

Telematics for Libraries

An Initiative within the European Commission's
TELEMATICS APPLICATIONS PROGRAMME

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Introduction

The Telematics Applications Programme (TAP) is one of the large subprogrammes of the Fourth Framework Programme for Research and Technological Development (FP4). It was launched by the European Commission in 1994 and will cover a period of five years. It has been designed to promote the application of telematic solutions in various areas of relevance to growth, competitiveness and employment in Europe. "Knowledge" has been identified as one of these areas and three sectors of the programme have been linked to it: Telematics for Research, Telematics for Learning and Telematics for Libraries. Thus the role of libraries (of practically all kinds and at all levels) continues to be acknowledged as crucial for the development of the infrastructure of an emerging Information Society. The attention they receive has in fact considerably increased since the first European initiatives were taken for their benefit in the mid-eighties, and since a small European "Libraries Programme" was made part of the Telematics Programme under the Third Framework Programme (FP3, 1990 - 1994). There is growing awareness of the potential contribution libraries and the people working in them can make towards the creation of new and useful services based on large information repositories and on modern Information and Communication Technology. In today's Europe, with its single market, this is clearly an issue of European dimension and concern. It is equally clear, however, that many libraries (and librarians), due to their traditional functions and sometimes conservative attitudes, need encouragement and (at least initial) support if they are to participate successfully in this process.

The purpose of this talk is fourfold: (1) To briefly illuminate the background against which DG XIII's current support of European Libraries is set; (2) to give an overview of some of the results our activities have brought forth to date; (3) to report on the outcome of our most recent Call for Proposals (the first one under the Fourth Framework Programme) and to put it in perspective with regard to ongoing and possible future developments; last but not least I would like to give some advice and encouragement to those who are thinking about "jumping on our bandwagon". It is not as difficult as some may believe it is.

Background and a few bits of history

With some imagination one may say that the European "Libraries Programme" has evolved in phases and there is good reason to maintain that it was the European Parliament (with what became known as the "Schwencke resolution") that started it all in 1984. Be that as it may, it was only after a resolution of the Council of Ministers had been obtained in 1985 that pertinent activities could be embarked on in a systematic fashion. The Council's resolution called on the Commission to help create a modern libraries infrastructure in Europe, in support of economic, social and cultural life. That was certainly not an easy task to accomplish and it required considerable effort to devise a plan of action that would be both meaningful and effective. Too diverse is the European libraries scene, too fragmented and too disparate. On the other hand the "digital revolution" along with new and exciting technologies had already taken a firm grip on many (more profit oriented) sectors of the economy, and libraries everywhere in Europe (in some countries more than in others) were facing a real threat of falling behind in adopting these technologies, of losing ground to other, more agile players in the information market and of

"wasting" their vast and valuable resources by not being able to make them as accessible as they could be.

The "Plan of Action" that emerged after a first "exploratory phase" (about 1985 - 1988) directly responded to this challenge. It was based on a number of ground clearing studies, such as on library economics, conservation and preservation issues, the state of the art of library automation in all Member States of the Union, library interworking and other topics. And it was ultimately stated in terms of 4 "Action Lines":

- I Development of computerised bibliographies
- II Telematic means for interconnecting library systems
- III New library services based on I&CT
- IV IT products, services and tools in support of AL I-III

They were designed to provide the framework for a programme intended for funding library oriented research and development, similar albeit on a much much smaller scale, to big Community R&D programmes like ESPRIT or RACE, as they were called in those days. Clearly, however, the first two of these Action Lines were of pressing urgency. They involved the definition, adoption and - most importantly - implementation of standards. Hence, and before a funding programme could be formalised, several pilot projects were launched that addressed precisely these issues, to wit: CD-BIB (Interchange of bibliographic data on CD-ROM), EROMM (European Register of Microform Masters), ION (OSI interconnection between library networks for interlending services) and EDILIBE (Electronic data interchange for libraries and booksellers). These projects, together with more studies and numerous workshops on selected topics, mark what may be called the "preparatory phase" (1988 - 1990) of the European "Libraries Programme".

