfaction. As a result, the site owner decided to continue the use of EUROCOR's strategy beyond EUROCOR's experimentation phase and is planning a significant increase of VMS from currently 350 to some 800 in the near future. Moreover, EUROCOR's work will play an important role in future evolutions within C.P. and the Ile de France network.
- EUROCOR Consortium currently incorporates the most advanced know-how (in terms of available algorithms and practical experience) on ramp metering in Europe and admittedly belongs to the leading group worldwide. Successful ramp metering applications in A10 West and C.P. have opened the way to wide future expansions of this control measure that are planned by the according authorities.
- Within SRC the METACOR tool will be used to point the way forward in terms of Longer Term Strategy Development for integrated control. If successful in development of integrated strategies its use may be extended to a larger part of the network. Field trial results from A-10 West will assist SRC in the decision as to whether coordinated ramp metering will be implemented in Strathclyde.

3. PROSPECTS FOR MOVING TO AN IMPLEMENTATION PHASE OF THE PROJECT PERHAPS IN SOME OTHER EU ACTION, OR AS PART OF THE FOURTH FRAMEWORK PROGRAMME

We foresee full implementation in C.P. and in A-10 West. EUROCOR results tools also, form part of overall approach to Regional Traffic Control which SRC promotes as part of a Fourth Framework Bid. The project which is using the EUROCOR results is DACCOR.

4. DEVELOPMENT AND/OR ENHANCEMENT OF SERVICES

A central issue of the field trial in C.P. and A-10 West is the development of strategies for providing real-time information to the drivers related to the traffic conditions in specific network parts.

5. IMPACT OF WORK, INCLUDING WORLD LEADERSHIP, CATCH-UP AND KNOW-HOW

Research and field trials related to modelling and control of corridor traffic networks have been a central focus of worldwide investigations over the last five years. Work on this important subject was very limited within DRIVE Programme (no dedicated project). The work being performed within EUROCOR helps European research to catch-up with related work elsewhere (U.S.A., Japan) and in fact, the main products and results of EUROCOR are in the very front of worldwide progress related to:

- development of integrated control algorithms
- field trial investigations in the corridor context

6. RE-ASSESSMENT OF THE MARKET POTENTIAL AND OF THE MARKETS TO BE ADDRESSED IN THE EXPLOITATION PHASE

Corridor traffic networks and corresponding control problems are present in almost all industrialized countries and represent potential application areas for the EUROCOR products. This fact along with the practical demonstrations in the two EUROCOR sites provide a strong background for the eventual application of the advanced EUROCOR products to further sites after the completion of the project.

The dangers of applying untested schemes to a heavily congested network are obvious: the possible congestion and the destruction of network users' confidence in the abilities of the network operator are only two of the undesirable results. The evidence produced by the EUROCOR Project will serve to encourage the appropriate authorities to apply corridor control, using modelling techniques as an important initial step.

7. COMMITMENT AND ABILITY OF THE PARTICIPANTS TO ASSURE THE TRANSFER OF THE RESULTS INTO PRACTICAL AND EFFECTIVE USE

EUROCOR partners are site owners (Ville de Paris, Rijkswaterstaat North Holland, Strathclyde Regional Council), administrations (Rijkswaterstaat), private companies (SRIOLOG, CMSU, TRUTh), private research institutions (TRL), public research institutions (INRETS) and universities (Technical University of Munich, Technical University of Crete) from five different European countries. The EUROCOR team thus include researchers, system developers, site owners, and commercial managers who are enabled and committed to further develop, disseminate, apply and commercialise the EUROCOR products after the completion of the project.

The VMS control installation in Corridor Peripherique is judged as a great success. Reports in daily press and TV have been extremely positive. Driver's answers to questionnaires indicate a high degree of comprehension, acceptance and satisfaction. As a result, the site owner decided to continue the use of EUROCOR's strategy beyond EUROCOR's experimentation phase and is planning a significant increase of VMS from currently 350 to some 800 in the near future. Moreover, EUROCOR's work will play an important role in future evolutions within C.P. and the lie de France network.

Following the inclusion of SRC in the consortium in July 1993, the application of results to the replacement of the CITRAC motorway control system has been demonstrated the practical exploitation of the results from EUROCOR. Successful application in real sites should be followed by wider exploitation as the tools and strategies from the project are proven in real life situations.

The assessment plan devoted to the evaluation of the effect of the different control measures and RTI-techniques used. After completion of the assessment, it was possible to express clear views on ramp metering as a method for better use of the existing road infrastructure as a whole and the effect and effectiveness of coordination. A decision to continue with ramp metering as a method for a better use of the existing road infrastructure will see a further integration with the other RTI measures like MCSS+ and VMS-RIA.

Further to the findings, it seems that both administrators are willing to extend the system to more ramps than those included in the field trial. Finally, another administrator namely Strathclyde Regional Council for the city of Glasgow, tested the system at its test site, being so candidate for implementation within the upgrading of their CITRAC Motorway Control System.

Specially the developments on the Corridor Peripherique with respect to EUROCOR and the developments in the framework of DRIVE-II project GERDIEN (V2044) turned out to be of values for the Dutch situation. Furthermore, other aspects as the existing Motorway Control and Signalling System (MCSS) and the Route Information System Amsterdam (VMS-RIA) were considered.

It was decided to

- use traffic control equipment as available on the Dutch market, meeting the requirements and the standards as set in The Netherlands, for intersection controllers;
- build a so called star network, which means that all ramp controllers are connected with their own cable to the central computer;
- interface between the communication controller and a local ramp metering device on the basis of a RS-232C interface with a Virtual Terminal Service (VTS) protocol;
- interface between the communication controller and the central computer on the basis of a TCP/IP protocol including the possibility of implementing the Serial Line Interface Protocol (SLIP);
- integrate in the future the communication controller in the local controller in order to interface at that time on the basis of TCP/IP;

In 1994, EUROCOR implements the VMS control strategy (travel time display) on the entire network including 350 VMS, instead of 9 initially planned. The evaluation was done within 1994. The evaluation tasks have been split into 3 main parts:

1. Validation of the travel time algorithm
2. Organisation of questionnaire survey at several critical points in the network
3. Calculation of the usual criteria such as the mean speed, the total time spent, the total travel distance, etc. at each component of the network (motorway, urban and ramps).

A-10 West Amsterdam

On A-10 West, the western part of the ring road of Amsterdam, a pilot experiment on coordinated ramp metering executed. On an average workday, the number of vehicles travelling in both directions on A10 West is very high: 90.000 vehicles in the Coentunnel (near S101) which a dual two lanes. A higher volume is found near Bos and Lommer (near S105). There, the motorway is dual three lanes with 120.000 vehicles in both directions. The amount of heavy good vehicles varies during the day between 8% and 12%. The on-ramps S101, S102 and S105 are used by public transport buses.

1. THE APPLICATION AREAS FOR THE FIELD TRIALS ARE TWO CORRIDOR SITES: MOTORWAY A-10 WEST IN AMSTERDAM AND CORRIDOR PERIPHERIQUE (C.P.) IN PARIS
2. POSSIBLE THRUST AND DIRECTION OF EXPLOITATION PLANS
3. PROSPECTS FOR MOVING TO AN IMPLEMENTATION PHASE OF THE PROJECT PERHAPS IN SOME OTHER EU ACTION, OR AS PART OF THE FOURTH FRAMEWORK PROGRAMME
4. DEVELOPMENT AND/OR ENHANCEMENT OF SERVICES
5. IMPACT OF WORK, INCLUDING WORLD LEADERSHIP, CATCH-UP AND KNOW-HOW
6. RE-ASSESSMENT OF THE MARKET POTENTIAL AND OF THE MARKETS TO BE ADDRESSED IN THE EXPLOITATION PHASE
7. COMMITMENT AND ABILITY OF THE PARTICIPANTS TO ASSURE THE TRANSFER OF THE RESULTS INTO PRACTICAL AND EFFECTIVE USE
8. PILOT EXPERIMENTS, FINDINGS, CONCLUSIONS AND FUTURE POSSIBILITIES
9. UPDATED LIST OF END PRODUCTS

1. THE APPLICATION AREAS FOR THE FIELD TRIALS ARE TWO CORRIDOR SITES: MOTORWAY A-10 WEST IN AMSTERDAM AND CORRIDOR PERIPHERIQUE (C.P.) IN PARIS.

Corridor Peripherique - Paris
CORRIDOR PERIPHERIQUE is a subset of motorways of the Ile de France network. It includes the Boulevard Peripherique (urban motorway) and the Boulevard des Marechaux (parallel urban network). They make two rings around Paris of about 35 kilometres with 70 on-ramps and 70 off-ramps and constitute the centre where all the motorways converge as well as the main roads to Paris. These motorways convey an important daily traffic which exceeds the nominal capacity of the infrastructure and cause long and unbearable saturations.

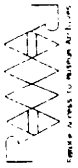
In the framework of EUROCOR project, two field trials have been conducted on the C.P.

1. Ramp metering (during 1992)
2. VMS control (during 1994)

RAMA

Telis

Mr. D. Delouis



Issues

Long decision cycle in cultural institutions

Cultural heritage = Political issue

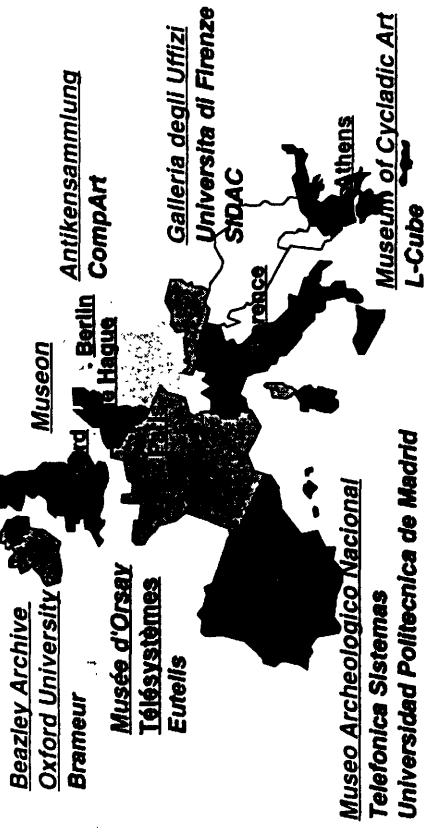
Rapid change in technology = decrease duration of project

Continue partner collaboration = CA

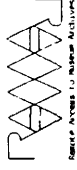
Luxembourg, June 1996



RAMA Partners



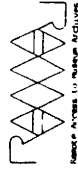
Luxembourg, June 1996



Status

MUSEUMS ON LINE = start up co.
set up in Sept. 1995, in Luxembourg
MOL will start operation in July 1996
digitisation
legal protection high definition digital image
on-line brokerage

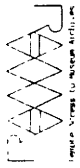
Luxembourg, June 1996



Status

MUSEA = Association of museums
Registered in Oxford - June 1996
MUSEA will develop On Line
Publishing partnerships
MUSEA is involved in SICMA project
in 1996

Luxembourg, June 1996



RAMA in short



RAMA project 1992 - 1994

*Established feasibility networking museums
Built an interoperable system of museum db*

RAMA project 1995 extension

*Prepared exploiting its results
Ran the interoperable system 42 sites*

Luxembourg, June 1996

EDILIBE

Casalini Libri

Mr. M. Casalini

The Impact of EDILIBE in Italy

(Michele Casalini, Concertation Meeting on Exploitation of Results
in the Library Sector 17-18 June 1996)

The focus of my short paper is the impact of EDILIBE on Libraries and Booksellers in Italy.

EDILIBE (Electronic Data Interchange for Libraries and Booksellers in Europe) was divided into two phases: phase 1 (which started in 1991 and finished in 1992) served as a pilot project to define the theoretical basis. The second phase (which started in April 1993 and finished in December 1995) included five libraries, two library software suppliers and three library booksellers from five European countries.

The scope of the EDILIBE project was to define the EDIFACT subsets for the libraries and booksellers business cycle (4 messages were defined - offers, orders, order responses and invoices) and to implement the electronic data interchange of those messages using EDIFACT as data exchange format and X.400 as transfer protocol.

The project leader was the Stadt v. UB Frankfurt (Mr. Berndt Dugall, Project Coordinator, apologized for not being able to participate at this meeting).

1. The situation in Italy at the start of the project

The first time I introduced the EDILIBE project, then in its early days, was in July 1991 at the Biblioteca Nazionale di Firenze (at that time the National Library was not yet a partner in the project). The occasion was a meeting on plans for European cooperation between libraries. I remember that there was great enthusiasm for this project, enthusiasm which, for the most part, was born of the opportunity the Libraries Programme offered for cooperation between partners in the different European countries.

2. The analyses carried out in Italy during the project

A few months beforehand the first phase of the project had begun. It involved checking national standards which were in use in the acquisition department and the book trade. This analysis, coupled with the one on the state and preconditions of the X.400 allowed us to verify the state of the art in Italy in the format and communication standards sectors of the book world. This study brought us into direct contact with the Italian reality (at the time fairly obscure even to us) and, in particular, allowed us to establish that no electronic data exchange activities were taking place in the library and bookselling sectors excepting the purely bibliographic exchanges already in place (generally in UNIMARC standard) and the internal ones of one or two large distributors (carried out with the use of internal company formats). The only format that we could therefore include in our study on formats was the SBN, the Sistema Bibliotecario Nazionale, a service which began in 1985 but which in 1991 still had no complete application in the acquisitions sector.

From the telecommunications point of view on the other hand we found that X.400 services were offered by numerous companies but these services were all still based on the 1984 standard and were not utilized by members of the book sector. The study on the state of telecommunications was brought up to date two years later, in 1993, at the beginning of the second phase of EDILIBE, by the Biblioteca Nazionale di Firenze with the inclusion of three other service suppliers, still using the X.400/'84 standard.

The choice of the EDIFACT converter also allowed us to verify that the availability of tested products was still fairly limited in Italy three years ago. The majority derived from previous projects, for example from the motor industry (the ODETTE system).

3. Presentations and initiatives taken during the project

One of the constant concerns during the project has been to ensure the diffusion of information in articles published in specialized journals, through discussions at library meetings and book fairs and the organization of study seminars.

In particular, in Italy, lectures were held during congresses and book fairs, seminars were organised at the National Library in Florence and at the Regione Lombardia in Milan and the promotional video illustrating EDI application in the library and book trade was showed continuously during the National Library Congresses and the Turin book fairs in 1994 and 1995. Articles were also published in specialized journals such as *Il Giornale della Libreria*; *Biblioteche Oggi*; *Biblioteche in Toscana*; *AIB Notizie*.

4. EDIBOOK

The diffusion of information contributed, at the beginning of 1995, to the formation of a group of librarians (including those from five Italian universities) whose specific interest was in problems concerning EDI. This group, working with the two Italian EDILIBE participants, elaborated a new project called "EDIBOOK : Application of EDI standards for commercial and bibliographic data exchange in the book trade". The project was submitted to the Call of Proposal of 15 June, 1995.

The main objective of EDIBOOK was to continue the extensive work accomplished in EDILIBE I and II of the previous DG-XIII programme.

Participants of the project were heterogeneous organizations from five different countries including four academic and research libraries, three academic library networks, one national library, a consortium of metropolitan libraries, four book dealers and one publisher. This variety would allow the project to verify speed of communication, efficiency of service, precision of exchanged data, and reliability of supply and invoicing.

