THE DEVELOPMENT OF DATABASES
ON EDUCATION AND TRAINING
IN EUROPE

Document

This document has been prepared for use within the Commission. It does not necessarily represent the Commission's official position.

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The Development of Data Bases
on Education and Training
in Europe

Developments 1988/1991
Prospects for Future Developments

Paris, October 1991

Report to the Commission of the European Communities, "Task Force for Human Ressources, Education, Training and Youth"

This report is the result of a collective study, carried out at the request of the Commission of the European Communities and with the active support of CEDEFOP and EUDAT*, whom we thank.

In our aim of supplying the Task Force and our colleagues, who are providers and users of databases, with the basic information required for drawing up a plan of action on a Community scale, we have investigated all the databases we have been able to trace in the 12 Member States and within the Commission of the European Communities.

We thank everyone who has filled in our questionnaires and we hope that the information we are sending back to them through this report, and the Directory associated with it, will not disappoint them.

As this exercise, by its very nature, will have to be repeated from time to time, we shall be interested to receive any comments on methodology, contributory suggestions, additional information and criticism.

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For addresses see Appendices.

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Part I: The Viewpoint of Database Providers

Developments over the last four years and future prospects

INTRODUCTION: METHODOLOGY

* A postal survey was conducted between April 1 and 31 July 1991, on:

    - the providers of databases in the 12 Member States held in the records of EUDAT (European Association for the Development of Databases on Education and Training)

    - those in charge of programmes and European Community networks, managing databases on education and training.

    Two questionnaires were despatched (see *Appendices*):

    + Questionnaire 1: detailed description of the database (contents, organisation of files, information systems, access conditions) and its subsequent development.

    + Questionnaire 2: relationships between the person providing the database and its users; analysis of demand; marketing strategy.

* A database was set up with descriptions of databases recorded as a result of the postal survey in the 12 Member States and at the Commission of the European Communities: address, services offered, hardware and software.

    This database makes it possible for a *'Directory of Databases on Education and Training in the European Community'*, which is associated with this report, to be published and periodically updated.

* A working partnership was established between four organisations in four different member states:

    - Centre INFFO (Centre for the development of information on continuing training), a French organisation under the supervision of the Ministry for Work, Employment and Professional Training.

    - Guildford Educational Services, a UK education and training consultancy with experience in database operations.

    - Landelijk Dienstverlenend Centrum, a Dutch organisation under the supervision of the Ministry of Education and Science, and the Central Office of the Employment Service.

    - Scienter, an Italian training and database consultancy.

* This partnership was jointly responsible for:

    - drawing up the survey questionnaires,
    - carrying out the inquiry in the Member States and at the Commission,
    - editing the final report.

TRENDS NOTED BY PROVIDERS:

1. Institutional and financial arrangements

*   On an institutional level an increasingly determined initiative to achieve uniformity is evident.

There is continuing effort to expand and be creative, with a very clear awareness of the need to identify common ground.

-       **As a first stage (in the 1980s)**, databases were created spontaneously in Germany, France, Italy, the Netherlands and the United Kingdom:

Each organisation (whatever its status, size, sources of finance), and each provider of funds created its own database over which it had complete control, from data collection to distribution.

The source of funds had only a slight effect on this diversity and multiplicity of approach; the positive role which public bodies could have played, by imposing a rational organisation in return for their subsidies, was largely thwarted by the diverse nature of the supervisory bodies (different ministries, agencies, regional or local authorities, municipal corporations...) and of the sources of funds.

-       **As a second stage (at the beginning of the 1990s)**, there is a growing awareness of the inconveniences of such diversity: higher production costs, criticisms by users disconcerted by diverse search arrangements, rivalry between organisations, feelings of isolation for the providers, inadequate circulation of data.

The survey highlights the growing concern of both providers and decision-makers in favour of a more rational organisation.

-       **Providers** are trying to meet to compare experiences and systems:

For example:

+   *in the United Kingdom, a national association of database providers, ADSET (Association for Database Services in Education and Training) has been formed.*

+   *in Germany, regional databases use the same software.*

However, this process is slowed down by the diverse nature of the sponsoring bodies, and by a lack of time on the part of the providers, engrossed in managing, developing and distributing databases of increasing complexity and importance.

It will probably be speeded up in the years to come because of the necessity for providers to distribute their data beyond the regional or national boundaries within which they have previously worked.