In 1990 our activities were "raised to the ranks of nobility" by putting them under the umbrella of the Third Framework Programme which was then about to start. "Libraries" became Area 5 in the first Telematics Programme, then known as "Programme of R&TD in the Field of Telematic Systems in Areas of General Interest". The budget allocated to this new area was rather modest indeed (ca 24 MECU). It was therefore necessary to focus our activities in such a way as to ensure the best possible effect on intra-European library cooperation, on the innovation of library services and on a European market for library oriented services and products. Consequently, our "Plan of Action" was refined into a fully fledged workprogramme by defining a number of preferred priority themes under each Action Line, and three calls for project proposals (CfP '91, '92, '93), based on this workprogramme, were launched during the lifetime of the Third Framework Programme (FP3).

These calls attracted altogether 333 proposals involving 1036 distinct organisations. 51 proposed projects (involving more than 200 distinct organisations) could be funded (some of them are already completed). Their repartition among the Action Lines is shown in Table 1 (the completed projects are indicated by using an italic script). The relatively large number of projects retained in '93 under Action Line IV (targeted at the market for library products and services) is most likely due to a special initiative taken in conjunction with CfP '93. It was aimed at stimulating the participation of small and medium-sized enterprises (SMEs) by granting some financial support for the preparation of full proposals. It may also be worthwhile noting that only three projects could be allocated to Action Line I. (More should be said about this in the following section.) Further statistical analysis (which we forego at this point) of our three calls under FP3 would certainly reveal interesting facts and figures regarding coverage of the Member States (plus associated countries), and of the different types of libraries and library-related organisations.

CfP '91	CfP '92	CfP '93	Total
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AL I	HELEN FACIT	USE- MARCON		3
AL II	EDILIBE II EDIL SOCKER	LIRN EUROPA- GATE	PARAGON ARCA ONE	8
AL III	ELISE HYPERLIB EBP RIDDLE	EDUCATE SPRINTEL AIDA MOBILE FASTDOC BIBDEL PLAIL EURILIA	SELF COPINET BORGES DECOMATE REACTIVE TELECOM DALI	18
AL IV	EXLIB MORE JUKE-BOX VAN EYCK	ELSA CANTATE BIBLIOTECA INCIPIT MECANO	MURIEL DECIMAL EQLIPSE MUMLIB TRANSLIB DECIDE CANAL/LS MINSTREL SESAM BAMBI HISTORIA OLUIT CASE- LIBRARY	22
#Projects	13	16	22	51
#Partners				200
Budget				~24 M

Table 1: Results by Action Line

Current projects and activities

It is perhaps more illuminating to analyse our FP3 projects from quite a different point of view, i.e. in terms, say, of technologies, standards, services and specific domains of interest. A possible result of this analysis is represented in Tables 2 and 3. There is indeed a wide range of issues that have a bearing on the libraries' world and upon which the libraries' world may have a bearing. We should not be too demanding, though. The "Libraries Programme" was never meant to host "original research" (and, for that matter, neither was the Telematics Programme at large). "Innovative application" is the term that may characterise the gist of our projects. And "innovation" is as relative as time and space: what may be considered new in the library domain may be an "old hat" elsewhere. But this should not diminish our endeavours, on the contrary: creative adaptation of proven methods and techniques to a specific domain may be no less an intellectual challenge than designing these methods and techniques in the first place. Obviously, these remarks apply to some lines in our Tables 2 and 3 more than to others.

Most of the projects that resulted from FP3 calls are still ongoing. So it would be somewhat premature to talk about their final results. It is, however, possible to draw a number of conclusions mainly from the content of Tables 2 and 3. A general conclusion would be that libraries in Europe are indeed making an effort to catch up on some widely recognised trends, such as standardisation of data formats and communication protocols; they are preparing themselves for the "digital age" and for becoming rooms accessible in "cyberspace"; they try to gain efficiency in their internal workings and to seek new opportunities in areas (such as education and training) where they have played an important role ever since.