A particularly significant aspect of EDIBOOK was the integration of EDI solutions into four widely-used library systems (among which ALEPH, GEAC, ALLEGRO) which, together, represent several hundred European libraries. The different organizational structures within the offices of each participant would permit partners to substantiate their capacity to diffuse bibliographic data to all sectors of their organization (teaching staff, scholars, librarians situated in different offices or even in different cities). Partners would also verify their ability to transmit EDI messages between the

various sectors of their organization whose offices adopt different SW and HW structures (for example, exchange of data between the accounts department and the library acquisitions department).

—

In November 1995 we were informed that the project had been evaluated as fully eligible but had been placed on the Reserve List. It is, however, our opinion that EDIBOOK, or a similar project, is essential to ensure the diffusion of EDI methodology throughout Europe with as little delay as possible.

5. EDILIBRO

The beginning of 1995 saw the start of another initiative.

With the support of EDItEUR a first meeting was held on 21 March 1995 at the British Council in Rome at which the three associations of the category (AIE, AIB and ALI) took part.

Shortly afterwards, on 20 May 1995 at the Salone del Libro in Turin an open meeting was held to verify interest in founding an Italian association to promote and sustain the adoption of methodologies based on the EDI standard for the transmission of bibliographic and commercial information in the book sector in Italy.

In the following months numerous other meetings have been held with the same three associations and with the additional participation of the Regione Lombardia, Aster, the publishers Mondadori, Rizzoli, Bibliografica, IE Editoriale and with Messaggerie Libri and Casalini Libri. During these

meetings a statute has been elaborated for the new association which was founded on 28 March 1996 in Milan. Currently 42 organizations are members of EDILIBRO.

The main aims of the association are:

- a) to encourage the knowledge and diffusion of the EDI standard in Italy among all members of the book sector including publishers, distributors, wholesalers, bookshops, libraries;
- b) to ensure, as Italian point of reference, the maintenance and supervision of contacts with and the continuance and updating of the EDI standard;
- c) to participate in the work necessary for the national and international standardization in the sector;
- d) to organize seminars and formational and updating courses.

It is our hope that EDILIBRO will contribute to bringing together the many potential users of EDI in the Italian book world. We naturally also hope that similar initiatives will be taken in other European countries.

6. Forecasts for the coming months

With the experience and the results which EDILIBE has given us we believe that it will be possible to begin the exchange of real data (rather than test data) in the four formats so far studied (offers, orders, order responses, invoices) before the end of this summer. To do this we have already set up a work programme with the Stadt- und Universitaetsbibliothek Frankfurt and we are currently organizing another with the National Library in Florence. The National

Library is also working with the other Italian SBN centres in order to realize an EDI module which can be transferred to the various SBN software packages. We will then seek to extend the number of implemented formats in order to cover the entire business cycle. We will also seek to encourage the adoption of the EDI standard by our suppliers (publishing houses and distributors).

In the past year there have also been other initiatives regarding the application of EDI which are now beginning to apply the standards developed by EDILIBE. In particular, a teleordering service is about to be set up which will be the first of its kind in Italy. Some important publishers and certain distribution networks are also considering the possibility of adopting the EDIFACT standard in their future software packages.

We believe that EDILIBE has offered the opportunity to all, or almost all, members of the Italian book world to work together on a common project. It is perhaps the first time that the three associations as well as libraries, booksellers and publishers have confronted such a strategic argument together in order to successfully realize one standard for all. This will certainly add momentum to free trade in the European common market.

USEMARCON

Royal Library

Mrs. T. Noordermeer

BLCMPMARC
NORMARC
SLSMARC
CANMARC
ADABAS/WINMARC
AUSMARC
CHINAMARC/CNMARC
CSMARC
JAPMARC
LCMARC
LIBRISMARC
MALMARC
PHILMARC
UBVUMARC Univers. Amsterdam
WILSONMARC
BNBMARC
SweMARC
CatMARC
PicaPlus
AnnaMARC
Mekof

PLANNING

Idea : December 1992

Phases:

1. feasibility study
2. development Alpha version
3. extended testing/development and documentation

Start phase 1 : February 1994

End phase 1 : 6 October 1994

Intermediate period

Start phase 2 : March 1995

Delivery alpha version : May 1996

Start phase 3 : May 1996

Final delivery convertor

October 1996

(ASSOCIATE) PARTNERS

Libraries:

The British Library

Instituto da Biblioteca Nacional e do Livro, Portugal

Koninklijke Bibliotheek

Die Deutsche Bibliothek

Companies :

Phase 1 :
Van Norden Informatica
& Technologie

Phase 2 and 3 : Jouve

DELIVERABLES

1. Conversion software
2. Conversion tables :
UKMARC -> UNI -> UKMARC
USMARC -> UNI -> USMARC
InterMARC -> UNI -> InterMARC
(UNIMARC is used as the central format)
3. Format descriptions of USMARC, UNIMARC, InterMARC & UKMARC for format checking
4. Set of conversion rules
5. User Documentation
6. Technical Documentation

DOCUMENTATION

1. User manual
2. Technical manual
3. Format descriptions (from the 'owners' of the formats)
4. Conversion tables (from libraries / library automation companies etc. interested in conversions)
5. Sets of format conversion rules

Recently much interest has been shown because USEMARCON looks rather promising

- AUTHOR project
- CERL bibliographic database of the handpress period
- OCLC Europe
- Eastern European countries
- The British Library could tie it in with their products

WHO IS THE USER?

Software package is of use to
- national and university libraries
- some large public libraries
- vendors of library automation systems
- many special projects

Level of senior cataloguer with following qualifications:
- excellent knowledge of input format and UNIMARC and output format
- capability of learning and adapting a very formal, abstract language

EXAMPLE OF USE:

Convert DANMARC records to SWEMARC records

- 1 Conversion table DANMARC -> UNIMARC
2. Conversion table UNIMARC -> SWEMARC
(Loss of information is inevitable)
 - UNIMARC does not have an equivalent for all subfields in other formats;
 - what to do when fields have to be split?
3. Adaptation of rules files
4. Description of DANMARC for check input records
5. Description of SWEMARC for check output records

MARKET ESTIMATION/ MARKET ANALYSIS:

It is a small - but very important - niche

Market research done by VNI as part of the feasibility study:

Questionnaires to :

- 196 libraries
- 158 software vendors

Answers :

- 76 libraries (39%)
- 25 vendors(16%)

Result:

- Not much budget available for conversions

CONSIDERATIONS CONCERNING EXPLOITATION

USEMARCON is an altruistic project, because we wanted to help solve the problems which organisations have with conversion

1. Keep format descriptions up-to-date in the organisations who own the format : very difficult
 - formats change all the time (e.g. adaptation for description of electronic publications)
 - format descriptions are not available (Pica)
 - in a language which many people can't read (DanMARC)
 - obsolete descriptions: InterMARCSolution could be : national libraries (and CENL) is responsible for

IMPACTS AND BENEFITS

Conversion of one MARC format to another MARC format is an expensive operation - a generic convertor which is relatively easy to adapt is relevant

Very ambitious project, because of practice maintenance problems
Earlier attempts, e.g.

National library of Canada
National Library of Australia and
CCF convertor

Examples of conversion problems:

- National library project on CD-ROM : four MARC formats converted to UNIMARC

keeping the national format description up-to-date (also in English)

2. Putting the software in the market:

- marketing
- distribution
- help desk
- training/demonstrations

No budget available. How can expenses be covered? Exploited in a commercial way?

3. Which package do you sell?

- Executables of the convertor
 - Source code
 - Conversion tables
- How to organise updates?

4. USEMARCON software must be maintained otherwise it will not be

useful anymore on the long term

5. Ownership of USEMARCON:

Jouve owns a small part of USEMARCON because C++ libraries were used for the development

6. 'Price' (can be for free) of USEMARCON

- for the project partners
- for the associate partner
- for other EC projects
- for libraries
- for commercial companies

7. Bottom line : Who is responsible for the exploitation of the software?

OTHER RELEVANT DEVELOPMENTS:

- 1. Much interest in online conversion: USEMARCON could be adapted for this, but it is expensive and there is no budget for it**
- 2. Format integration of USMARC, UKMARC and CANMARC**
Majority of bibliographic MARC records will be based in on of these three of in a format which looks like UKMARC or USMARC

MORE and ELSA

Jouve

Mrs. C. Lupovici



Catherine Lupovici
Library activities manager

Jouve Système d'information

Exploitation of results of R&D Projects in the Library Sector, Luxembourg, 17-18 June 1996

Jouve is project coordinator

Jouve's interest in the Library market :

- services provider for data capture, data processing and for customised software developments
- Products

Exploitation of results of R&D Projects in the Library Sector, Luxembourg, 17-18 June 1996

Prototype integrating existing tools for testing technological/economic feasibility of applying OCR/ICR to retrospective conversion

Partners expected exploitation :

- CRIN : to check their theoretical approach of document recognition, and possibly have developments included in a product
- Belgium national Library : learn about feasibility and retroconversion in general for future action
- Jouve : apply the state of the art in document conversion to the retroconversion

Exploitation of results of R&D Projects in the Library Sector, Luxembourg, 17-18 June 1996

Technical feasibility : yes in some cases

Economic feasibility : yes in the future with a lot of enhancements for generalisation

CRIN : continuation of research

Royal Library : starting the conversion process. (2 years needed for decision and funding)

Jouve : rewriting the whole chain and currently starting general production

Prototype : expectations for distribution but not possible (licensing, too specific). Not maintained

Exploitation of results of R&D Projects in the Library Sector, Luxembourg, 17-18 June 1996

Appropriate agreement signed before project starting :

- Quite clear distinction between background and foreground information.
- Foreground results split into partners according to workpackages.
- Exploitation defined for two years after the end of the project

But different understanding of what exploitation means and what is a product

Exploitation of results of R&D Projects in the Library Sector, Luxembourg, 17-18 June 1996

Electronic library experiment involving a Publisher and a Library

Storage, indexing and creating a user environment in an academic library for electronic scientific journal articles coded in SGML

Exploitation of results of R&D Projects in the Library Sector, Luxembourg, 17-18 June 1996

De Montfort University Library : evaluation of potential interest in electronic documents coded in SGML. Opportunity for contacts with a main Publisher

Elsevier science : users behaviour knowledge. Extension of TULIP to SGML technology and European libraries

Jouve : extension to on-line of the CD-ROM/SGML software. Evaluation of SGML in libraries

Exploitation of results of R&D Projects in the Library Sector, Luxembourg, 17-18 June 1996

Important technical changes during the project duration and moving to a WWW architecture
- Focus on document viewing rather than on S&R.
- Rationale for SGML rather than HTML

Involvement into international standardisation of maths and references as defined in ISO12083 DIDs (Elsevier and Jouve)

Evolution of the conception of the content delivery to libraries, awareness, but not direct exploitation

Exploitation of results of R&D Projects in the Library Sector, Luxembourg, 17-18 June 1996

Extension of the testing phase :

- De Montfort University : comparison with other electronic projects through the users test
- Elsevier : having return on their DTD and documents usability
- Need to extend the test to professional experts and possibly to other publishers
- Jouve : take commercial decision on the evolution of the product on which ELSA was build

Exploitation of results of R&D Projects in the Library Sector, Luxembourg, 17-18 June 1996

Background and foreground information described in consortium agreement.

Separated responsibilities in developments of modules

ELSA is a contribution for building the future of electronic publishing and electronic library, but will not be exploited directly as a library dedicated product

Exploitation of results of R&D Projects in the Library Sector, Luxembourg, 17-18 June 1996

SPRINTEL

Public Library Leuven

Mr. J. van Vaerenbergh

SPRINTEL

Ladies and gentlemen,

I have two slides for you. The first is about the past. Indeed, the SPRINTEL-project already belongs to history. It was third-Framework - second-call-project, submitted 1993, started 1994 and concluded January 1996 with a positive final review. The second slide is about today's results and their future exploitation.

■ SPRINTEL - THE PROJECT

The full project title, Speedy Retrieval of Information on the TELEphone, perfectly describes its main objective. When people ask me what SPRINTEL is about, I usually tell them that the idea was to develop a high-tech answering machine. Featuring the same characteristics as any ordinary answering machine -which is to give spoken information- but then in an exceptionally user-friendly way.

SPRINTEL's three outstanding features are

1) user-friendly because we wanted to provide more information than just opening hours. We intended to anticipate enquiries typically referred to as 'quick reference', together with 'community information'-related questions.

2) We wanted this information to be accessible in a much easier way than the tedious one way communication with menu's that are read aloud and where the caller is expected to just listen and push buttons on the telephone set.

The SPRINTEL-prototype is capable of being accessed by interactive voice response based on keyword spotting in spoken enquiries.

3) The third main feature is the easy maintainability of the system. Both a training manual and maintenance tools were developed to enable library staff to set up and run the system and create new information databases and the related keyword all by themselves.

□□□□

SPRINTEL is a *public libraries*-driven project.

Public libraries are pre-eminently non-commercial organisations. At least, this is absolutely the case in Belgium. Unlike some other European countries, where public library work sometimes means business, our administrative position as a pure public body, forces us into a completely uncommercial straitjacket.

In spite of this, we have to fulfil a mission towards the largest possible market: the general public. Public libraries serve user categories ranging from children to the elderly, men and women, rich and poor - and seek to meet different user needs: recreational, informational and educational.

In general terms, we more than often take these target groups and their needs for granted. I must admit that our consortium did not conduct a preliminary market research to find out that people constantly use the telephone to try to access the library and its information. Day after day we observe the way in which customers make improper use of the libraries' facilities. Hundreds of telephone enquiries relate to information that can easily be provided in an automated way. If we could realise this, it would relieve the our staff behind the information desk from answering these enquiries. In return, they will be able to give more assistance to those users that need expert help.

So, in trying to find a pragmatic solution to a pressing problem, we evolved to the description of a user-friendly service.

A service that, furthermore, proves to be of strategic value to the public library as an organisation. Because it will allow us not only to tackle a status quo in staff resources, while at the same time, it will enable us to better fulfil our mission.

□□□□

This we could of course not achieve on our own. As a matter of fact, Voxtron, our technical partner, has always been very supportive. Voxtron is a Belgian private company (based near Antwerp) that claims to be market-leader in voice applications. Already in the earliest stages of the conception of SPRINTEL, they expressed their belief that it would result in a commercially viable voice product.

Their commitment to the SPRINTEL-project was also a strategic move. They wanted to open the totally unexploited market of public services, as far as voice based services are concerned. In general terms, what I described earlier from a public libraries' point of view, also applies to any other public service: most of them, if not all, are occupied with disseminating large amounts of information to the general public.

With their involvement in SPRINTEL, Voxtron secured themselves of 4 test-beds, located at libraries that were eager to develop not just another service, but a service they considered of strategic value. Because it would take the library's service outside the library building, right into the homes of the citizens. This would contribute to a higher visibility, or better audibility.

■ RESULTS

SPRINTEL was intended as a front-end service, designed to be implemented between the user and the information desk. Unfortunately, the performance of the prototype is too low. Depending on technical and environmental circumstances, the recognition rate varies between 60 and 90%. Which means it does not function well enough to effectively simulate a natural speech profile. Moreover, callers can get trapped in the first stages of the dialogue.

From the point of view of technology, this is a very good result, but it is insufficient from the point of view of service. In that respect, it should simply be perfect, which means 100% recognition.