- **Public decision-makers,** whose influence is considerable by virtue of the subsidies they guarantee providers, are playing an increasingly important part in this search for consistency:

For example:

+ *In the Netherlands, an initiative by the Ministry of Education.*

+ *In France, the creation by the Ministry of Labour, of a committee on follow-up and guidance, uniting decision-makers and providers of national and regional databases on professional training.*

+ *In the United Kingdom an interministerial inquiry into 'the coherence and compatibility of databases on education and training' and working parties sponsored by the government, leading to the formation of ADSET.*

It must be noted that this concern on the part of the public authorities is encountered again in countries where cooperation is still on a small scale, but expected to increase (Belgium, Italy) and should serve as a basis for the national information systems which are still to be created in Greece, Portugal, Spain, Denmark and Luxembourg.

* **The European dimension has still to be integrated into this search for coherence taking place within each Member State.**

A course of action open to the Commission of the European Communities would be to encourage Member States to place their pursuit of regional and national uniformity in a common European framework, with awareness on the part of public decision-makers and links between providers (see *Part III: Proposals*).

The support given by the Commission of the European Communities and by CEDEFOP to the group of database providers from different countries who had joined together spontaneously to form Club D, has contributed significantly over the past four years to the progressive cooperation between nations:

- 1st European Conference in Berlin in June 1988 of more than 100 institutions representing providers and users of databases on education and training from the 12 Member States.

- the setting up in September 1989 of EUDAT (European Association for the Development of Databases on Education and Training) which has allowed:

+ an increasing number of contacts and exchanges of data and skills

+   the cataloguing of databases existing in the Member States and in the Commission

+   the organisation of national conferences in Belgium, France, Ireland, Italy, Portugal and the United Kingdom

+   the multi-national compilation of this report on the development of databases and the need to take account of the European dimension.

-   2nd European Conference in Maastricht in November 1991 for providers and users of databases on education and training, and political decision-makers.

It is important that the Commission of the European Communities share in this move towards Europe-wide coherence and compatibility with its own databases and programmes, aiming to establish telecommunications networks across Europe.

It is also important that it makes provision to incorporate future databases on education and training from Eastern European countries, Scandinavia, Switzerland and Austria.

*   **The financial arrangements are diverse, relying heavily on state subsidy:**

-   Sources of income are increasingly being identified, for example from the sale of the various products offered from the databases:

    +   inventories and guides; lists of labels or floppy discs, sold for promotional activities; the organisation of events; and market research

    +   careful searching for, or routine distribution of, profiles relating to particular training needs

    +   consultancy

    +   charging for access, particularly for on line data services.

-   These income sources always need to be supplemented by state subsidies, paid in return for public services given to impecunious users (young people, people wanting employment..), or in the interests of economic development (services to the PME/PMI....)

-   It has been possible to collect very little information by postal questionnaire on the relative contribution of subsidy and own resources.

Depending on the objectives of particular databases, all situations seem to exist, from self-financing to total subsidy, the coexistence of the two sources being the most frequently encountered, with a proportion of own resources less than 20% of the total.

The fact that the income of many databases is raised from customer organisations, themselves financed by public subsidy (employment agencies, careers guidance centres...) makes analysis even more difficult.

*   Educational establishments make a financial contribution to databases on training opportunities which help to make them known:

-    from their publicity budget

In all countries the attempt to provide comprehensive coverage clashes with raising a contribution paid by the training body in return for its inclusion in the database; in such a case an organisation refusing to pay this contribution would be excluded from the database.

Some of the providers who have the most commercial approach suggest that training bodies pay for additional advertising inserts or pages in hard copy, on-line or off-line electronic directories, with an exhaustive editorial section for which there is no charge.

-    as buyers of data, for purposes of market research, studying competition, or looking for customers or interested partners.

2. Data handling

* **On the quantitative level, a very different situation in different countries:**

Databases are very numerous and commonplace at national, regional and local levels in several member states:

+ United Kingdom (more than 100 databases on education and training, because organisation is decentralised to local level),

+ France, (more than 50 databases, on a national or regional level),

+ Germany,

+ Holland.

In Belgium, Italy and Portugal they are in an embryonic state, though some have been in existence for many years.

In Ireland, Denmark and Portugal there are still very few.

In Greece and Luxembourg no databases have been identified.

It would seem therefore that the main factors in the development of databases on education and training are:

- the size of the country: bigger countries have to manage more data at local, regional or national levels.

- the responsibilities handed over to regional and local authorities: lander in Germany, regions in France and Italy, etc...

It must be noted that the lower cost of hardware and software, as well as the growing interest in education and training, should encourage the rapid development of new databases in countries where they are still few or are non-existent.