AL I	AL II	AL III	AL IV
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Networking		EDILIBE II (EDIFACT, X.400) EUROPAGATE, ONE (SR/Z39.50) SOCKER, PARAGON, ARCA (SR) LIRN (X.500) EDIL (GEDI recom.)	AIDA (ILL) DALI (Z39.50, X.400) ELISE (Z39.50, Internet)	MURIEL (ISDN)
Imaging	FACIT (scann., OCR)		BIBLIOTECA (print) DALI (Scient. rep.) ELISE (photog, maps) EURILIA (text, fax) FASTDOC (journ., fax) RIDDLE (text)	BAMBI (Manuscripts) HISTORIA (heraldry) INCIPIT (microfilm) MORE (scann., OCR) MUMLIB (multim.) VAN EYCK (photog)
Multimedia				JUKE-BOX (sound) MUMLIB (CD-ROM)
Toolboxes	UseMARCON (convers.)			MECANO (CD-OPAC) OLUIT (user interface) CASELIBRARY (Library service interf.) MINSTREL (MI tools)
Various tech			SPRINTEL (voice rec.) MOBILE (GSM)	REACTIVE (voice, videotex)

Table 2: Issues covered (technologies)

I would like to make a few more detailed remarks on standards, digitisation and new services. As far as networking standards are concerned the controversy between OSI and the "Internet world" seems to be going on, with the latter gaining more and more ground. Interlibrary networking in Europe still seems to be a stronghold of OSI whereas the Internet is the obvious choice when connections into the world at large are called for (WWW is the name of that strange attractor). The convergence of SR and Z39.50 (or is it a takeover of the former by the latter?) may eventually lead to a "peaceful settlement", at least on the interlibrary front. Our projects do also make significant contributions to format standards. They deal for instance with the conversion of bibliographic formats (e.g. UseMarcon), the creation of bibliographic records (e.g. MORE), and with applications of SGML and its derivatives (like HTML) to the enhancement of library catalogs, bibliographies and electronic documents in general (e.g. HyperLib, ELSA, SESAM, BIBLIOTECA and others). It must be noted, however, that too few projects are supporting or promoting international bibliographic standards. I will have to say a bit more about that later on.

"Electronic documents" is the cue that leads on to the next area of concern here. This area has also often been described using the catchword "Digital Libraries". (Like the "information highway" this is a term that was made popular in the United States. In Europe we may prefer to talk about "Electronic Libraries" or "Virtual Libraries", the latter being a term which I would personally be loath to use.) I do not venture on trying to define what "digital (or electronic) libraries" are, but I would like to point out that many of our projects are dealing with matters which without doubt are inalienable elements of the "Digital Library". There is digitisation of library materials in the first place, through scanning and OCR for instance (e.g. MORE). Imaging technologies are in fact employed by a large number of projects (cf Table 2), with the express aim of making documents (including old and fragile ones) more accessible to specialists and the general public alike. And they are often employed within larger settings, involving other technologies that are pertinent to the concept of a "Digital Library", such as electronic document management and document delivery, where documents are no longer limited to linear

text, but may contain objects traditionally represented through quite different media, and are structured through links among these objects. ("Multimedia" and - if networked - "Hypermedia" are the terms usually applied to this extended notion of documents.) It seems quite evident that libraries do not ignore the (many) problems posed by what has become known as "Electronic Publishing" and that they are well on their way to assume new places within new publication chains.

	AL I	AL II	AL III	AL IV
Formats (bibliogr. and text)	UseMARCON (Unimarc)		BIBLIOTECA (SGML) HYPERLIB (SGML, HTML)	MORE (SGML, Unimarc) ELSA (SGML) CANTATE (SDML) SESAM (HTML)
Multilingual	HELEN (transliteration)			CANAL/LS (catalogue access) TRANSLIB (dict., thes.)
Document delivery & Electronic publishing		EDIL (File transfer)	EURILIA (techn. docs) DALI (MM scient. reps.) FASTDOC (order&deli.) BIBDEL (learn. mat.) EDUCATE(courseware) DECOMATE (copyr. mat.) COPINET (copyr. mat.)	SESAM (acad.courses) ELSA (electr. journals)
Decision support				DECIMAL (DDS mod.), EQLIPSE (PI, ISO9000), DECIDE (DSS, PI), MINSTREL (PI, DSS)
Education & training			EDUCATE (science&engin. students) PLAIL (adult learners) BIBDEL (general) REACTIVE (general)	MURIEL (librarians) SESAM (students)