This poor performance has everything to do with the state-of-the-art of voice recognition technology. It is not yet good enough to meet SPRINTEL's objectives of high flexibility. Flexibility for the ordinary user in terms of simulating natural speech; flexibility also for the professional operator who must be able to create and delete keywords at liberty.

■ THE FUTURE: EXPLOITATION

Regarding our exploitation plans, I can only but confirm the findings of the Background Paper. Not less than 7 pages (out of 67) are devoted to exploitation plans. But closer reading indeed reveals that we had better called it *dissemination* plans. Of course, making the results known is the very first step towards exploitation. Also, and this is another confession, the main concern of the public library partners was the integration of the SPRINTEL-service in their own organisations. To use it as a means of enhancing our services. As a county librarian, in my particular case, I envisaged a second phase in which the installation of additional systems at individual libraries would be explored. For that reason we negotiated a 40% discount on every new license.

I think this corresponds to what is referred to as *vertical* exploitation in the Background document: the exploitation of the service as it is developed and in the market it is developed. In our case, this market is the public libraries' sector. As I stated before, Voxtron assessed the possibilities of *horizontal* exploitation or exploitation in related areas. The platform they have developed can easily be re-used for customised new applications in different types of organisations.

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In the final review, SPRINTEL was praised for the apparent harmony between the public and the private partners in the consortium. Personally, as the project co-ordinator, I found this a very satisfying experience. Apart from the profits I described earlier, an important reason for our mutual understanding was the complete lack of competition between the partners. Public libraries work for their local area and they are in no way competitors. And none of us was interested in the intellectual property rights of SPRINTEL. To be honest, we wouldn't even know what to do with it! And as far as the information content is concerned, we did not have a copyright problem either, since we are all dealing with public domain information. You can imagine that negotiating that chapter of the *Consortium Agreement* really was a piece of cake, with Voxtron having the topping and the public libraries not begrudging.

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As a conclusion, and probably to your surprise, exploitation of the SPRINTEL-service has not yet started. Simply because it is not yet a commercially viable product. I outlined the reasons for this assessment when talking about the performance of the prototype.

However, none of the partners is downhearted. First, we all knew from the start that it was a research project, with the risk of failure. But most important is that we still believe in SPRINTEL's pragmatic solutions and its strategic effects. Therefore we established a *user group*, in which we committed ourselves to sort of extend the project at our own costs. In doing so we maximise both the financial efforts from the Commission and our own efforts from the past two years.

For a start, a one year programme to continue testing and upgrading has been adopted. This is only a delay of the effective start of exploitation of the full service. This user group is important for another reason, namely the technology transfer of SPRINTEL's voice component to a second EU-funded project RE.AC.T.I.V.E. Telecom. This aims at converting a combined teletext-equipped television plus a telephone into a domestic terminal for accessing information.

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Jan Van Vaerenbergh,
chief librarian
Central Public Library Leuven

SPRINTEL

***PUBLIC
LIBRARIES***

***VOX-
TRON***

results

***exploitation
plans***

markets

***exploitation
channels***

user group

SPRINTEL

***PUBLIC
LIBRARIES***

VOXTRON

***NON-
COMMERCIAL***

COMMERCIAL

***PUBLIC
SERVICE***

***PRIVATE
ENTERPRISE***

MISSION

***MARKET
POSITION***

SERVICE

PRODUCT

STRATEGIC

STRATEGIC

THE VOICE SOLUTION

EURILIA

University of Limerick

Mr. J. O'Flaherty





Dr. John J O'Flaherty,
 Director,
 MAC,
 University of Limerick.

Concertation Meeting on Exploitation
 - Luxembourg, 17 June 1996.



- Enhance the Library/Information process which underpins the Aerospace Sector
- Establish a new service based on a standardised pan-European system for
 - information access, retrieval, image browsing
 - document delivery.
- Extend access & availability of major aerospace collections.
- 3 year project, funded by the CEC Action Programme for Libraries
 - 6 Partners from 6 EU countries.

- | | | |
|--|--------|-------------|
| • University of Limerick | (UL) | Ireland |
| • Cranfield University | (CU) | UK |
| • Technical University of Delft | (TUD) | Netherlands |
| • Digital Development Corporation | (DDC) | Netherlands |
| • DLR/DFVLR, GBRMA | (DLR) | FRG |
| • Instituto Nacional de Técnica Aeroespacial | (INTA) | Spain |

EURILIA

EURILIA Project Objectives

- Develop a standard user interface
- Develop a PC based user application for integration of service elements
- Establish effective networking links
- Develop a standard image browsing/document delivery system
- Investigate impact on users
- Investigate commercial potential

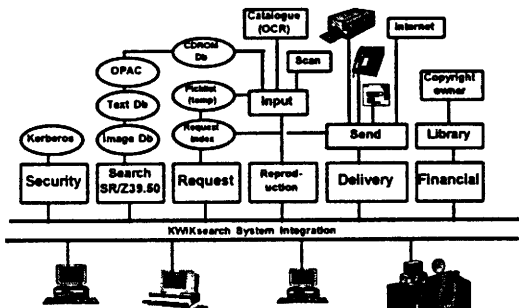
EURILIA

EURILIA Applications Functions.

- **Server**
- **Client**
 - Browse Image Collection
 - View Image
 - Search Database
 - Browse Database Index
 - Initiate Document Delivery Service
- **Easy to use**

EURILIA

EURILIA "6 Engines Framework" Library Information Access Architecture



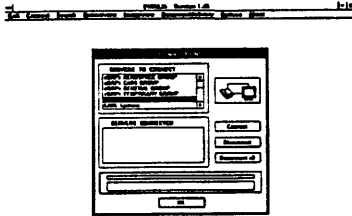
EURILIA

EURILIA - Application

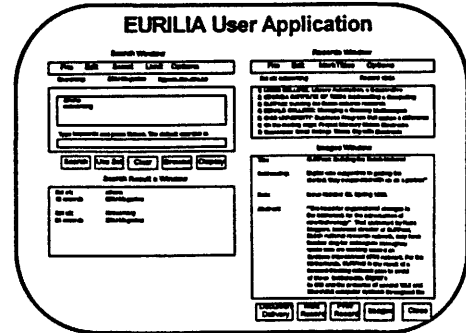


EURILIA

EURILIA - Application



EURILIA



EURILIA

EURILIA - Exploitation Plans

- Standard common access to aerospace information
- Attract new user organisations
- Operate commercially by EURILIA Foundation
- Target other Sectors

EURILIA

EURILIA Commercial & Business Framework - Early Study

- Pre-project Audit of Users generated questions, not answers:
 - What business are we in?
 - Maximise utilisation or revenues?
 - Segmenting the market
 - Needs/wants of users
- TUD's commercial experience of Document Delivery
 - Customers attracted to the service by
 - price
 - speed of delivery
 - efficient invoicing
 - quality of collection
 - but little use made of specialist information service

EURILIA

EURILIA Commercial & Business Framework - Early Study

- Used MDSS Business Insight Framework
- Initial conclusions:
 - Basic EURILIA service with these not sufficiently attractive to be commercial.
 - Innovative EURILIA client software has commercial potential, if it is linked to a service that meets real needs in the sector.
 - Grey literature may provide us with a viable market niche.
 - We must link up with major sector publishers.

EURILIA

EURILIA Commercial & Business Framework - Late Study

- Post-Project Audit: Last 3 months of Project.
 - User reaction to the EURILIA service
 - Its value to users in the sector
 - Answers to the previous questions.
 - Confirm/modify initial conclusions.
- Exploitation Plans
 - EURILIA Foundation
 - Jointly owned
 - License the technology
 - Commercial service/product
 - Expand the Service to other users, sectors, etc
 - Link up with other suppliers such as major publishers.
 - Further develop the system.

EURILIA

MUMLIB

Dansk BiblioteksCenter

Mrs. L. Jensen

TELEMATICS FOR LIBRARIES

CONCERTATION MEETING

LUXEMBOURG 17.06.96 - 18.06.96

PARALLEL SESSIONS

PRESENTATION OF MUMLIB

LEA JENSEN

PROJECT PARTICIPANTS

PROJECT OBJECTIVES

STATE OF PROJECT WORK

PROJECT RESULTS - MULTIMEDIA CD-ROM

EXPLOITATION OF THE PRODUCT

MARKET ASPECTS

LEGAL ISSUES

- COPYRIGHT TO THE PRODUCT
- COPYRIGHT TO MATERIAL SUPPLIERS

EXPERIENCES/PROBLEMS IN RELATION TO
EXPLOITATION OF THE PRODUCT

ECUP

Eblida

Mrs. E. Giavarra

ECUP+

- WP3
 - moderated discussion list
 - email to majordomo@kaapeli.fi
 - message: subscribe ecup-list
 - help desk for copyright questions
 - ecup.secr@dial.pipex.com
 - “one stop shop” for documents on European copyright developments
 - <http://www.kaapeli.fi/ebliida/ecup>
 - launch July 1996

ECUP
European Copyright User Platform
Paper by
Emmanuela Ciavarella LL.M., Project Director ECUP

Ladies and Gentlemen,

Today I would like to inform you about a very exciting project in the field of copyright

For the first time, at a European level, librarians have taken the lead in discussing with authors, publishers and collecting societies the exceptions under copyright for the use of electronic information. These exceptions are defined in every European legislation differently. In the UK the concept is called "fair dealing", in most of the other European countries it refers to the copying for private use, research and educational purposes.

There exists a lot of uncertainty among librarians on what they are allowed to do with electronic information in respect of copyright. A complicating factor is that the authors and the publishers have not made up their minds yet on what they should allow.

A first step in identifying the copyright problems, which the new technologies pose for librarians, was set by DG XIII-E4. They organised a concentration meeting on 29 November 1993 in Luxembourg. The meeting raised many important issues and problems that needed to be solved in the near future. It appeared that librarians are at a clear information disadvantage in respect of copyright.

EBLIDA offered assistance and was granted funding by DG XIII-E4 for one year to set up the European Copyright User Platform and to conduct a Copyright Awareness Campaign for Librarians. The ECUP project started on 28 October 1994. The Platform consists of 18 full members of EBLIDA, which are national library, information and documentation associations. A special Steering Group was set up to coordinate and evaluate the results of the project.

First I would like to inform you on the results of the ECUP project, before I will introduce to you the follow-up ECTIP+ Concerted Action.

ECUP

The objectives of the ECUP project were

- to make librarians/information professionals aware of copyright
- to identify the copyright problems in electronic services
- to discuss these problems with the larger publishing houses
- to draw up a code of good practices for the use of electronic information

To connect the awareness raising and the identification of the copyright problems 14 workshops were organised in the Member States of the EU and one in Norway.

facilitated by individual contracts between publishers and user groups, including librarians. Such contracting will allow for EDD directly from publishers to users and this excludes Inter-Library EDD carried out in the name of ILL. One way forward might be the development of a model contract between publishers and user groups."

It was stressed that this Statement reflected the future towards electronic publishing and not the situation at the present time

The Steering Group felt that the meeting and the discussion on the matrix was a first step in the right direction. The ECUP project came to an end in October 1995.

ECUP *

In order to continue the discussions with the rights owners additional funding was asked for under the first Call for Proposals of the Librarians Programme under the Forth Framework Programme. Recently DGXIIIE-4 granted EBLIDA funding to continue the ECUP project in the form of a Concerted Action for 3 years. The project started on 15 January 1996. The concept of the ECUP+ is more or less the same. New is the creation of a 'one stop shop' for copyright questions

The objectives are

- to continue discussing library privileges in electronic services and model clauses for licences for the use of electronic information with rights owners and collecting societies,
- to continue making librarians aware of the implications of copyright on electronic services and to introduce the results of the discussions with rights owners and collecting societies,
- to establish a focal point for questions on copyright and information on EU legislative developments in this area,
- to reinforce the position of libraries in discussions about copyright issues with the appropriate bodies

The ECUP+ Concerted Action is organised along 5 workpackages

Workpackage 1 - Library position on electronic services

Meetings will be organised with representatives of rights owners organisations and collecting societies to further discuss the library privileges in electronic services and model licensing clauses defined by the Steering Group.

Workpackage 2 - Awareness raising

Workshops will be held to continue making librarians aware of copyright and to introduce the discussed library position on electronic services defined by the Steering Group and the results

These Steering Group meetings were held in which the "Library Position on Electronic Services" was drawn up and schematically put in a matrix. The matrix lists a variety of library activities which are free to use by the end user or for which the end user should pay. The ECUP Position Paper and the matrix should be seen as a first step in defining "user rights" for the use of electronic information

The following principles are underlying the Position Paper:

- the mission of a library is to guarantee access to a maximum amount of information to their users;
- copyright protects the legitimate rights of the rights owners, however it should not frustrate technical developments or access to information;
- libraries wish to destroy the misunderstanding that they are not willing to pay a reasonable remuneration for copyright-protected information under certain conditions;
- library services complement rather than compete with publishers' activities;
- libraries are willing to implement legal and technical safeguards to comply with contractual limitations, but libraries cannot be held responsible for the limitations of the end-user once they have acquired the information

The ECUP position was discussed on 10 July 1995 with the representatives of Elsevier Science Academic Press, Kluwer Academic Publishers, Blackwell Science, Chadwyck-Healey, STM, FEP and IPCC

One of the subjects which immediately started a discussion was the issue of Inter-Library Lending (ILL). According to the publishers ILL should be treated in the same way as Electronic Document Delivery and should not be a free activity. ILL should not be recognised in an electronic environment. It was stressed that the implied sharing is the largest problem. The results of the discussions can be best summarized by the statement the publishers presented at the end of the meeting

As an introduction it was stressed that they only represent the opinion of the attending representatives and that they were not speaking on behalf of the whole industry. They expressed their willingness to cooperate, not on the basis of a code of good practice, but by means of a model contract. They became more aware of the problems libraries are dealing with and would like to be involved in further discussions. The Statement was not addressed to the matrix, because that would be a totally different discussion. The representatives were willing to discuss the matrix within their organisations and in the Working Group of European Librarians and Publishers (ELP)

The following Statement was produced:

"The electronic delivery of information significantly changes the commercial relationship between publishers and user groups. Electronic use of copyright material will be

achieved at the meetings with the rights owners and the collecting societies

Workpackage 3 - Copyright Focal Point

A Copyright Focal Point will be set up and will deliver the following services a moderated discussion list on European copyright issues, consultancy, access via WWW to documents on European copyright law and legislation in preparation. The focal point is aiming to function as a "one stop shop" for European copyright developments. The discussion list will start in February. More information is available via Im Europe. - <http://www.echo.lu/libraries/en/libraries.html>.

Workpackage 4 - Legislative recommendations

The Steering Group will come together after the discussions with the rights owners and the collecting societies to define legislative recommendations for the library position on electronic to be lobbied for with the national legislators

The Steering Group has a different composition than the Steering Group of the ECUJ project Reason for this is that we wanted to include representatives of LIBER and IFLA. The Steering Group consists of the following members.