* **A great similarity in subjects covered by the databases:**

The survey carried out in the context of this report has shown that there are databases on the following subjects:

- continuing training opportunities
- higher education
- professions and qualifications
- multimedia teaching
- distance learning
- European initiatives.

Bibliographical and statistical databases did not fall within the scope of this survey.

The virtual absence of transnational entries in national databases must also be noted.

For this reason, the Commission could intervene very positively by, on the one hand, developing communications between existing databases in different countries and, on the other hand, by supplying national and regional databases with basic information on its own programmes on magnetic tape (see *Part III: Proposals*).

* **Quality of content**

Some providers state that they have tripled the number of records in their databases since 1987.

They consider that they now have an adequate volume and for the years ahead anticipate investing in quality.

For example:

Centre INFFO (France) and PICKUP (United Kingdom) have given priority to investing in the collection and quality of data, thus showing their concern to control the growth of their databases.

The usefulness of a database is not measured by the amount of data processed, but by the consistency of the contents and by the application of conventions on content and searching which are as clear to the user as to the provider.

3.   **Organisation of data collection and processing**

The survey reveals a trend towards true professionalism on the part of providers of databases, manifesting itself in a better control of production processes and budgets:

*   **Planning is dependent on specifications negotiated with the sponsors:**

-    the target population
-    the data processed and distributed
-    the rate of updating
-    financial and technical arrangements for access
-    technical and financial limitations
-    methods of evaluating the results.

*   **Control of data collection systems:**

-    the most frequent situation: **direct collection** from educational establishments, by post, from computerized files of addresses. Follow-up by telephone.

Data collection: is more and more often a joint operation, with institutional, and sometimes financial, support from bodies whose mission is to coordinate a given field of training.

For example :

In France, agreements made between Centre INFFO and AFPA (French Association of the Training of Adults) or the APCM (Permanent Assembly of Guild Chambers).

-    increasing **computerisation** of inquiries: publication at regular intervals of listings and personalised letters, addressed to data providers

-    **partnerships** entered into between providers of databases, aiming to share data collection and exchange records, and thus save on resources.

It must be noted that development is mainly thanks to original providers of information (who express more and more forcefully their irritation on, indeed their total opposition to, filling in multiple parallel questionnaires).

For example:

+   *In the United Kingdom, agreements made between ECCTIS and TAPs in Scotland, between PICKUP and Coventry TAP, for sharing of data.*

+   *In the Netherlands, the very working principle of I see! is based on such collaboration.*

+   *In France, Centre INFFO collects data (which is passed on to the CARIF) on courses financed by the state, on a national level; the CARIF collects data on courses financed by the authorities in their region.*

- experimentation with electronic transfer by the provider of data (on Minitel or standard software).

For example:

+ *In the United Kingdom in the framework of the 'Matching Programme' the development, under the auspices of the Employment Department, of software which will allow electronic data transfer to a main database*

+ *In France, files on private training bodies in the Ile-de-France, the Nord-Pas-de-Calais, etc. ....*

* **Rationalisation of production**

Increasing use of methods and equipment to increase productivity

- analysis of processing methods, with the aim of eliminating idle time or superfluous operations

- drawing up of processing standards as points of reference to researchers

- quality control (readibility of data, uniformity of indexing)

- establishment of average rates of production, schedules, statistical follow-up

- calculation of true costs of data handling.

* **Growing interest in standards**

To help promote exchanges and complementary aspects of databases, these common standards specify:

- the structure of files: with definition of items, length of fields and processing standards for each item

- processing rules

- classification tables

- thesauri.

Two different processes obseved in different countries:

- standards established a priori, and being imposed on every database provider requiring a state subsidy.

  For example:

  + *In the United Kingdom, standards have been developed under the auspices of the Department of Education and Science (for statistical information) and the Employment Department (TOC: Training and Occupational Classification; SOC: Standard Occupational Classification)*

+ *In the Netherlands, standards have been established by the Ministry of Education (I see!)*

+ *In France, standards have been imposed by the Ministry of Labour and Employment, in return for its financial contribution to national and regional databases.*

The effectiveness of this centralised approach depends on several conditions:

+ partnerships between providers and users in compiling standards

+ annual revision

+ a widely circulated official publication requiring the compulsory application of these standards in case of state subsidy.

- a common standard established a posteriori where very many databases were already in existence with no initial coordination, each having its own thesaurus.

For example:

In the United Kingdom, SUPERCLASS, originally set up between three databases (ECCTIS, MARIS and PICKUP).