Table 3: Issues covered (standards, services and specific domains of interest)

My third remark is about new services. There are those based on Information and Communication Technology (I&CT) (like the aforementioned document delivery) and there are others which aim to make people fit for using I&CT. It is quite heartening to see that public libraries are making a particular effort in this direction. Four projects, SPRINTTEL, REACTIVE TELECOM, MOBILE and PLAIL should deserve an honourable mention at this point. SPRINTTEL and REACTIVE TELECOM for having combined well established technologies like Telephone and Cable TV, with fairly advanced voice recognition and synthesis tools, in order to provide citizens with library services in their homes; MOBILE for introducing I&CT into mobile libraries and thus extending I&CT based library services to inhabitants of rural and remote areas. PLAIL, on the other hand, run by a consortium that includes three public libraries, sets out to enable librarians to provide help and guidance to adults who are seeking to improve on their own their professional skills and knowledge (so called "adult independent learners"). Libraries have always had a key role in education and training at all levels (as "learning resource centres", one may say) and so it is not surprising that there is a number of projects, with mainly academic libraries involved, that focus on issues pertinent to these areas. EDUCATE for example, will use the WorldWideWeb to give students access to courseware on information sources related to physics and electrical engineering; SESAM will provide

improved access to the library's learning resources via the campus network and MURIEL envisages the collaborative and distributed production of courseware to be used by students of librarianship via Euro-ISDN connections.

Even from these short descriptions it becomes apparent that it would not be fair to put just one label (referring to just one technology, one service, etc.) on each particular project. Indeed, most projects have many dimensions and can well be characterised as multi-disciplinary. Therein lie, I believe, the particular challenge and attraction of applying modern technology to the creation of new library services and to the enhancement of traditional ones.

I mentioned the many problems libraries are facing in connection with "Electronic Publishing". Not all of them are technical and in fact the technical ones are those which are probably the easiest to solve. Copyright and IPR (Intellectual Property Right) are far more formidable. Many of our projects (especially those that do have a document delivery component of some sort) have to tackle these problems. And it is of course tempting to put I&CT to use for suitable solutions. At least two of our current projects, COPINET and DECOMATE, both dealing with the electronic delivery of copyrighted materials, were specifically designed to do just this.

At this point it may be appropriate to note that the Commission services that manage R&TD funding programmes like the one we are talking about here, do not understand their role as mere providers of funds. Our mandate and our ambition go beyond that. We are also called on to act as facilitators in our respective domains, to foster cooperation between all players and to provide support for solving problems of general interest. These activities are commonly known as "accompanying measures" and every sector of the Telematics Applications Programme as well as the Programme as a whole has a certain part of its budget earmarked for them. These measures may take the form of, for example, (ground clearing) studies, workshops and concertation meetings. And by the rules of the FP3 Telematics Programme it was still possible to set up so called "fora" in order to study problems which could not or not sufficiently be addressed through the ordinary Call for Proposals mechanisms. Three such fora were instigated by DG XIII's "Libraries Unit": ECUP (European Copyright User Platform), CoBRA (Computerised Bibliographic Records Action) and EFILA (European Forum for Implementors of Library Automation). In addition, we participate in groups (such as EWOS, the European Workshop on Open Systems) where library related standards are discussed.

It goes without saying that these three fora were not set up "out of the blue". Each of them grew from a perceived need for clarification and action. This is quite obviously the case for ECUP as was already explained above. (The Library Associations of all Member States and of other countries eligible for participation in the TAP are represented there.) CoBRA was created in cooperation with CENL, the Conference of European National Librarians, in response to a relative lack of sufficient response to our Action Line I. It was felt that for whatever reason the national libraries had not been adequately represented in Action Line I proposals and that, after all, harmonisation of bibliographic records was a matter of concern primarily to the national libraries. In the meantime, several studies have been launched under CoBRA which are investigating in depth, issues related to bibliographic data, such as UNIMARC, authority files and Unicode. Finally, EFILA has come into existence through our participation in EWOS. It invites implementors of library automation in Europe to share experiences on the implementation of standards and to create feedback to standardisation bodies and profiling groups such as EWOS.