Mr Graham Cornish, British Library (BLDSC), UK
Dr Reinhard Eckert, Leibniz Institut, Germany
Mr Robert Fisher, European Commission, Luxembourg
Ms Emmanuela Gavara, EBLIDA
Prof Elmar Mittler, LIBER
Mrs Sandy Norman, IFLA
Ms Sarah Pedones, DNIST, France
Ms Heikki Porolla, Vantaa City Library, Finland
Mrs Elizabeth Scott, Glasco Wellcome, UK
Mr Joseph Scott, Universitat Pompeu Fabra, Spain
Mr Dick Visser, Leiden University, The Netherlands

The Steering Group has met representatives of authors' organizations, collecting societies and larger publishing houses on 11-12 March 1996 in London. The second round of meetings will take place on 23-24 September 1996

A copy of the ECUJ report is available at the EBLIDA secretariat, P O Box 43300, 2504 AH The Hague, The Netherlands. For more information please send an email to ecuj secr@digital.pipost.com

AIDA

Studio Staff

Mr. F. del Lungo

**CONCERTATION MEETING
ON EXPLOITATION OF R&D
RESULTS IN LIBRARIES SECTOR**

PROJECT AIDA

1. THE RESULTS
2. COMMERCIAL EXPLOITATION

17-18 June 1996

by Studio Staff

1

SOFTWARE STRUCTURE

type of subject	role	software library name	functions
• POS (Point of Sale)	• They are the subjects that manage the points of sale, where the DDS are provided to the end users	Client-POS	<ul style="list-style-type: none"> • Document identification and locate • ILL preparation and routing • Input ILL in "public list" • ILL situation inquiring • Inquiring on POS accounting situation
• DSC (Document Supply Centre)	• They are the subjects structured for providing and delivering to the end users the requested documents	Client-DSC	<ul style="list-style-type: none"> • ILL pick up from the "public list" • ILL analysis • ILL situation inquiring • Inquiring on DSC accounting situation
• C.S. (Service Centre)	• It is the subject playing the role of system administrator General speaking it is a lean unit responsible also for: - network organization - commercial coordinating - financial and accounting	Server-C.S.	<ul style="list-style-type: none"> • Password managing • Subjects and contract managing • Price list managing • Financial managing

Figure 1

by Studio Staff

3

THE RESULTS

The AIDA SYSTEM features synthesize the results of the Project.

In its current form, AIDA is a software with a client/server architecture designed to build information market (IM) actor networks for the management of document delivery services (DDS).

Its module-like architecture enables the software to support various configurations and to adapt to the most different organizational models used by DSSs.

by Studio Staff

2

SOFTWARE STRUCTURE

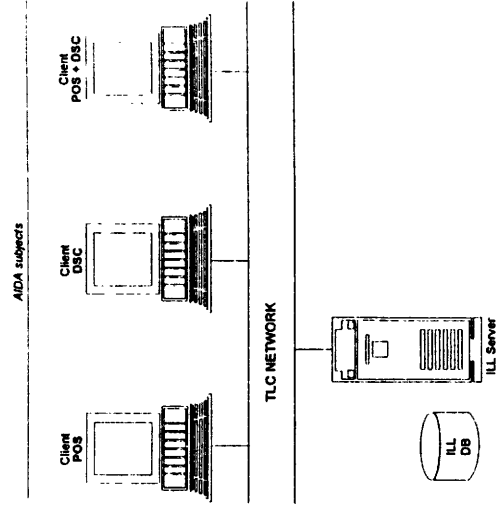


Figure 2

by Studio Staff

4

Figure 2 describes the typical structure of a DDS network using the AIDA software.

- Beyond the initially foreseen AIDA users, this drawing illustrates those with which the AIDA software is able to communicate:
- **WWW servers**, i.e. servers on which the WWW application is installed and used by POSs to retrieve and locate documents;
 - **Public catalogues servers**, which make bibliographic data available for POSs for document identification and location by WWW access;
 - **ILL clients** which are clients outside the AIDA network using the standard ISO/ILL exchange protocol (ISO 10160 and 10161) to communicate with DSCs.
 - **ILL servers** which are servers outside the AIDA network using the standard ISO/ILL exchange protocol (ISO 10160 and 10161) to receive requests from POSs.

by Studio Staff

5

Project AIDA

POTENTIAL USERS

AIDA can be used by multiple IM actors like:

- *information consumers*:
 1. research centers
 2. universities
 3. institutions
 4. publishers
 5. tertiary sector companies
 6. free lance professionals
- *information providers*:
 7. libraries
 8. documentation centers
 9. bibliographic database producers
 10. brokers

by Studio Staff

7

NETWORK CONFIGURATION

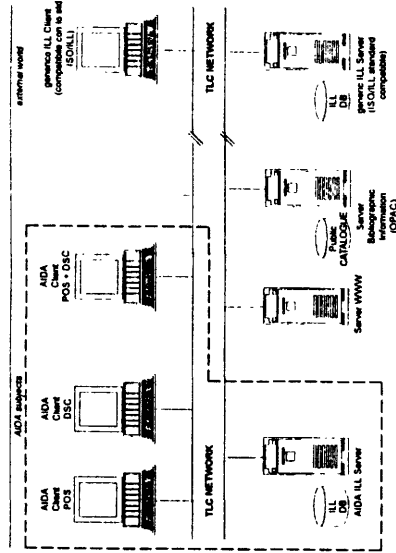


Figure 2

by Studio Staff

6

Project AIDA

This systems provide for an easier integration of existing procedures by preserving a continuity between the internal organizational processes of users and those of the DDS network processes shared by all network participating organizations.

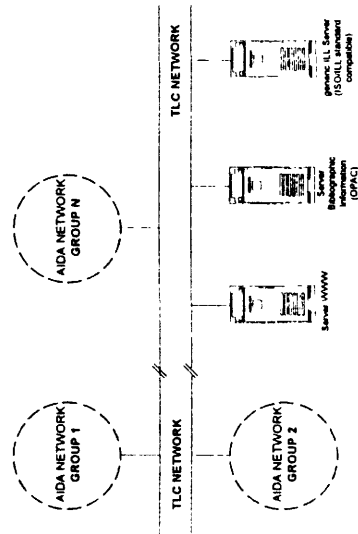
The prerequisite for using the system is based on a group of IM actors with a common set of interests who agree to set up and manage a DDS network using their own rules.

Users who do not want to join such a group may use the AIDA system in a stand-alone configuration and by exchanging services with other AIDA networks or other ISO/ILL compatible servers.

by Studio Staff

8

NETWORK OF AIDA NETWORKS



by Studio Staff

PROJECT PARTICIPANTS

Studio Staff Srl	Coordinator	Italy
CIB - Centro Interfacoltà Biblioteche Università di Bologna	Partner	Italy
Commissione delle Biblioteche Centrali Università di Torino	Partner	Italy
Biblioteca Nazionale Braidense	Partner	Italy
Biblioteca Nazionale Marciana	Partner	Italy
Biblioteca Statale del Popolo	Partner	Italy
Biblioteca Nazionale Centrale	Partner	Italy
INIST	Partner	France
Biblioteca Geral da Universidade de Coimbra	Partner	Portugal
Instituto da Biblioteca Nacional e do Livro	Partner	Portugal
Reitoria da Universidade de Lisboa	Associated Partner	Portugal
Universidade Catolica Portuguesa Bibi. Universit. J. Paolo II	Associated Partner	Portugal

by Studio Staff

COMMERCIAL EXPLOITATION

The rights for commercial exploitation are assigned as following:

to	for the area of
Portuguese Partners	Portugal
French Partner	France
Italian Partners	Italy
AIDA Consortium	only other countries

by Studio Staff

This approach allows to operate with two parallel actions:

- the first action aims to allow partners to start up quickly with the two national DD network (Italy and Portugal) linking them with the main international DD providers (INIST and others)
- the second action aims to allow future consortium to promote by other countries (European and extra-European) the Aida products and solutions by using the references of the two already working networks Italy and Portugal

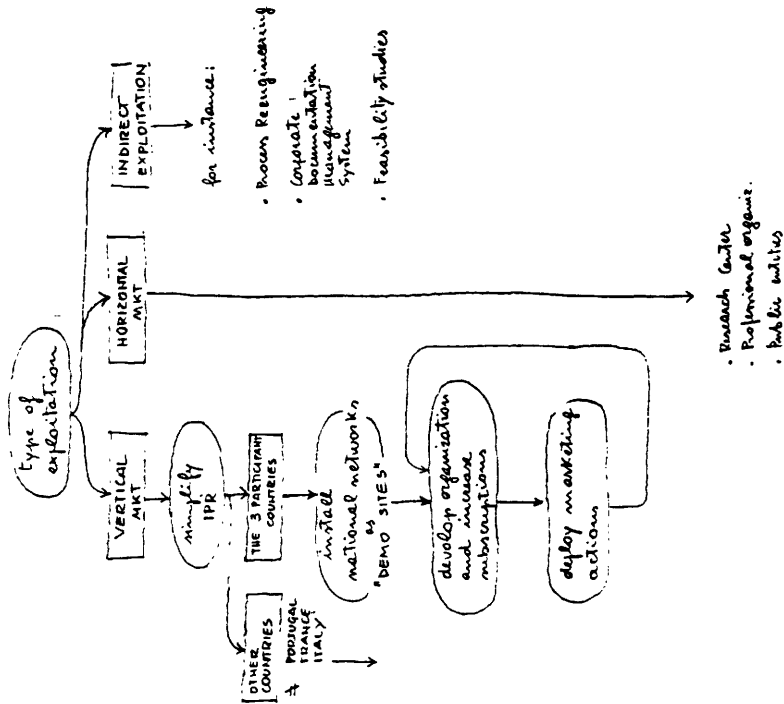
by Studio Staff

THE GOVERNANCE OF AIDA PROJECT

PROJECT AIDA

- ACTION LINES
 1. Computerized bibliographic
 2. Information banking systems
 3. Innovative library services
 4. Novel stimulus in telemedicine
- PRODUCT / SERVICE
 1. Product
 2. Services
- TARGET GROUP
 1. Libraries and Librarians
 2. End users
- TYPE OF EXPLOITATION
 1. Vertical exploitat.
 2. Horizontal exploitat.
- READY TO COMMERC.
 1. Commercially
 2. Not-commercially

AIDA = DECISION TREE FOR EXPLOITATION



Van Eyck II

Vasari enterprises

Mr. J. Hemsley

The EVA-Cluster Project

LISBON, June, 96

**James Hemsley
VASARI Enterprises**

Overview of Talk

1. Cultural Systems & the Information Society:
A “third age” of computing?
2. Three waves of EC supported cultural systems projects
3. Current cultural systems projects supported by E.C.
4. EVA-Cluster Project Aims & Modus Operandi
5. EVA '96 Programme
6. The need for Portugal to participate more!