Whether the approach is centralised or decentralised, it is regrettable that such national initiatives do not yet incorporate a European dimension.

Hence the interest and urgency for work and joint multilingual references under the auspices of the Commission of the European Communities and at the instigation of EUDAT, the results of which should be proposed in a stimulating way to Member States, and compulsory in cases of subsidy (see *Part III, Proposals*).

The following must be noted as a positive trend towards integration in the pursuit of European standards:

- the agreement made between the databases of ERASMUS, TEMPUS and COMETT on the use of common classifications.

- the work of EURYDICE on drawing up a European metathesaurus on education and training, carried out in collaboration with CEDEFOP.

* **Use of thesauri**

- **their importance** is now universally recognised:

+ research in natural language,
+ high degree of accuracy (generic and specific terms),
+ richness of the vocabulary (synonyms, associated terms)
+ logical structure.

- **their use tends**

  + to become commonplace in proportion to the effort on the part of their initiators to make their use easy:

    For example:

    Their presentation, in France, in arrowed diagrams accompanied by a dictionary defining and specifying the use of each term.

  + to vary, thus making thesauri **truly common languages** of education and training.

    For example:

    In the United Kingdom, the creation of standards (Standards for Recording Information) mainly on the contents of training (SUPERCLASS) and the qualifications obtained.

    In France use of the FORMACODE thesaurus by training management services and statistical services, which has led to an income raising circulation of 5000 copies.

- **their creation represents considerable work**, requiring of the planner:

  + control over the data contents to be indexed,

  + familiarity with the users' vocabulary (providers and collectors of data),

  + an institutional situation allowing the main bodies involved to join in planning and distribution,

  + control of methods (intellectual structure) and specific software (computer management and production),

  + a heavy work load,

  + specific publicity,

  + a permanent commitment by way of maintenance (and evolution) and training,

  + major financial investment.

The extent of the investment described above, explains:

- the small number of thesauri in use developed through subsidies or by public bodies.

- the importance of multilingual work supported by the Commission: links between existing thesauri, creation of new thesauri in countries where they do not yet exist.

4.   On-line and off-line technologies

New information technology is fundamental to the creation of databases.

The survey made it possible to distinguish between:

- commonplace technology, mastered by everyone

- technology mastered in some countries, though still to be discovered in others

- new technology in which providers envisage investing in the years to come.

* Commonly mastered technology used by providers of databases:

- micro- and mini- computers.

  The period 1988-1991 was marked by a great increase in the memory and processing capacities of micro-computers and a great reduction in their price.

  The consequences of this are:

  + the possibility of reducing the locations where databases are provided and used, and of creating networks

  + an increasing number of users who will, in their everyday office situation, take advantage of databases distributed on floppy disc or CD-ROM, or remotely down-loaded.

- standardised sotware transmission; possible because of MSDOS, PC or UNIX compatibility and to the ASCII standard.

  This software is available on the market at lower prices than in the 1980s, which tends to reduce the amount of investment and speed up the search for more ergonomic software for the user.

- commonplace data transfer, on magnetic media (floppy discs, tapes), and on-line.

- networks allowing consultation at a distance (Minitel in France, Prestel in the United Kingdom....); expected improvement in re-routing, technically operational in France since 1991, by which the user passes from one database to another without disconnecting.

  The reluctance of users and providers to incur charges for telecommunications was made clear in all countries throughout the research.

  Their concern for economy should be satisfied by the new technologies described below: CD-ROM, floppy disc transfer, remote down-loading, RNIS.

- multi-criteria research, allowing several selection criteria, or the progressive refinement of a choice.

A common tendency to use SQL (Structured Query Language) is to be noted.

* **Technologies in use, unevenly mastered, still to be transferred between providers:**

- CD-ROM (United Kingdom, Netherlands, Ireland) attractive on account of its very high storage capacity and its potential for coupling to search software managed by micro-computer; will be even more attractive when read-write systems are generally available.

Several experiments have been conducted in the United Kingdom on the last aspect:

+ updating by telecommunication

+ updating on floppy disc,

on the basis of which it was decided that a quarterly reissue of the CD-ROM was a more effective and more economical solution (because of the considerably lower cost of transfer of a CD-ROM).

- interactive terminals, installed for the use of the general public in places they visit (universities, commercial centres, employment agencies...)

For example :

+ *In the United Kingdom, the TAP initiative (Training Access Points), carried out under the auspices of the Employment Department which has installed information access points in commercial centres.*

+ *In France, a scheme whereby touch sensitive screens operating on a menu are installed on university campuses.*

Points to be watched: the cost of on-line enquiry where it is offered, and controlling access to the system so that it cannot be used to gain entry to databases which bear no relationship to the use for which the interactive terminals were intended (for example: games, sports results, etc....)