First steps into the Fourth Framework Programme

When the overall structure of the new Telematics Applications Programme under FP4 was deliberated there was no doubt that Libraries would again be included as an important sector. It was equally clear, however, that the focus of this sector would have to undergo a slight shift. There was dual justification for that: On the one hand account had to be taken of the experience gained with FP3 projects. On the other hand the increased attention had to be honoured that was paid to libraries in discussions on what is conveniently termed "the Information Society", and its all-embracing global networks. The new workprogramme for the Libraries Sector of the TAP was hence to be guided by two fundamental principles: continuity and openness: Continuity with regard to ongoing activities and openness towards more recent trends and substantial developments in areas such as digitisation, networking and multimedia. After all, many of our early FP3 projects (from CfPs '91 and '92) had already undergone considerable adaptation in accomodating these trends and many of the later FP3 projects had quite expressly been defined in response to them. In view of this fact it was felt that continuity should not be too difficult to achieve. On the operational side the new workprogramme should encourage and to the largest extent possible support the move in the libraries world "from collection-orientedness to access-orientedness". Telematics, of course, is the key to accomplishing this move which affects systems and services alike.

In structuring our new workprogramme some heed had to be given to constraints imposed by the overall approach adopted for the TAP under FP4. It was still possible though to put the workprogramme in terms of Action Lines and to broadly describe a number of themes (now called "Call Topics") which, albeit not obligatory, provide potential proposers with a framework into which they can place their project ideas. The "Research Tasks" required by the general TAP structure have been rephrased as "Task Goals" and subsumed under the new Action Lines:

- A. Network-oriented internal library systems (Task Goals: LB1.1 - Modernisation of library systems and tools, e.g. with a view on cost-effectiveness, development of "easy-entry" technology to reduce disparities; LB1.2 - Provide continued stimulus to the European market for library systems and tools)
- B. Telematics applications for interconnected library services (Task Goals: LB2.1 - Interconnection between libraries to support development and enhanced services based on a distributed library resource in Europe; LB2.2 - Integrated cross-border services for data-exchange, interlibrary lending and document delivery between libraries; LB2.3 - Electronic links between libraries and publishers/suppliers for acquisition and distribution of materials and data; LB2.4 - Development, testing and integration of open standards in libraries.)
- C. Library services for access to networked information resources (Task Goals: LB3.1 - Evolution of an organisational framework and integration of emerging resource discovery technologies into services for organised access to networked information resources; LB3.2 - Library-mediated services for end-user access to network information resources)

These Action Lines address library related issues and problems at three interlocking levels which (with a little grain of salt) may be paraphrased as (A) "intra-", (B) "inter-" and (C) "extra-" library respectively. This will become even clearer if we look at the various Call Topics:

Action Line A Call Topics:

1. Integration tools and interfaces for library systems in the local network
2. Tools and methods for the creation and use of library materials in electronic form
3. Development and testing of tools for the management and administration of library services in an electronic environment

Action Line B Call Topics:

4. Creating and testing interconnected library services, integrating applications for at least two different library service functions
5. End-user access to inter-library network resources
6. Services for the acquisition and supply of materials to libraries
7. Development of new scenarios and models for distributed libraries and associated services to users (in preparation for potential implementation projects)

Action Line C Call Topics:

8. User services based on resource discovery and retrieval
9. Test-beds for library mediated access and services based on networked information resources
10. Tools for use of retrieved networked information resources
11. User applications supporting unified access to combined networked information and library-based resources
12. Integrating library services with distance learning environments

These Call Topics are indeed hospitable to a wide range of project ideas (picking up on all the issues listed in Tables 2 and 3, and more) as it turned out in mid-June, this year, when the time for submitting proposals to our first Call (CfP '95) under FP4 had elapsed. It would of course lead too far if I tried to present a fully fledged analysis of the more than 100 proposals we received. Instead, I will give a brief overview of the 14 shortlisted project proposals by Action Line. (Another 11 proposals have been put on a reserve list. Pending the completion of the formal "Commission Procedure", negotiations on the basis of the retained proposals will be started with the aim of concluding shared-cost project contracts as soon as possible. So, given that we are still at a stage when some confidentiality ought be respected, it will not be possible to indicate the potential new projects by name - after all, that may change - or to add any administrative information.)