Origins of VASARI Enterprises

EVA Conferences

Two New Companies



- CompART Berlin
- VASARI UK
- Research
- Consultancy
- EVA

+ + +

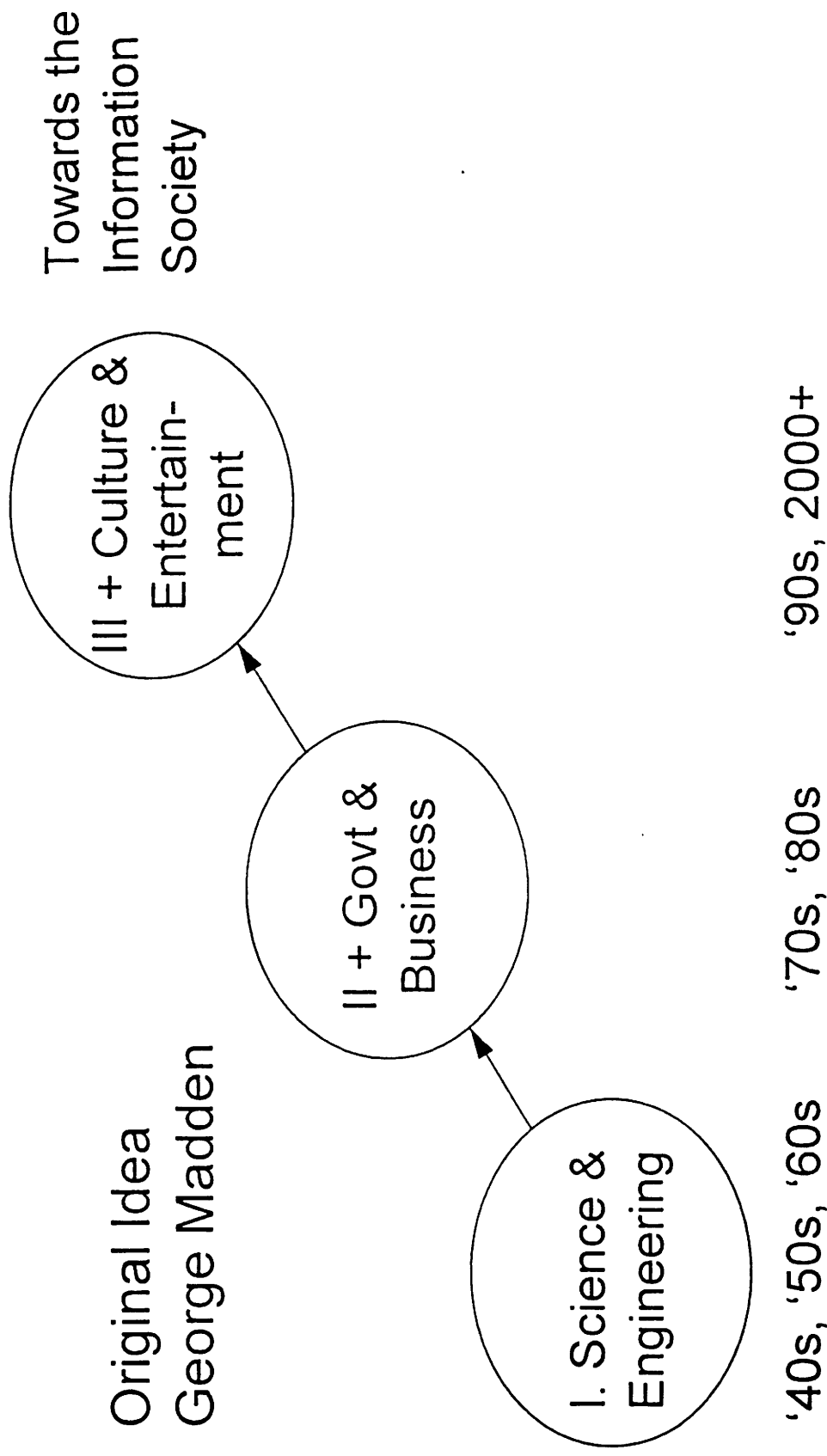
Ultra High Quality
Imaging of Painting

- London
- Munich
- Florence!
- Athens

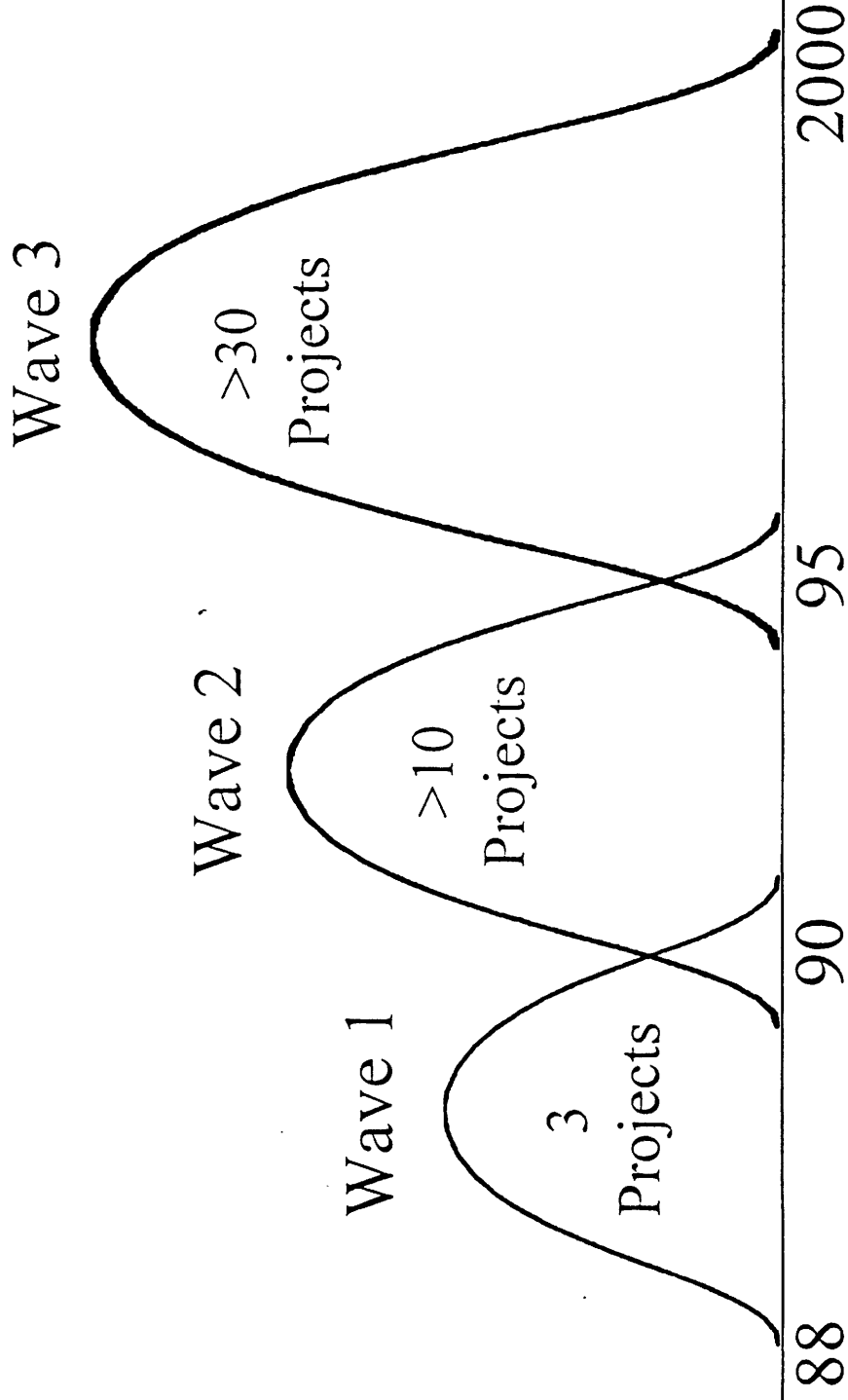
+ Prototype CD~ROM for art history education +

1. Cultural Systems & The Information Society: A “Third Age Of Computing”?

Original Idea
George Madden



Historical Perspective of EC Supported Cultural Systems Projects



Roles of R&D Projects in Cultural Sector:

Case of Museums

Stage 4

Museums
inspiring new
technologies

Stage 3

Museums
contributing
R&D

Stage 2

Museums
as test-sites
during R&D

Stage 1

Museums
acting as
'showcases'



EC Supported Cultural Systems Projects Include

<u>ESPRIT</u>	<u>TAP</u>	<u>ACTS / RACE</u>
• Marc	• Cicero	• Octalis
• Imprimatur	• Aquarelle	• "MoU"
• Archatour	• Magnets	++
+++	+++	
	<u>DG X</u>	<u>DG XII</u>
	• Viking	• Magnets
	++	++

- Well over 50 active projects: more than expected!
- Good, but now risk of duplication of work

EVA-Cluster Project Aims & Info

- Prime Aims
 - Reduce duplication of effort on common problems,
e.g. Copyright
 - Help synergy, e.g. Z 39.50 work, market studies
and standards
- Originated June 95
- Duration 1/1/96 - 31/12/96
- Budget 150K ECU
- Responsible: VASARI Enterprises

Modus Operandi

- Organise meetings at EVA events around Europe for exchanges of experiences, results & plans
- Launch information exchange, led by projects on selected common issues, e.g.
 - Copyright: Imprimatur
 - Z 39.50 — Aquarelle
 - Standards
- Help projects develop exploitation plans

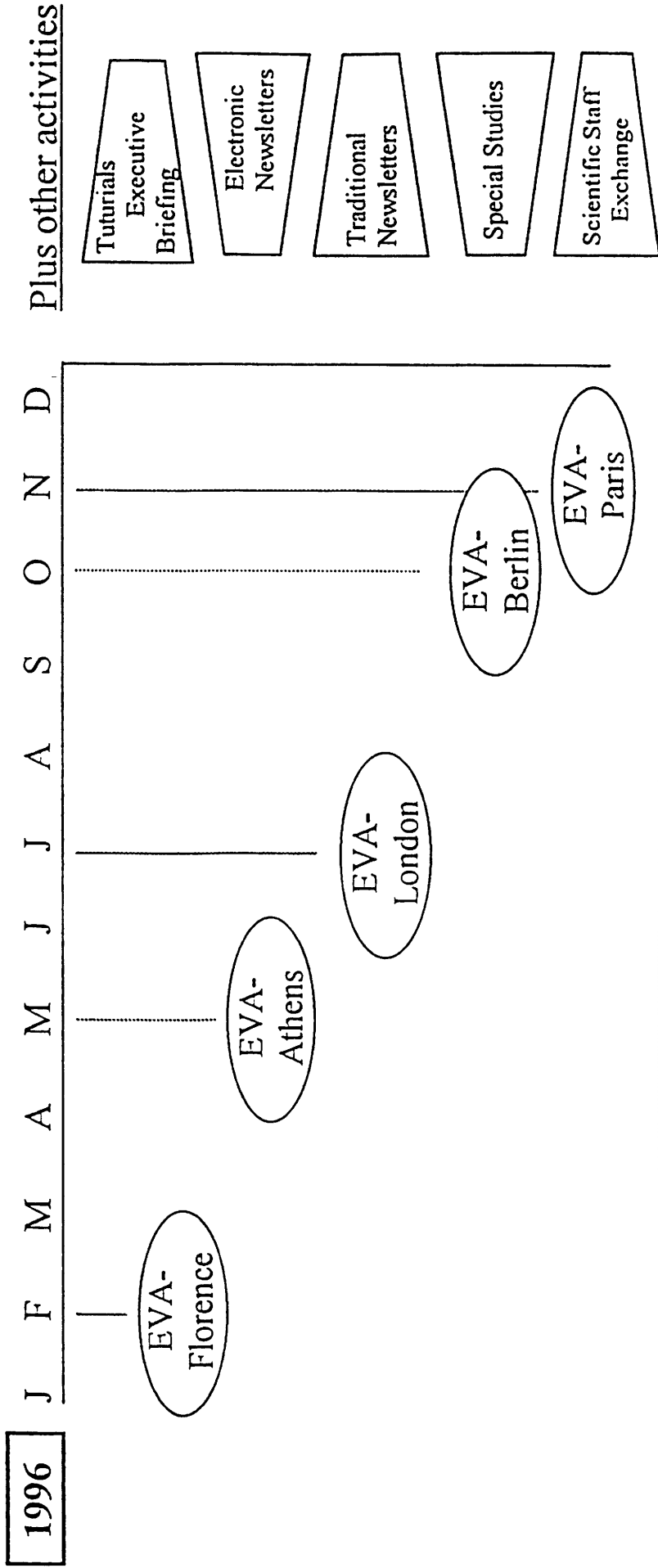
- Disseminate useful information
- Compendium of EC cultural systems projects
- Summary to be put onto the Web
- Encouragement/ Assistance for exchange of staff between projects

Additional tasks, because of large number of cultural systems projects now identified: over 50

- Steering group with members from Italy, Greece, Germany, France, UK & EC

EXHIBIT I: EVA-CLUSTER ACTIVITIES OVERVIEW

Workshops, Demos & Interest Group Meetings At EVA Conferences & Exhibitions



Target Participants
 6 Projects in IT group with over 30 individual organisations
 N.B. plus associated project / consortia members / 'Sister' initiatives from other Programmes such as ACTS, TAP & RAFAEL

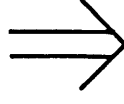
CONCLUSIONS, CHALLENGES & A
PROPOSAL (CONT'D)

ONE PROPOSAL

USE EVA EVENTS AROUND EUROPE
(ATHENS, FLORENCE, BERLIN & PARIS)
IN 1996 AS A 'SHOP-WINDOW'
FOR EUROPEAN CULTURAL
MIM PRODUCTS & SERVICES

A Need For Action Today

- Now over 200 organisations in over 50 E.C. Cultural Systems Projects on the EVA-Cluster Database
- But relatively few Portuguese ones



Extra efforts needed to include Portugal

Let's start now!

The Competition

Bill Gates Target: 1 Million Images

E.C. Response: 10 Million Images

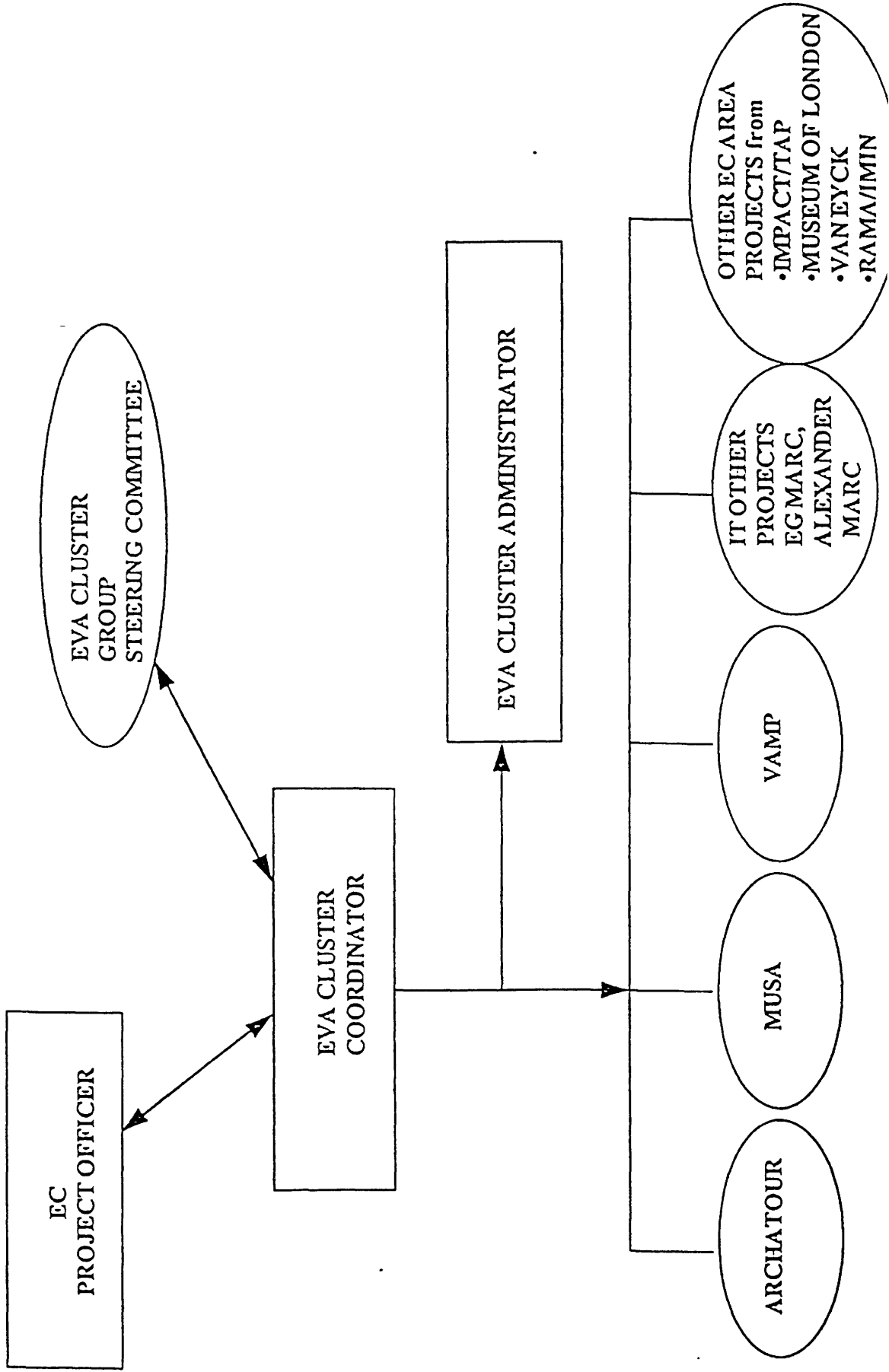
Japanese Vision: ??

VASARI Contact Details

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- Website: <http://www.brameur.co.uk/vasari/eva>

EXHIBIT II 'EVA' MANAGEMENT STRUCTURE



DALI

Fretwell Downing Data Institute Ltd

Mr. G. Bingham

DALI - Document And Library Integration

Setting The Scene

- Project Summary
- Project Participants
- Project Status

DALI - Document And Library Integration Major 'Products'

- **The System**
- **The Service**
- **The Expertise**

DALI - Document And Library Integration

Exploitation Plans From TA

- **Extend The Service**
 - within the project's domains
 - in other domains
- **Market The Software**
- **Horizontal Exploitation**

DALI - Document And Library Integration Partners' Exploitation Plans

- **System Developers**
- **Service Providers**
- **Publishers**
- **Further Research**

DALI - Document And Library Integration Organisational Structures 1

Fretwell-Downing - Internal

- **Quality Assurance**
- **Implementation Services**
- **Product Support**
- **Maintenance**
- **System Enhancement**
- **End-user Liaison**

DALI - Document And Library Integration Organisational Structures 2

Fretwell-Downing - External

- **Joint Ventures**
- **Local Representation**
- **Third Party Distributors**
- **Licensing**

DALI - Document And Library Integration Organisational Structures 3

Southampton Oceanography Centre

- **Material Acquisition**
- **Database Maintenance**
- **End-user Services**
 - **internal / external**
- **Administrative Support**
 - **financial / technical**

DALI

Paper given at the Workshop on Exploitation of R&D Results in Libraries Programme Projects, Parallel Session 1b - Organisational Structures

**by
George Bingham**

Setting the Scene

DALI is unusual in the Libraries Programme in that the lead partner is a commercial enterprise. But what is more unusual is that that commercial enterprise is a company which develops and sells a library management system, namely Fretwell-Downing. Thus the exploitation plans for the DALI project were very clearly defined, for Fretwell-Downing at least, as early as the conception of the project, and were very explicitly stated in the project proposal.

Project Summary

DALI is included in Action Line 3, Theme 21 - 'integrating access to electronic documents for the delivery of new library services in a managed framework'. Its prime objectives are twofold. Firstly, to develop a system for cataloguing, Z39.50 searching, document requesting and document delivery over the Internet. Secondly to prove this system in three pilot services.

Project Participants

The project's consortium members fall into three categories: system developers, service providers and information providers.

The system developers include Fretwell-Downing (a UK based library system vendor of the OLIB system with distributors in several European and other countries), the University College Dublin Computer Networks & Distributed Systems Research Group (based in Ireland) and Kyros (a relatively new company formed in Athens to promote R&D in high technology in Greece).