- detection of viruses (in the United Kingdom).

- techniques for condensing data

For example:

In the United Kingdom a Guildford Educational Services database of 22 megabytes was transferred to 7 floppy discs of 1.4 megabytes, a reduction of storage space by more than half.

- Hypertext, allowing parallel consultation and navigation (with the possibility of moving back and forth between several files), thus making research much more effective and easier for the user.

  Hypertext also allows storage of different types of data :
  text, picture and sound.

* **New technology likely to be adopted over the next four years**

Two major developments are expected:

- the multimedia approach allowing text, animated pictures and sound to be combined,

- the speeding up and internationalisation of telecommunications, thereby lowering costs.

  For example:

  Between now and 1995 the RNIS (digital services integration network) will allow data (text, sound, picture) to be exchanged 50 times faster than at present.

  This speeding up of file transfer will make the sale of files to professionals, who choose to remotely download them and process them on their micro- computers, much more practical and profitable.

  The contribution to be made by specialist systems and smart cards are also still to be explored, especially in the context of careers guidance.

* It is important that providers, users and backers of databases take care not to let themselves be confined by old technology and that they anticipate the distribution of data on different media. (*See next page*).

5. Information distribution

*   Multimedia distribution:

Over the last four years providers have made distribution media
work to their own requirements to a very considerable extent.

Working alone or in partnership with specialist editors they have
mastered the different extraction software, layout, transfer to desk
top publishing, photo- typesetting, the print-out of floppy disk and
CD-ROM, and distribution by on line data services.

Thus we are witnessing converging trends tending to present the
entire range of products and services under different forms:

- databases for the publication of catalogues and directories are
  also produced on line or on CD-ROM.

- conversely, databases for on-line enquiry tend to be marketed
  in the form of directories in hard copy, floppy disc and
  CD-ROM....

- searching of databases is integrated into preliminary
  services, careers guidance and information and is no longer
  sold separately as raw data. It tends to be 'brought to life'
  by human intervention and user-friendly presentation.

  For example :

  *In the Netherlands the distribution of the I see! database by
  information centres and careers guidance centres.*

*   More user friendly distribution

Two diverging trends can be identified:

- giving greater autonomy to the user by asking him to type in
  the word which interests him,

- on the other hand, guiding the user into a menu and the set
  choices branching from it; the successive choices are made
  on the keyboard (striking a key) or even more simply with
  a mouse or a touch-sensitive screen.

*   Different distribution depending on the target audience:

The first databases made their users accept the constraints of a
single distribution system which was the same for everyone.

These identical systems are tending to disappear and be replaced
by different access systems suggested:

- either by the data provider himself, specifying a sector of the
  market (eg: *businesses, young people...*)

For example :

+   *In France, L'ETUDIANT produces its database for the use
      of its public: young people and parents.*

+   *Other examples ... I see! ...*

-     or by a body which buys raw data and adapts them to the
      requirements of its customers.

For example:

+   *In France, the National Employment Agency's project to
      create an on-line information service which receives raw
      data from outside databases*

+   *In the United Kingdom, the Europe in the Round
      project.*

*   **European distribution still insufficient:**

-     The databases of Member States are not widely distributed
      abroad.

      Providers indicate a growing demand from their users for data
      about foreign countries and the European Commission, and
      would be willing to accept data with a European content.

      On the other hand, the great majority operate mainly in
      regional or national markets, postponing the European
      dimension until a later date.

-     European Community databases are still under-used for two
      main reasons:

      +   the providers of national and regional databases are not
            familiar with them

      +   access and subscription conditions seem complicated.

-     For this reason, an initiative by the Commission could speed
      up very effectively the distribution of data on a European
      level:

      +   linking of existing databases to facilitate access to data
            stored in other member states,

      +   distribution and coordination of, and simplified access to
            databases managed directly by the Commission of the
            European Communities (see *Part III: Proposals*).

6.   Relationships with users;   marketing policies

*   Study and follow-up of demand

-       When databases are initially created, the providers analyse the demand of their target public:

+   by gathering together groups of users,

+   by more widespread questioning (specialist companies, students) of the sectors of the target public, in order to authenticate the results of the working parties and to assess the financial situation of these different sectors.