Projects proposed and shortlisted under Action Line A:

- Development of a multi-media information system for public libraries with standard interfaces to local and remote catalogues and other information sources. It will incorporate modules for user training and it will also be accessible from outside the library, e.g. from schools, private companies and private homes.
- Setting up a service aimed at improving the quality of bibliographic records. This service will be rendered through a knowledge-based system that is accessible via library networks and that will check bibliographic records for consistency.
- Development of a smartcard-based system providing secure, single code access to a range of internal and external library services. It will also handle billing and charging, and cater for the suppliers' need of guaranteeing copyrights.

Projects proposed and shortlisted under Action Line B:

- Building a large scale demonstrator of open, distributed library services integrating Search and Retrieve, (multimedia) Document Delivery and Interlibrary Lending. It will also allow for collaborative cataloguing. It will present a unified view on a potentially large heterogeneous (in terms of access method, record syntax, character set and even language) set of physical databases. Key standards to be employed will include SR/Z39.50, UNICODE and UNIMARC.

- Creation of a serials authority list based on the ISSN system. It will allow users to locate documents, identify document supply centres and find article citations and abstracts from multiple locations. Services based on this list will be available i.a. on the WorldWideWeb via ISSN to URL mappings.
- Development and demonstration of an operational image retrieval service based on a heterogeneous set of networked image banks located 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.
- Implementation of a prototype system that enables the interchange of data between publishers and national bibliographic agencies. Based on this system services will be provided for the registration (at a European level) of electronic publications. Criteria for the kinds of electronic publications to be incorporated into national bibliographies and mechanisms to support bibliographic control of this material will be established.
- Production of multimedia materials for the children's library. These materials include search and access tools as well as packages for teaching children how to locate and use local and remote library resources, for stimulating their personal creativity and for communicating among each other via a (potentially Europe-wide) network of childrens' libraries.
- Building a Document Delivery demonstrator (involving several interconnected electronic document stores, located in different Member States of the Union) which will handle all service functions (searching, ordering, delivery, billing, etc.) under a unified standard interface allowing users to define their own individual profiles. The proposed technologies include document management systems and on demand scanning.

Projects proposed and shortlisted under Action Line C:

- Setting up trials in public and academic libraries in four countries whereby blind and visually handicapped readers may access catalogues and documents.
- Design and implementation of an open system for integrated access to and retrieval of documentary information (as commonly available from libraries) and empirical data (as usually contained in data archives). It will offer tools and procedures for the normalisation, cataloguing and controlled distribution of distributed holdings of material of the said kind.
- Development of an Internet based aid for search, selection and presentation of information on European law and politics from a wide range of locations and media to which there is currently no centralised access. It will consist of three basic elements: a WWW index of European law and politics, a multimedia facility for training students, teachers and librarians, and a search engine providing a WWW interface to national and European parliamentary databases.
- Testing the "electronic library" versus the "traditional library" in an academic environment. This will be achieved by offering traditional library materials (journals, textbooks, reference works and dictionaries) in electronic form on CD-ROMs, via campus networks and via wide area networks. (For the express purpose of this project a well known textbook on computational geometry will be turned into a hypermedia courseware product.) The acceptance by students and other users of these products will be tested in comparison with usage of traditional media (paper, microfilm, etc.). Implementing models for dealing with issues such as copyright and fair charging is also foreseen.
- Integration of "Flexible and Distance Learning" (FDL) solutions into a public library environment. Library users will gain access to a wide range of learning materials through a consistent interface: the library. This range includes a portfolio of interactive multimedia FDL titles, "wrapped" with distant (via networks) or local mentor-support. Four prototypes in four Member States are envisaged. These will be linked for Europe-wide user-support, feedback and discussion fora.