The service providers include the Southampton Oceanography Centre (whose National Oceanographic Library serves this premier centre for oceanography in the UK), Sheffield University (a UK university whose St George's Library was conceived as being at the centre of a high-tech service, and whose Management School has a long-standing commitment to library research) and the University of Thessaloniki (the largest library in Northern Greece and an active participant in library research, especially from an Aegean perspective).

The information providers include a number of leading research and technical journal publishers, whose input is co-ordinated by B H Blackwell in the UK, one of the major subscription agents in the world and part owner of UnCover, the world's largest document delivery on-line database.

This provides a very good mixture of core data suppliers, system suppliers and system users, which led to a well-balanced development programme.

Project Status

DALI is a two-year project, due to be completed at the end of 1996. Exploitation is therefore very much uppermost in the minds of the consortium members as we draw nearer to the successful conclusion of the project.

Major 'Products'

Following its successful conclusion, the project is due to have three main 'products', for which there are a number of exploitation plans.

The System

The DALI project will produce a Windows-based document cataloguing, retrieval, request and delivery system. It will have a server and a GUI client, which can be 'productised' (e.g. by Fretwell-Downing who intend to incorporate it as an additional module in their OLIB library system) or installed as a DALI system in its own right. It is designed to be scaleable, so that it can be implemented as a full scale service the three demonstrator sites and in other services within the domains of the project, namely marine science and management studies. It is also designed to be portable, so that it can be implemented in different domains.

The Service

The three demonstrator sites will have an established and proven service which they can enhance to a wider user base within their own research and user communities, and to other service providers within their domains. For example, there are around 30 other organisations similar to the Southampton Oceanography Centre who could be targeted as DALI users.

The Expertise

The consortium members will hopefully have developed a reputation as leaders in the area of electronic delivery over the Internet. Thus, there will be potential to exploit this in terms of attracting consultancy contracts, further research contracts and so on. Also, for the publishers, the project will provide much-needed experience in the areas of copyright issues and charging mechanisms for electronic document delivery in a real environment.

A significant additional area of exploitation may be the use of DALI 'products' in other CEC-funded research projects. For example, some of the features of the DALI software and the expertise gained in bibliographic searching across Internet will be utilised directly in or make a major contribution to the UNiverse project which is currently at the proposal stage.

Organisational Structures

There are a number of options for structuring an organisation suitable for the exploitation of the results of the DALI project. In looking at these structures, this presentation examines this subject from two viewpoints, the structure required within a single organisation for the exploitation and the commercial and legal arrangements which could be considered in constructing a legal entity which exploits the results of the project on behalf of two or more consortium members. The examples presented here are based specifically on Fretwell-Downing's plans to productise the DALI system into its own OLIB system, but it should be noted that all partners have many ideas for exploitation, both on their own accord and in conjunction with other project partners.

Internal organisational structures

The following is a list of internal administrative and customer support mechanisms which should be in place for any organisation to be able to exploit a system such as DALI or, in Fretwell-Downing's case, the system of which DALI will form a part, i.e. OLIB. Being a library software company, Fretwell-Downing are fortunate that all these mechanisms are already in place as they are essential to the marketing, implementation and customer support services it offers for its existing range of products. Thus, the inclusion of the DALI 'product' will simply be an extension of those services.

- **Quality Assurance** - the internal organisational structures should ideally be governed by a quality assurance standard such as ISO 9000, which proscribes detailed procedures for the development, testing and documentation of a software package such as DALI. Fretwell-Downing's procedures cover these areas, and they have also been extended to enhance the quality of the marketing, implementation and ongoing support of the system ;
- **Marketing/Sales** - an effective marketing policy is required, together with a marketing and sales infrastructure which is able to effect that policy and bring the product to the specified target market ;
- **Implementation Services** - an organisation which aims to exploit a system such as DALI is required to have an experienced and respected implementation team who can install the system, train library administrators and end-users how to utilise it to its fullest potential and provide any advanced application and technical consultancy which may be required by the service provider, such as data conversion ;
- **Product Support** - the internal organisational structure should also include a mechanism for offering ongoing support of the system, including telephone hotline support, modem support for remote access to the system (essential in such a dispersed user base as the one which is expected for DALI) and additional consultancy for on going system enhancement (to ensure that the users continue to reap the full benefit from their investment) ;
- **Maintenance and System Enhancement** - to ensure the ongoing development of the product so that it takes full advantage of the latest developments in information technology. This is of particular importance for DALI, as there is significant focus on the Internet which has displayed very clear signs of rapid technological changes which any software must encompass at the earliest opportunity to ensure the currency of the product.

External Organisational Structures

The Consortium members have many options open to them in considering the most appropriate legal entity or entities suitable for the exploitation of the results of the DALI project. The following list of examples examine Fretwell-Downing's options, but the other consortium members' options are also encompassed within the discussion. It should also be noted that this list is not definitive.. the focus is again on the productisation of DALI within the OLIB system to bring it to the market through this channel. Many other options may be, and indeed are being, considered by the various consortium partners, and there is an imminent discussion on this subject among the partners which will examine the various options in more detail.

- **Joint Ventures** - this entails the establishment of a separate company in which two or more of the partners have a controlling interest, although organisations which are not partners may also

have an interest. The company would be responsible for all the activities described above relating to bringing the product to the market. This may be a suitable option for co-operation between Fretwell-Downing and Kyros to bring OLIB to the market in Greece, in particular if Kyros did not wish to develop their own OLIB marketing, implementation and support infrastructure ;

- **Local Representation** - whereby Fretwell-Downing (or one of the other partners which own the intellectual property rights of the DALI project results) establish a local, self-sufficient operation in the target market territory, for example as a wholly owned subsidiary. This would be a particularly suitable option for areas where none of the other partners desired to develop an interest and where Fretwell-Downing wanted to establish a local operation which was directly connected to its core business plan ;
- **Third Party Distributors** - Fretwell-Downing (or any of the other partners who wished to exploit DALI as a software package) could establish a distribution relationship with a company already operating within the target market territory. This is by far the most common route to market for territories other than a company's home territory, and it is the favoured option for Fretwell-Downing as distributor arrangements are already in place between it and a local organisation in several countries in Europe and the rest of the world ;
- **Licensing** - project partners who opt for this organisational structure would generally be required to divest themselves of all intellectual property rights to the software for the life of the licensing contract. This is inappropriate for Fretwell-Downing as it is a library software company whose prime focus is the development and productisation of library systems, with a strong emphasis on the retention of the IPR for those systems.

Nevertheless, licensing is very much uppermost in Fretwell-Downing's priorities, but in the sense of licensing a third party to use the system rather than in the sense of transferring IPRs to them. Indeed, this should be the prime focus of plans to exploit any system such as DALI.

Summary

The last comment was an indication of how all partners view DALI. The results of the project will be high profile products and/or services for all of us, and so the organisational structures which have to be in place are of vital importance to ensure the successful exploitation of project DALI's results.

HYPERLIB

UIA

Mr. J. Corthouts



Project HyperLib

Jan Corthouts
University of Antwerp
UIA Library

Concertation Meeting on Exploitation of R&D Results in the Libraries Sector
17-18 June 1996
Luxembourg

HyperLib Products

- Improve access to library services using hypertext technology
- User guides and manuals
 - » support distant users
 - » on-line manuals for library staff
- Database related resources
 - » Academic bibliography
 - » Navigation tool for Subject Classification
 - » WWW gateway to the OPAC

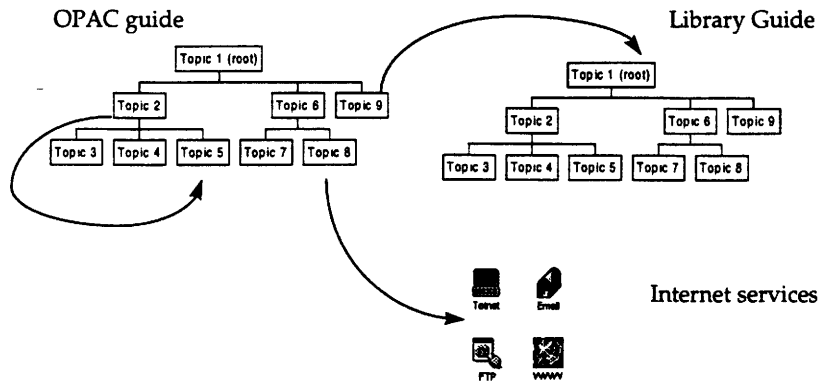
User Guides and Manuals

- Problems
 - » text and hypertext encoding
 - » networked access
- Solutions
 - » SGML
 - » World Wide Web

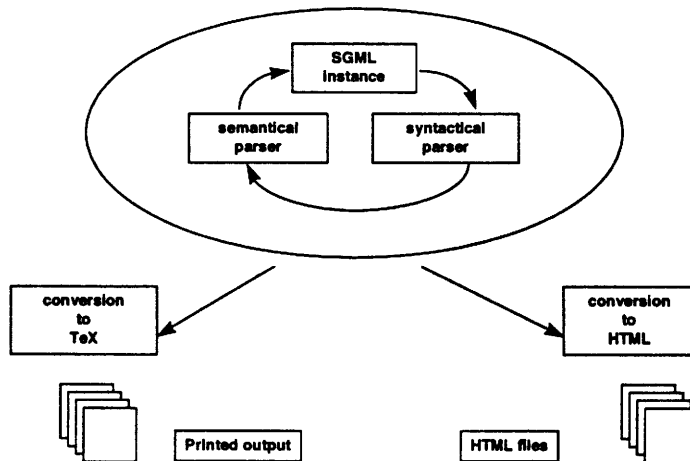
User Guides and Manuals

- HyperLib DTD
- HyperLib document
 - » SGML document
 - » built as a sequence of topics
 - » implicit and explicit hyperlinks
 - » keyword search
- Transformation
- Integration with webbed OPAC

User Guides and Manuals



User Guides and Manuals



Databases

- Academic bibliography
 - » RUCA, UFSIA, UIA
- On-line input
- Transformation to HTML and PostScript
 - » Presentation on the Web
 - » Hypertext navigation
 - authors - co-authors
 - faculties - departments
 - year of publication

Databases

- Webbed OPAC
- client/server
- exploit hypertext links in the database
 - on the same subject
 - within the same series
 - by the same author
 - intuitive subject navigation
- context sensitive help
 - integration with HyperLib guides
- downloading through email or FTP

Databases

- **integration with networked resources and services**
 - direct access to electronic documents
 - link records with images
 - closer integration with CWIS

Impact and benefits

HyperLib helped:

- **in establishing support of distant users**
 - » end users
 - » librarians
- **in creating new library services**
 - » in response to changing academic demands
- **in building up know-how**
 - » new networking opportunities : WWW
 - » important information standards: SGML, HTML

For Your Information

- <http://www.ua.ac.be/uilib.html>
- <http://www.ua.ac.be/docstore.html>
- HyperLib: a hypertext interface to a library information system. In: *Library technology news* .- 17 (1995), p. 4-6
- HyperLib: een hypertekst interface voor een bibliotheek- en informatiesysteem In: *Bibliotheek- en archiefgids*, 71:3 (1995), p. 138-146
- SGML: a librarian's perspective. In: *The Electronic Library*, 14:2 (1996), p. 101-110

Exploitation Issues

- Dissemination is critical
 - » idea of electronic document stores
 - » may get other parties interested
- Target groups for HyperLib
 - » market rather limited
 - » primarily other libraries
 - » vertical exploitation

Exploitation Issues

- Use of HyperLib tools in Antwerp
 - » from experimental to operational environment
- Technology transfer to other UA-projects
 - » Agrippa
 - hypertext structured database
 - archival resources
 - image component
 - » VirLib
 - highly end-user oriented
 - document ordering
 - electronic document delivery

Exploitation Issues

- Exploitation channels
 - » HyperLib manuals and guides
 - highly portable
 - public domain
 - <http://www.ua.ac.be/MAN/HLBSW/root.html>
 - » Database related resources
 - less portable
 - highly system specific (M database, VUBIS software)
 - impact and benefits on local services



LIRN

LASER

Mr. A. Colleran



L A S E R 

Building the Infrastructure

Andrew Colleran

Lucembourg, 17-18 June 1996 Slide 1 of 24

L A S E R 

Project Coordinator

- **LASER (London & South Eastern Library Region)**
- **Projects ION and LIRN**
- **<http://lirn.viscount.org.uk/laser/>**

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L A S E R

Overall Objective

- **To demonstrate feasibility of open standards-based networks as an infrastructure for core library functions**

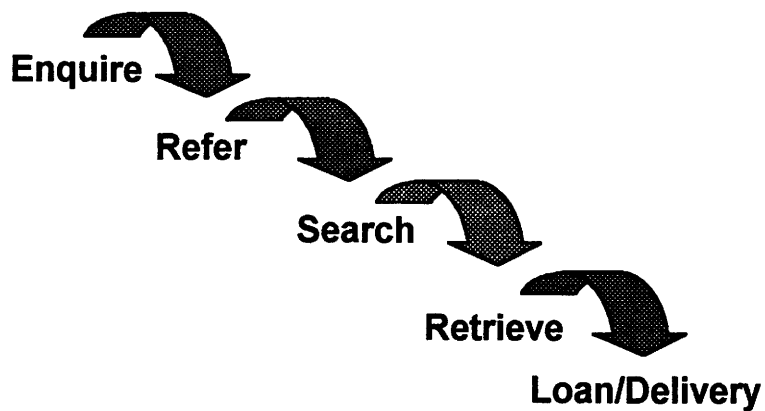
Lucembourg, 17-18 June 1996 Slide 3 of 24

L A S E R

- **objectives**
- **challenges**
- **opportunities**

Lucembourg, 17-18 June 1996 Slide 4 of 24

L A S E R



Luxembourg, 17-18 June 1996 Slide 5 of 24

L A S E R

Some Lessons from ION

- **Define the user requirements**
- **Changing technology**
- **Technical versus service elements**
- **Project organization**

Luxembourg, 17-18 June 1996 Slide 6 of 24

L A S E R

LIRN Project Overview

- **Original Objectives**
- **Actual Achievements**
- **Challenges for the Future**

Luxembourg, 17-18 June 1996 Slide 7 of 24

L A S E R

Original Objectives

- **Network Environment "BW"** *before the Web.*
 - OSI, X.25, VT100, FTAM
- **"Libraries are experiencing many problems, keeping pace with the volume of information, where to obtain it and how to obtain it."**
- **"Project aims to establish an embryo of a Europe wide information enquiry and referral service based on the X.500 Directory standard." December 1993**
- **Focus on Business Information Resources**

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L A S E R

Actual Achievements

- **Pilot Service established, based on nodes in**
 - **Belgium**
 - **Portugal**
 - **United Kingdom**
- **Searching based on the European Business Schools Librarians' Group Thesaurus**
- **Searching by Information Resource**
- **87 Business Information Resources described**
- **An Extendible Service**