-       In following years they often carry out, or have carried out, follow-up and product satisfaction surveys on their users

+   postal surveys,

+   questionnaires connected with the enquiry programme, e.g. to find out if they complain of a poor rate of response and difficulties in making the best use of the data.

-       Users' meetings, or sounding out opinion through discussion, produce more refined results allowing the direction taken to be authenticated or changed.

-       All providers consider that their ability to adapt rapidly to the demands for growth thus expressed by their users is an essential condition for success.

It must be noted that those market research surveys which concluded that considerable immediate advantage could be gained from databases on education, employment and training (given the interest in the subject from individuals and businesses) have proved to be too optimistic because the databases in their present form only satisfy part of the need for careers guidance and information, and because social information of interest to the public is also needed.

*   Promotional activities

-       Providers also use conventional promotional activities:

in decreasing order of mention in *Questionnaire 2:*

+   mailshot of introductory pamphlets, varying from the one page sheet produced by computer-aided production to the 40 page brochure on glazed paper introducing the whole range of services,

+   participation in exhibitions,

+   inserts in the press,

+   demonstration or training sessions,

+   distribution of cards and personal telephone numbers,

+   use of outside specialist agencies, especially in the case of joint campaigns by several databases (eg: in the United Kingdom, marketing of PICKUP, MARIS and ECCTIS).

-   Questioned on the requirements of marketing activity, the providers mentioned as a priority:

+   the drawing up of a marketing plan over several years with the collaboration of marketing professionals from within or from outside the establishment.

+   a publicity drive taking into account the expectations of each section of the public. Coming from the public sector, many of the providers have not yet integrated such an advertising policy into their budget plans.

For this reason the exchanges anticipated in the scope of the 'Marketing' Working Group of EUDAT are of great interest to them.

All the publicity pamphlets collected on the occasion of this study will be sent to the Working Group for its consideration.

*   **At European level**

-   The demand:

+   providers state that they receive more and more inquiries about Europe from their users.

These inquiries are still limited and ill-defined, as no procedure has been set up to stimulate and analyse them.

+   the most commonly mentioned subjects:

.   study and training abroad

.   partnerships between teachers for designing training with European Community content which would be recognised in the Member States

.   European programmes

.   interchangeability of degrees and qualifications.

+   Exchange between border regions are mentioned at least as often as exchanges between Member States.

- **Publicity**

Very few databases are promoted abroad because of:

+ their normal target of national clients

+ linguistic difficulties

+ the lack of knowledge of foreign promotion networks.

The United Kingdom databases seem to be the most effective in attacking foreign markets: participating in exhibitions, mailshots...

This effectiveness can perhaps be explained by the growth of off-line information products and by the widespread knowledge of the English language.

Part II: The Viewpoint of Database Users:

Growth of the demand for information on training and careers guidance

METHODOLOGY

Two lines of approach were used:

* A small (16) number of exploratory discussions held in four countries:

  - France, Italy, the Netherlands and the United Kingdom - with direct users of databases - careers guidance experts working in four different areas :

    + transition from school to work
    + entry to higher education
    + continuous training
    + organisation of working partnerships

  These experts were questioned on the basis of an interview schedule (see *Appendices*) common to all, on:

  1. **The use they make of databases:**

     + context of use

     + type of information researched

     + signs indicative of quality in a database

     + criteria for research and selection of data

     + main criticisms with regard to existing databases and proposals for change

     + demand for transnational data.

  2. **Their relationships with database providers:**

     + information on the existence and development of data banks

     + interest in user groups, national or transnational

     + interest in a European conference bringing together providers and users of databases on education and training.

  It must be noted that this very small number of discussions can have no other aim than to sketch out ideas to be debated in a wider context and in greater depth; for example at a European conference bringing together users and providers of databases or by questioning a much more representative sample of database users, on training and education in all Member States.

It must also be noted that only demands coming from careers advisers themselves have been recorded, reflecting the demand of the people who have to make a choice involving their career or education in a context of rapid change.

Public decision-makers, teachers, training officers and businesses are still to be questioned, in a framework of a greater in-depth enquiry (on a local, regional, national or European community level).

* Additional source: the combined report drawn up for CEDEFOP: 'Transnational Careers Guidance of Young People and Adults', by Peter Plant (Royal School for Educational Research - Copenhagen - Denmark) 1990.

Based on the results of eight pieces of research carried out in different border regions, this study gives specific information on the demand from careers advisers in regions particularly affected by transnational careers guidance and training.