I would like to add a few remarks highlighting some of the characteristics of this selection of proposals (which are very likely to become our future projects): My first comment is on the coverage of our Action Lines and Call Topics. It is perhaps not a surprise that most of the retained proposals do not address just one Call Topic and not even a single Action Line. This may partly be due to the abovementioned constraints imposed by general "TAP rules" but it is more likely to be a consequence of the intrinsic (and growing) complexity of the library scene. There are simply no clear-cut boundaries. Yet the above allocation of proposals to Action Lines is not entirely arbitrary: it does reflect the main emphases laid by the proposers and - in some cases - discovered by the evaluators. As from the outset Action Line B was considered to be the "centre-piece" of the new workprogramme it is worth noting that Call Topic 4, a key theme, will be addressed by two projects. The response to Call Topic 7, on the other hand, is less satisfactory, as this Call Topic was intended to provoke forward looking proposals for the preparation of projects which would not yet be ready for implementation given the present state of the art, but could well be realised in the medium-term.

The above selection of proposals also proves that the TAP Library Sector is well placed in the Telematics for Knowledge area, together with Research and Education and Training. This is particularly true with regard to Education and Training. In fact, most of the new projects will have a "training component", enticing library patrons to make more effective use of the resources offered. And - in continuation of a trend that has already become apparent following the last two Calls under FP3 - there will be a number of projects which explicitly intend to strengthen the traditional role of libraries as educational resource centres. As in the past, this applies to academic and public libraries alike. (In retrospect this result is also an excellent justification for introducing Call Topic 12.)

Another tendency seems to gain impetus: the fortification of links between publishers and libraries, especially as regards the new electronic forms of publishing, enhancing the function of libraries as distribution channels (at least for certain kinds of - electronic - sources). And there is some hope that for basic problems related to issues such as copyright, viable practical solutions will be found and experimented with.

As far as technologies (or applications of technologies) are concerned, there are two keywords (or perhaps "buzzwords"?) that catch ones attention while browsing our short project descriptions: "The Web" and "Multimedia". They are both more or less represented already in Tables 2 and 3. Another technology not figuring in these tables, is "smartcards", which one of our new projects is set to exploit in a libraries context.

A focus on global general networks was certainly implied in our Action Line C and so it was no surprise that many proposers (especially many of those who were not successful) had felt it would be a good idea to "put something on the Web" which, after all, is now the most visible service on the Internet. Many of these ideas, however, did not take sufficient account of real needs of libraries (and their users) or of the value a librarian's expertise might add to e.g. organisational and navigational tools. They were therefore bound to fail in the evaluation process. We are all the more confident that the selected "Web" projects will make a substantial contribution to a further opening of the libraries world towards the "worldwide networks at large".

The second keyword, "Multimedia", may owe its frequency to a general requirement set by the TAP which called for "multimedia telematics" rather than "data telematics". Personally, I am a bit doubtful as to whether the promises linked to this term will (and can) be fulfilled during the lifetime of this programme. We are probably still far from being able to really enjoy "wide area multimedia" (or "hypermedia") as everyone will confirm who has tried to download Web-pages containing sound and images, at a speed of 9.6 or even 14.4 kbit/sec. (Not to talk about even highly compressed video, which looks quite jumpy when transmitted via ISDN.) So it remains to be seen whether or not the libraries world will greatly benefit from having bells and whistles carried on its networks in the years to come. It all hinges on the availability (at least in the medium-term) of sufficient bandwidth.

In all modesty it has to be admitted that our projects are in no way unique in displaying the characteristics that I commented on. My comments are in fact corroborated by many national, regional or local initiatives that are aimed at modernising libraries and giving them their appropriate place in the "Information Society". And there is one characteristic feature, that I have not yet mentioned. It is directly derived from the TAP rules. The official designation of the TAP is "Specific programme for research and technological development, *including demonstration*, in the field of telematics applications of common interest". The catchword here is "demonstration". In fact, TAP projects in all sectors are required to demonstrate what is designed and built, preferably on a large scale. They ought to prove the usefulness of their results in a real-world environment and not only in vitro. I am convinced this will not be too difficult for the projects of the Libraries Sector.