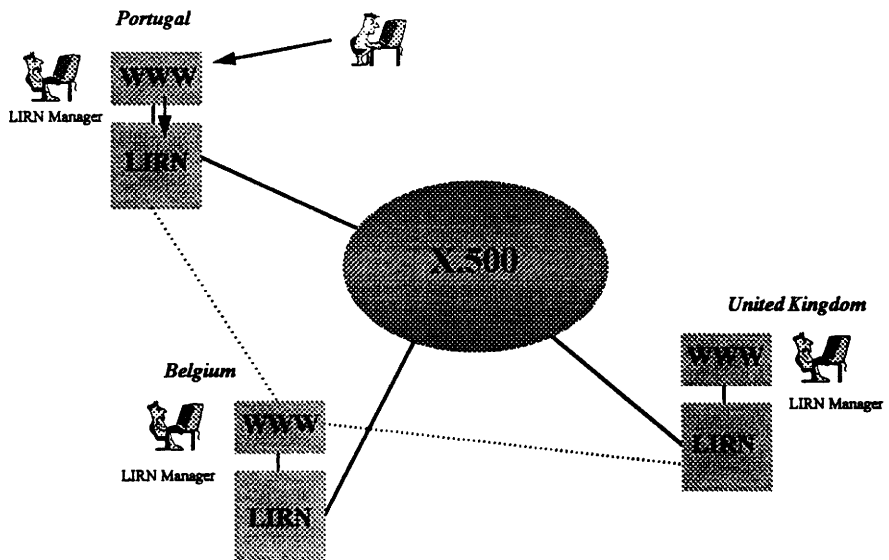
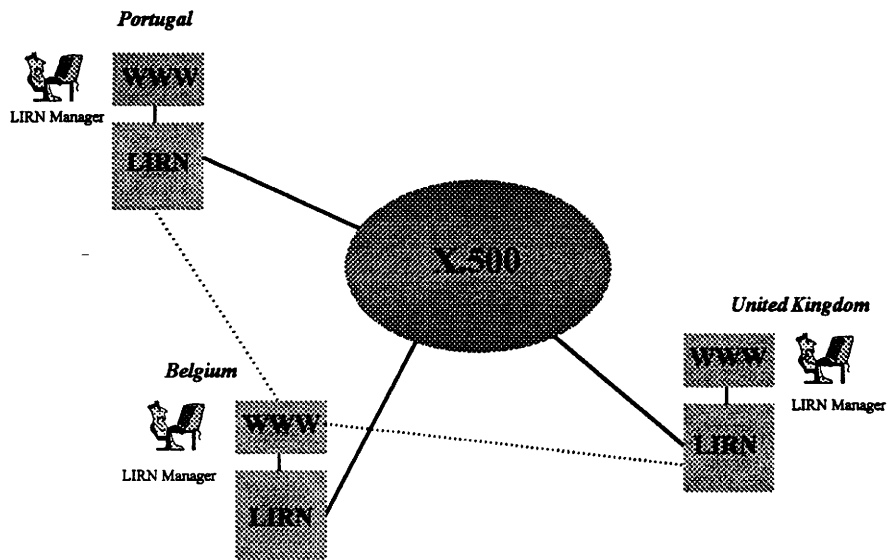
Luxembourg, 17-18 June 1996 Slide 9 of 24

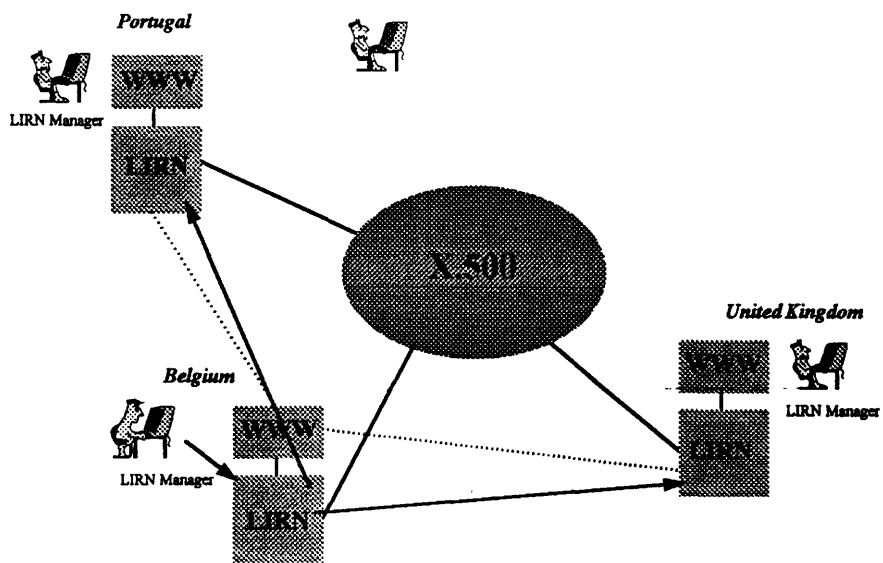
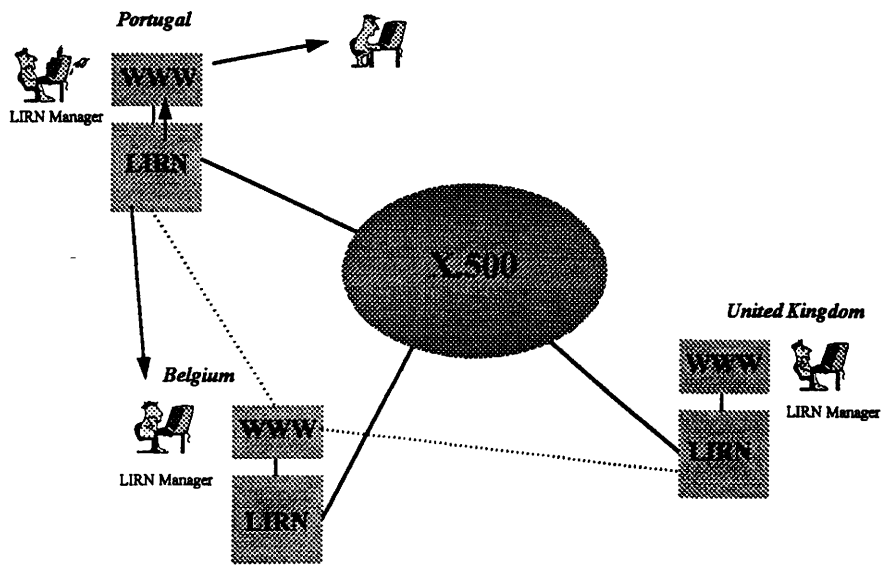
L A S E R

System Overview

- **Directory of Information Services**
- **X.500 Backbone**
- **WWW Access Points**

Luxembourg, 17-18 June 1996 Slide 10 of 24





L A S E R

User Interface principles

- **Multilingual**
- **User friendly**
- **On-line help**
- **Based on browser facilities**

Luxembourg, 17-18 June 1996 SMAs 15 of 24

L A S E R

Search functions

- **Browse thesaurus**
- **Generate thesaurus**
- **Search thesaurus**
- **Search resources**

Luxembourg, 17-18 June 1996 SMAs 16 of 24

L A S E R

The Target User

- **End User**
 - The busy professional
 - The unsure searcher
 - The interested user
- **Intermediary**
 - The information professional / Librarian

Luxembourg, 17-18 June 1996 Slide 17 of 24

L A S E R

Access to LIRN

- http://sun7.iihe.ac.be/index_uk.html
Université Libre de Bruxelles
- http://lirn.viscount.org.uk/index_uk.html
LASER
- http://diana.ci.ua.pt/index_uk.html
University of Aveiro

Luxembourg, 17-18 June 1996 Slide 18 of 24

L A S E R

Future exploitation plan

- **implement the improvements suggested in the evaluation period**
- **integrate LIRN more closely with other services**
- **extend LIRN by implementing Z39.50 and the ILL (inter library lending) protocols**
- **seek new partners in Western and Eastern Europe**
- **seek further funding to assist the exploitation process**

Luxembourg, 17-18 June 1996 Slide 19 of 24

L A S E R

Future Potential

- **Great - but depends on improvements**
- **Applicable to other sectors**
- **Public libraries focus on the Internet**
- **Develop end-user services**
- **Referral, requesting and responding services need more experimentation and exposure**
- **LIRN service on-line at LASER, ULB and University of Aveiro**

Luxembourg, 17-18 June 1996 Slide 20 of 24

L A S E R

Improvements to the LIRN product

- **LIRN user interface and search functions**
- **More resources in the directory**
- **Integration of searching with thesaurus terms with subject/keyword searches of bibliographical and other information databases**

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L A S E R

Extending technical/networking capabilities

- **Incorporate Z39.50 capability**
- **Links to bibliographic databases, interlending/document delivery**
- **Services and on-line hosts in a Z39.50 and WWW environment**
- **Value of ILL protocol in future service provision**
- **Re-use of other EU project products e.g. DALI, EDIL**

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L A S E R

Seek new partners and funding prospects

- **Western Europe, especially Italy, Germany, Spain**
- **Eastern Europe, for example Poland, Hungary**
- **Exploitation with product developers and service providers**
- **Technology use outside LIRN**
 - **Conformant X.500 usage**
 - **Yellow Pages view on existing X.500 infrastructures**
 - **E.g. PARADISE/NameFLOW Integration**
- **EU funding**

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L A S E R

Challenges for the Future

- **Show interoperability**
 - **Integration with other projects such as DALI**
- **Use of Z39.50**
- **Other countries**
- **Other types of Information Resources**
- **Other subject areas**
- **Developing the interface**

Lucembourg, 17-18 June 1996 SMds 24 of 24

ELISE II

Montfort University

Mr. R. Adams



De Montfort University

Elise / Elise II
Roy Adams

De Montfort University

Elise Image Bank projects

- **Elise**
- Prototype Technical
- Service based
- Software product
- Focused consortium
- To Feb 1995
- **Elise II**
- Service development
- Access, copyright, pricing, charging
- Wider consortium
- 30 Months

De Montfort University

Elise

- Image bank
- Accessible across Europe
- Using standard technology
- Open to other database formats
- Distributed model

De Montfort University

European based projects

- **Elise**
- **Eisa**
- **Minstrel**
- **Elise II**
- **Camille**
- **Tollimac**
- **Elvin**

De Montfort University

Elise

- V & A Museum London - Content
- Tilburg University - Content / technical input
- IBM Research Labs. - Technical input
- De Montfort - Technical input / Project managers

De Montfort University

Elise results

- Software product to support service
- Image banks: Tilburg, De Montfort
- Interconnection demonstrated

De Montfort University

Elise II - prototype to operational

- Operational infrastructure
- Technical robustness
- Operational business environment
- Commercial suppliers
- Ease of access for end users
- Replication of image banks

De Montfort University

Elise Consortium

- V & A Museum, London
- Tilburg University
- Radio Telefis Eireann
- Laboratory for Medical Informatics, Netherlands
- Universite Libre de Bruxelles
- IBM
- De Montfort University

De Montfort University

Elise II Exploitation plans

- Student access image banks (DMU) (UB)
- Regional based service (TIL)
- Experience for customers (IBM)
- National collection (V&A) (RTE)
- Analytical database (LBM)

De Montfort University

Elise II Will

- Operational image retrieval service
- Replicable or hospitable to growth
- Influential model for protecting rights, fair pricing, charging
- Access initially to 7 collections
- Facilitate development spin off products

De Montfort University

Elise II - Benefits

- Development of networked based services
- Standards and exchange formats
- Interconnection and resource sharing
- Networked libraries
- European approaches product dev.
- Leading edge research

De Montfort University

User and market issues

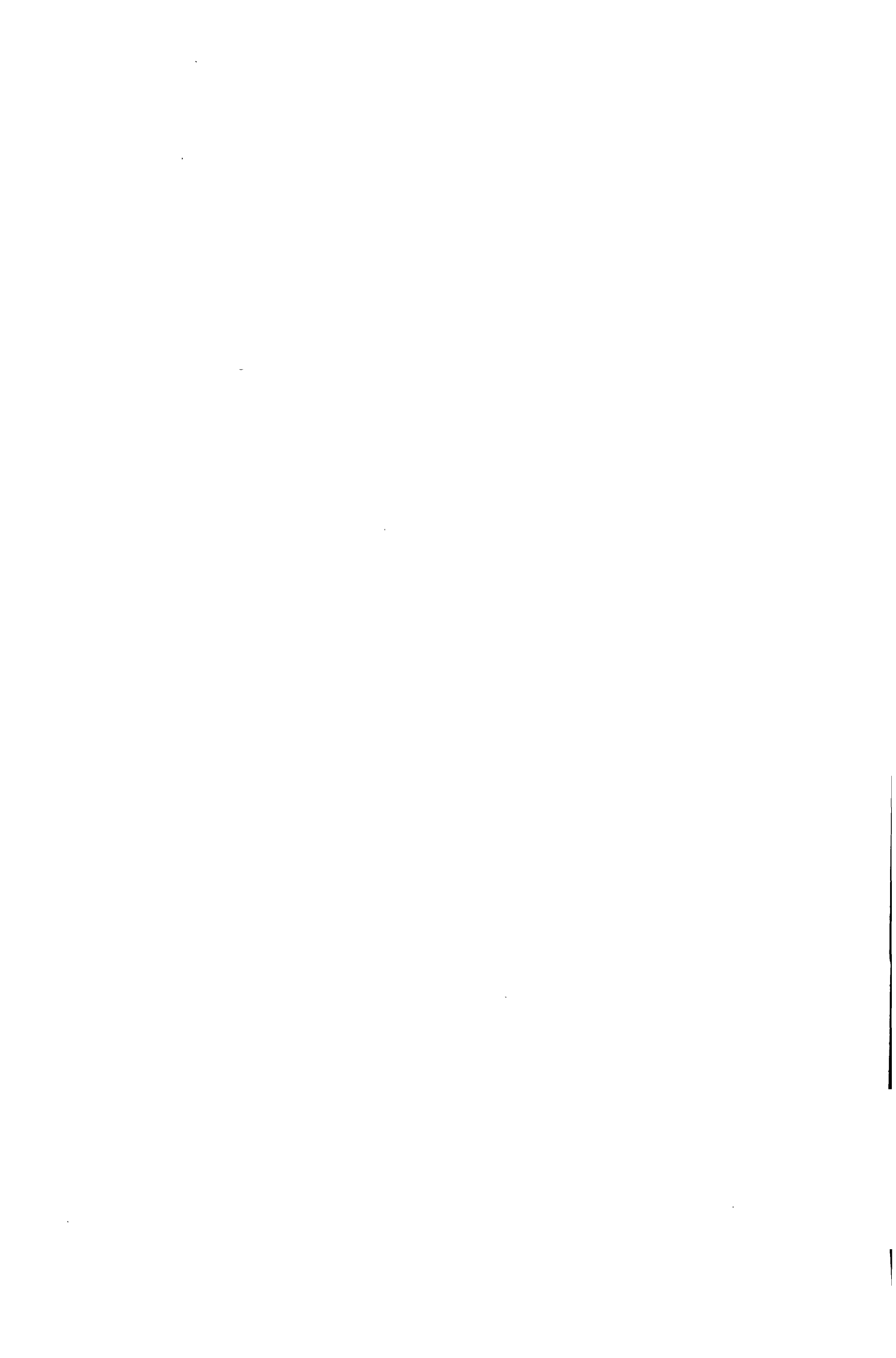
- Scale of demand
- Quality images required
- Access routes
- Image suppliers preparedness
- Economic model
- Licensing, fair pricing
- New user and supply sites

De Montfort University

BIBLIOTHECA

Universidad de Madrid

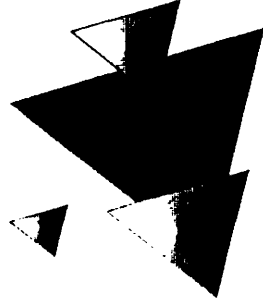
Mr. J. Sarabia



BiblioTECA

Jaime Sarabia
Verba Logica
Universidad

Complutense Madrid



BIBLIOGRAPHIC TEXTS COMPOSITIONAL ANALYSIS
BiblioTECA

Concentration Meeting on Exploration of Results of R&D BiblioTECA project. 17-18 June 1996 p. 1

The BiblioTECA Consortium

Unidad de Coord. de Bibliotecas - CSIC · Madrid
Matra Caps Systèmes · Paris
Biblioteca Nazionale V. E. III · Naples
Instituto Cervantes · Alcalá de Henares
Verba Logica - Universidad Complutense · Madrid (Coord.)