ISSUES

1. **Contexts in which databases are used:**

    -   Careers advisers for young people or adults, consult databases in their everyday work of researching information on higher education, continuous training, professions and qualifications:

        +   on-line inquiry (at a distance or locally), on their own premises, on board touring buses and at events

        +   through hard copy directories, guide books and catalogues or published lists on the most common topics, provided by the databases.

    -   The organisations supporting the development of European working partnerships and programmes use databases to identify:

        +   participants likely to become involved in projects (training bodies, schools, careers guidance centres, trainees...),

        +   experiments closely connected with their field of interest, carried out in other countries.

2. Data needs:

- In the majority of cases, information on a local or regional level, or between European regions (in border areas).

- Information on a national and European community level is used less frequently but considered vital. More difficult to access, it is of interest to careers advisers mainly in the areas of:

    + levels of training,

    + the interchangeability of diplomas and qualifications,

    + financial aid.

- Information on the possibilities of studies with a European dimension (European Community law, bilingual studies...) is significant for all citizens who hope to follow in their own country studies which prepare them for a profession operating on a European level.

- The survey carried out at the instigation of CEDEFOP in eight border regions shows very high expectations, which are not yet met, on the part of careers advisers with regard to transnational and bilingual or trilingual databases in four fields of application:

    + transnational education and training resources

    + the labour market

    + distance learning

    + names and addresses of reception and guidance centres.

3. Main indications of quality in a database

Every aspect is considered important. However, for the majority of people consulted the order of priority is as follows:

- Ease of access to data: data accessible at a distance; user-friendliness of the search procedures for a wide public; legibility of the display screens; incorporation into the welcome screens, navigation and information procedures.

  The databases must be planned with the end user in mind, even if their content has to be passed on through careers advisers (who have better things to do than to learn complicated search procedures).

- Regular updating of the databases: the data must always be kept up to date.

- Comprehensiveness: all useful data on a given subject must be available, to guarantee that the selection made, and the decisions it will lead to, are well founded.

  Comprehensiveness is only required within the coverage promoted by the provider of the database. This coverage can be very specialised provided that its boundaries are made clear to the user.

  For example:

  Long training periods in hotel and catering, higher education in architecture, training courses leading to a qualification offered in a given geographical area, training courses for executives looking for work

  The strict application of these criteria from the outset, together with the pursuit of comprehensiveness within the area thus defined, will guarantee the quality of the databases.

- Integration with other information services: for example, regulations and possible financial aid, availability of accommodation, details of the qualifications required to practise a profession, locations and personnel resources......

  The users do not need databases with records answering all that concerns them.

  They accept completely that records on an additional area of operation may be offered to them by different specialist bodies, provided that they are given information by one or another of these bodies on the sphere of activity of tthe others.

For example:

In France, the re-routing computer system proposed by the public telecommunications services will be a technical aid to guide users towards the supplementary databases on training.

- Cost: on this point, opinions are very divided; an essential criterion for some (on the grounds that their own services to the user are free and a public service), of secondary importance for others.

  Two items of expenditure are mentioned as needing to be reduced:

  + the costs of on-line enquiry by local downloading (floppy disk, tape, CD-ROM or remote down-loading),

  + the costs of on-line print-out, one English user explicitly requesting abolition of the rights of copyright.

4. **Main criteria for search and selection of data on training opportunities**

- The subject area of the training

- Admission requirements: qualifications, experience or level required,

- The distance between accommodation and the place of training,

- The time to be given up to training: total length, full or part time, outside working hours (evening or week end), distance learning courses .....

- The 'openings' brought by training: validation, labour market, further studies,

- The expenses of training, possible financial aid,

- Testimonials from school or training agency.

5. Main criticisms of existing databases

- Absence of, or disregard for, standards which would facilitate databases working in unison to provide additional information.

  The main reason put forward was inadequate publication and circulation of these standards when they exist.

- Inadequate contact with users on two levels

  + collection of information on demands for change and needs not met,

  + clarification of the best conditions for use of the database, in view of the responsibilities of the different organisations and the specific expectations of each sector of the public.

- Too slow a capacity for development on two levels;

  + belated consideration of users' requirements

  + belated use of advanced technology which would allow a much wider and decentralised distribution.

- Data collection too centralised and from places too far away, unfamiliar with the 'on-the-ground' situation.

- Too slow and unattractive access to search and information screens; it would be advisable to integrate more sound, video and text, and to move away form the hard copy directory model which has been the inspiration for the screen design of too many databases.

- Insufficent number of enquiry points: a great effort is still required to make these access points meet requirements and take them closer to the users.

- Unreliable updating and comprehensiveness.