This account of our first steps into FP4 must not be concluded without saying a few words on further "accompanying measures" planned for the future. I say "further" because the activities currently supported (to wit CoBRA, ECUP, EFILA - see above) will continue to receive our attention. In addition we plan to launch special "Concerted Actions" for important groups or types of libraries, and for tackling certain issues of common interest. There will be a Concerted Action for public libraries, involving in particular those who have submitted proposals following our CfP '95 (including the ones whose proposals could not be retained). Other Concerted Actions will be organised for music libraries, for dealing with library management issues and for the promotion of EDI standards. The aim of these actions (possibly to be implemented as "fora", like CoBRA, etc.) is to focus ideas, to stimulate cooperation (e.g. in view of preparing future project proposals) and to achieve synergy effects on a European scale. A Concerted Action for public libraries seems to be particularly promising and desirable as libraries of this kind should assume a leading role in shaping an "Information Society" where every citizen, irrespective of age, gender, race and income must have the right and the possibility to access the information he or she needs for a meaningful participation in social processes.

Some advice to future proposers

I will deliberately keep this section very short, thus proving wrong all rumours of an exaggerated bureaucracy in the Commission's R&D departments, which may surface time and again.

First, one has to learn about Calls for Proposals (CfPs). This is easy. CfPs are launched during the lifetime of a programme at irregular intervals, depending on the availability of (remaining) budget and on the previous coverage of the programme's goals. They are published in the Official Journal of the European Commission and usually it is known beforehand when they will be published. Ample material describing the background and scope of the Calls is available on demand from the Commission. In each Member State there are so called National Focal Points for the Libraries Sector which may also be addressed.

Secondly, one has to have a good project idea and to find one or more partners in different organisations (at least one of them in another Member State of the European Union, or in a third country that is eligible for participation in the TAP - otherwise it would not be a European project) who are willing to cooperate on realising the idea. Finding partners may be a problem but there is a number of services on offer that can help solving it. These services are rendered by the Commission and the National Focal Points or by other national agencies that have been established in order to support cooperation within the framework of R&TD programmes funded by the European Commission.

Thirdly, the project idea has to be elaborated and given the form of a project proposal that can be assessed. This is perhaps considered by many the most difficult part of the game. That may be true, but assessability is crucial and therefore certain formalities have to be respected. They

are perhaps less stringent than the formalities that are required when it comes to applying for national or private funds.

These few remarks certainly trigger numerous questions. I will briefly pick up on two likely ones: (i) "What is a good project idea?" and (ii) "What are the qualities of a good proposal?" To help answering these questions the designers of the TAP as a whole and of its individual sectors have identified a set of criteria by which "goodness" can be judged. These criteria are fully explained in the documentation available upon each CfP. So I do not have to add much. In fact, the most general criteria are probably self-evident. The idea should be for something useful (i.e. serving real user needs), usable and feasible (both technically, given the current state of the art in the respective domains, and within budget limitations defined for each sector of the programme). It should help achieving the general objectives of the TAP and of the specific ones of one or several sectors. It should have a "European dimension", i.e. realising it on a European scale should give it more value than realising it in only one country or locally. And its realisation should contribute to an advancement of the state of the art.

A good proposal, on the other hand, will be based on a good idea. It will convincingly demonstrate its usefulness, usability and feasibility (e.g. in terms of project structure). It will be put forward by a consortium of committed partners who do have the technical expertise and the managerial capabilities that are needed for carrying out the proposed project. I am aware of some folkloristic beliefs according to which certain compositions of consortia are a necessary prerequisite of success. My experience tells me that these beliefs are ill-founded. On the contrary: bringing in partners solely for the sake of these beliefs, i.e. without assigning them a clear and sensible role, may well be counterproductive.

And this is my final advice to those who still feel that competing for R&TD funds in the European arena is more difficult than anywhere else: I simply remind them that life would be quite dull if all we have to cope with were trivialities, and that solving difficult problems can in many ways be very rewarding.