Concentration Meeting on Exploration of Results of R&D BiblioTECA project. 17-18 June 1996 p. 3

BiblioTECA

Bibliographic Texts Compositional Analysis

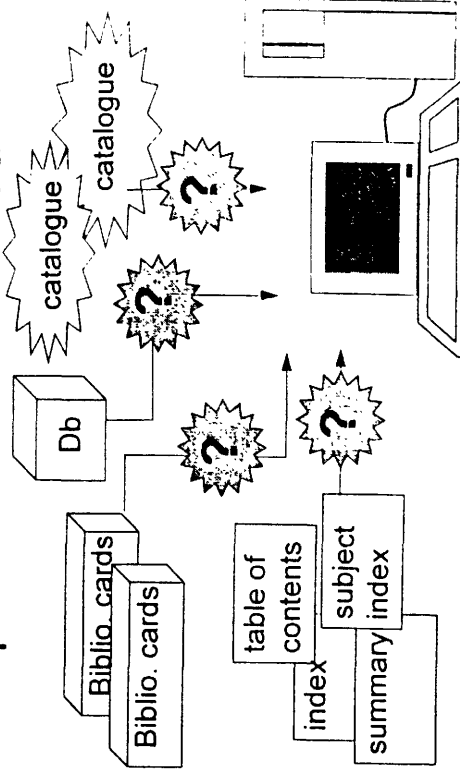


Libraries Programme (DG XIII)
Project 2023

January 1994 - December 1995

Concentration Meeting on Exploration of Results of R&D BiblioTECA project. 17-18 June 1996 p. 2

The problem to be solved



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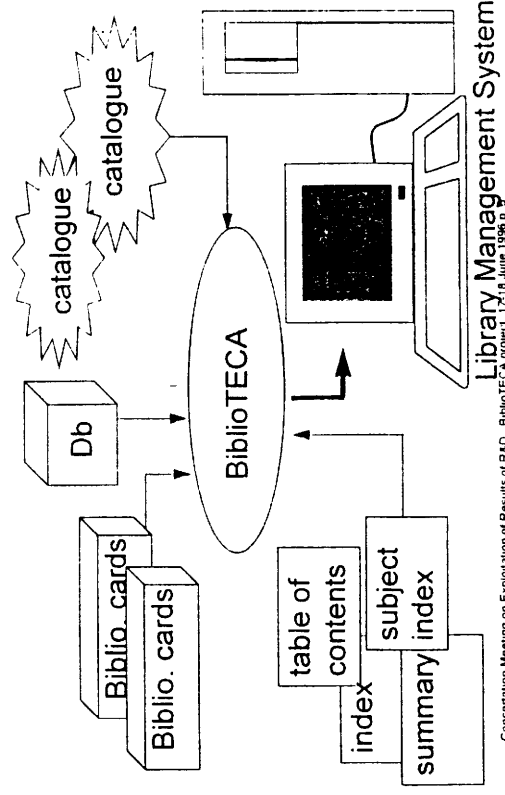
Library Management System

A two sided problem

- Physical:
 - How to transfer data to a magnetic media from printed or dactylographied paper.
- Logical:
 - how to change form information coded /formatted according code A to coding B: for instance:
 - from ISBD a UKMARC
 - from 'Paris rules' to ALEPH
 - from a Database or Documentary DB to a custom coding

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The answer

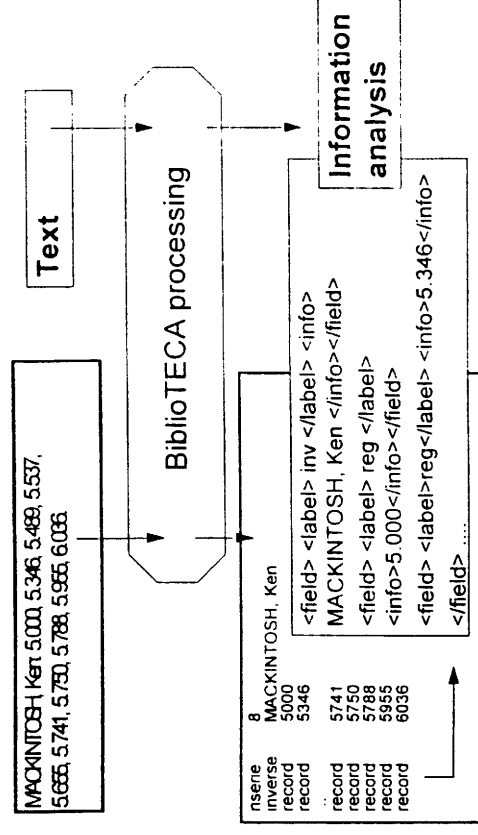


BiblioTECA goals

- To devise tools for automatic information analysis in documents such as bibliographies, printed catalogues, indexes, bibliographical cards,...
- in order to give access to informations originally expressed in different media and/or formats and/or allow further automatic processing of their contents

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An example



And from this record...

1

Addio a Napoli. Cottrau. -- Canta pe'me. De Curtis.
 Int.: Enrico Caruso, con acompañamiento de or-
 questa.
 Barcelona, Compañía del Gramófono-Odeón, 1924.
 RCA Manufacturing Company. Camden, New Jer-
 sey. A 23140. CA 11306.
 La Voz de su Amo DA 104.
 6 min. 25 cm.

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Using this description

```
documento ==> [?( * espaciofl), n_registro, &/ titulo_autor,
interp, grabacion, casa, sello, colacion, signatura].

area_dd(titulo_autor, true). ...
fin(titulo_autor, fa, externo_homo). ...
n_registro ==> * espaciofl, numeral, * (numeral; futil).
interp ==> ? $!nt$, r_int.
ciudad ==> lexema^i_ciudad((lexema).
fecha ==> numeral^entres(numeral, 1900, 1992),
+ / punto_sp, fl.
grabacion ==> i_grab, r_grab.
...
```

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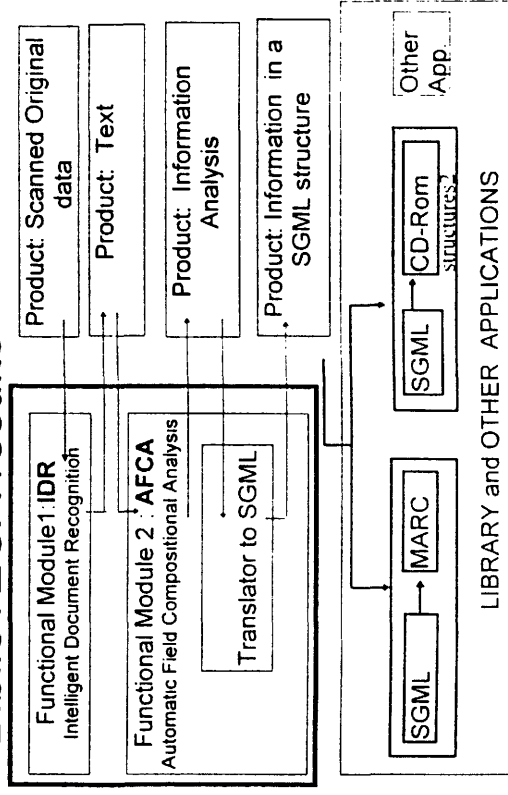
You get this analysis...

n_reg	1
tit_aut	Addio a Napoli. Cottrau
tit_aut	Canta pe'me. De Curtis
interp	Enrico Caruso, con acompañamiento de...
grabac	Barcelona, Compañía del Gramófono ...
casa_d	RCA Manufacturing Company. Camden, ...
sello	La Voz de su Amo DA 104.
colación	6 min. 25 cm.

Of course other (finer) analysis are feasible

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BiblioTECA results



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Two types of products

- The system itself: a toolbox for managing and processing documents and their information
- The output of the system:
 - analysis of sets of documents
 - in a (just) formally unified format: every information unit has the format
<label>xxxx</label><info>yyyy</infor>

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The intended exploitation

- The original plan was to design
 - an user friendly product
 - flexible
 - different types of documents could be treated
 - no previous standard were supposed but the output could be adapted to standards
 - with no strong assumptions on the user knowledge of programming languages
- having in mind libraries and their current and future needs:

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A sample of end output

```
<field>
<label>n_registro</label>
<info>1</info>
</field>
<field>
<label>titolo_autor</label>
<info>Addio a Napoli. Cottrau</info>
</field>
<field>
<label>titolo_autor</label>
<info>Canta pe'me. De Curtis</info>
</field>
```

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Needs such as

- Retrospective conversion of cards catalogues
- Conversion to a magnetic media of printed catalogues
- Use of tables of content, indexes for enhanced reference
- Processing of secondary information from and to magnetic media

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Exploitation plans

- Our goal was originally to create and distribute a product although the possibility of offering a service was open.
- We thought primarily to offer the system, not directly its output.

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Libraries seem to prefer the service

- Now it seems that libraries are more interested in the second possibility: It seems more useful the analysis and transfer of a catalogue than the tools to do the transformation
- Or at least they would prefer more specialised tools

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The envisaged market

- Traditional applications
 - Retrospective Conversion of cards catalogues
 - Retrospective Conversion of catalogues already on magnetic media
- Emerging applications
 - Table of contents analysis
- New applications
 - Indexes analysis, printed catalogues, WW

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There are reasons for that

- Usually a transformation of the output is required: to adapt it to
 - cataloguing standards (xxMARC)
 - proprietary systems
 - other type of formatting (HTML)
 - ...
- New tools involve learning a new technique: this is not always cheap

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We are currently giving a service

- Now using BiblioTECA tools we have continued a five years tradition, performing the retrospective conversion (cards to IBERMARC) of a University Library.
- We have two projects under study:
 - RECON for a libraries net
 - BiblioTECA application to serials tables of contents for a documentation center
- We have given services in the other above quoted fields:
 - Conversion to a magnetic media of printed catalogues
 - Processing information from an to magnetic media

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From prototype to end version

- Although BiblioTECA is not (too) far away from commercial application some steps have to be taken. Problems
 - Budget to do it
 - It is very convenient to have concrete exploitation expectatives in view, in order to near a customised product

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Technology transfer to libraries

- Very different technological skill level among libraries
 - new techniques should be transferred from designer to user
 - discovering new application fields: this is a field for libraries but involves a fair amount of familiarity with tools and techniques
- Very different structural level
 - use of computers, hardware, etc.

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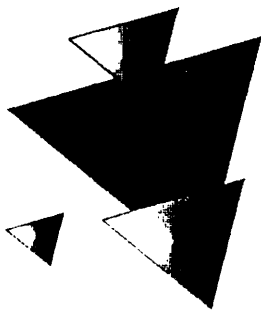
Problems with exploitation

- There is nothing new under the sun:
 - read pages 4 and 5 of the background document
- but I would point to two problems:
 - from prototype to commercial application
 - technology transfer to libraries

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BiblioTECA

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BISLCarabic Texts Compositional Analysis

BiblioTECA



EQLIPSE

University of Limerick

Mr. J. O'Flaherty





EQLIPSE
 Evaluation & Quality in Library Performance:
 System for Europe



Dr. John J O'Flaherty,
 Director,
 MAC,
 University of Limerick.

- EQLIPSE Project
- EQLIPSE Prototype
- Exploitation of Results

Concertation Meeting on Exploitation
 - Luxembourg, 17 June 1996.



EQLIPSE Project



- Specify, develop and validate an open software "toolbox" product to support libraries of all types in:

- Quality Mangement (ISO9004)
- Performance Measurement (ISO11620)

- Steps

- Library Requirements Analysis
- Prototype development
- Field trials & evaluation

- 2 year project, funded by the CEC Libraries Programme
- 5 Partners and 5 Associate Partners from 7 EU countries.

• University of Central Lancashire	(UCL)	UK
• Dublin City University	(DCU)	Ireland
• National Measurement Applications Centre	(NAC)	Ireland
• Universitätsbibliothek	(UB)	Germany
• Copenhagen Business School	(CBS)	Denmark
• Stockholm Högskola Vårdens Institution	(SHV)	Swedish
• Stockholm University Library	(SUL)	Sweden
• Staatsbibliothek Oldenburg	(SO)	Germany
• University of the Aegean	(UA)	Greece



EQLIPSE Prototype



Performance Workbench

- ISO 11620
- 54 Performance Indicators
- 64 Datasets

Quality Workbench

- ISO9004-2:1991 Services
- Complete Quality Management System



EQLIPSE Performance Workbench

From ISO 11620

- User Satisfaction
- Titles
- Use
- Search Success
- Stock
- Retrieval
- Loans/access
- Facilities
- Documents
- Staff



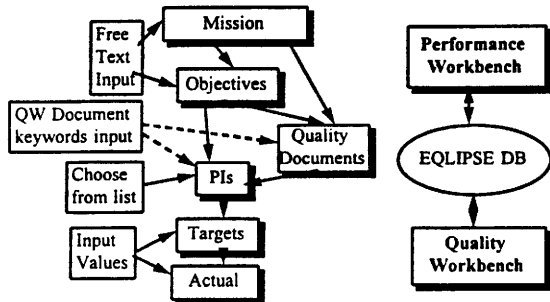
EQLIPSE Quality Workbench

From ISO9004-2:1991

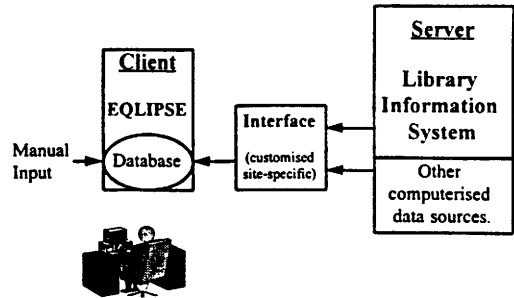
- System Manager
- Document Control
- Personnel
- Customer
- Customer Complaints
- Nonconformities
- Audits.



EQLIPSE Prototype to integrate PIs & QMS



EQLIPSE in a Library



EQLIPSE - Exploitation Plans

- Library-based partners will prove the Prototype in operational libraries.
- EQLIPSE will contribute to the development of ISO9004 and draft ISO11620 standards & practices in Libraries.
- Thus giving EQLIPSE an unique market opportunity.



EQLIPSE - Exploitation Plans

- MAC & Dynix will complete (productise) the prototype.
- Dynix will include EQLIPSE as an add-on module in their Horizon and other Library information systems.
- EQLIPSE will be made available as a stand-alone PC product.



EQLIPSE - Exploitation Actions

- EQLIPSE prototype has been developed to operate stand-alone with any Library Information System.
- EQLIPSE is currently being integrated into Horizon.
- Performance Workbench uniquely implements ISO11620
 - was custom developed & structured for subsequent productionisation.
- Use of standard proven ISO9000 Quality Workbench QMS product.
 - Discussions with its developer for favourable terms to include it in the EQLIPSE product.
 - Will custom develop & structure a suitable QMS if terms are not commercial.