- Information too impersonal and too unconcerned with quality, no substitute for that obtained by telephone contact or at events.

- Price too high for some casual users.

- No MS-DOS compatibility.

6. Demand for transnational data

- Transnational data must fulfil two aims:

  + ease the transition between training or work in one country and training or work in another country,

  + allow comparison of training possibilities and of qualifications, by means of equivalences with the documentation of the country from which the person requiring training comes.

- In order to do this, transnational data must:

  + describe training opportunities in detail (programmes under way, value of diplomas) and the labour market of each country,

  + favour the inter-European regions mentioned by the majority of users as the most attractive

  + establish correspondences between levels of qualifications for training, degrees and requirements for practising a profession in different countries,

  + be multilingual: bi- or trilingual depending on the regions of Europe involved,

  + describe all the organisations and sources of funding on a European Community, national, regional and local level, which could support an individual or collective transnational project,

  + be distributed by databases with MS-DOS compatibility and using a common standard drawn up on a European level (description of data, index terminology).

7.   **Relationships of user bodies with database providers**

*   Careers guidance centres and bodies responsible for setting up
        working partnerships have become familiar with databases through
        their usual channels of information: events, specialist periodicals,
        circulars sent by heads of networks, publicity mail...

        They would like a more ordered relationship (eg. a news letter),
        which would, above all, take into account the specific information
        needs of their particular users.

        Some support the idea of user groups, provided that these
        groups:

        +   take up little of their time,

        +   guarantee them fast and real satisfaction of their demands for
              change,

        +   are users on the same level, that is, only people using the
              database very often.

*   The idea of transnational user groups appeals to them but is
        difficult to put into practice.

        The demand for efficiency and rapid reaction to real needs would
        lead towards:

        +   setting up groups of users having the same responsibilities and
              the same needs,

        +   operations between European regions.

8.   Interest in a European conference

The majority of database users questioned stated that they were ready to take part in such a conference, the main motives being :

+   meetings and exchanges (to extend beyond the conference) with organisations having similar activities and needs in other countries,

+   comparative study in one place of existing databases and anticipated developments in Member States and on a European Community level,

+   advertising their activities between regions and the networks supporting them,

+   voicing their demands as users to European Community establishments, representatives of Member States and people in charge of databases.

Part III: Conclusions and Proposals:

A European approach to the Production and Distribution of data on
Eduation and Training

The conclusions and proposals which follow have been collected in the course of the survey from providers and users of databases on education and training.

They aim:

1. to open up to all information specialists (in education, training and employment) a European viewpoint, exemplified by the formation of associations such as EUDAT or other careers guidance associations.

    Only awareness of the European dimension by all these specialists in their everyday work will actually allow real Europeanisation of careers information. It is now a question of transcending individual approaches and strictly regional or national guidance by setting up a European Community strategy and consistent networks of databases.

2. to set out conditions for creating effective, coordinated European products and services with European Community, national, regional and local forces working together to the advantage of any citizen who hopes to study or train in a different Member State.

CONCLUSIONS: Growing motivation, obstacles to be overcome

This report bears witness to a growing interest in Europe, on the part of both database providers and users:

The stage of there being just a few convinced, militant individuals is now over.

The replies given to the questionnaires are real evidence of the interest of data providers in the European phenomenon and their wish to join in an information operation on a European Community scale.

The formation over the last four years of European associations of specialists in careers guidance and databases on education and training is another indication.

For example

EUDAT (European Association for the Development of Databases on Education and Training) formed in 1989 :

+   *gathers together some 80 providers of databases on education and training, private and public, existing or developing,*

+   *is open to membership by users in educational establishments and to decision makers wishing to be informed, to defend the users' viewpoint,*

+   *is run by a Bureau of people in charge of large databases in Italy, France, Germany, England, and a representative of CEDEFOP,*

+   *has invested in the carrying out of this survey (postal enquiry to its members, discussions with users, participation in the steering committee).*

However, numerous obstacles have been revealed and must be taken into account:

-   The lack of available funds; people in charge of national, regional and local databases increasingly preoccupied by the demands of operating their own database (quality, comprehensiveness, updating); relationships with their users (working party, marketing); follow-up of technological developments (computer, telecommunications); the search for funding and coordination between organisations.

-   Insufficient awareness of the European dimension by political and official decision makers who finance databases and influence the pursuit of coordination and common standards. Initiatives are taken at national level in the absence of a structure and reference points on a European level.

-   The lack of specific information on the demand for data on Europe from the general public and specialist public sectors.

    The same topics are mentioned often: equal value of qualifications or degrees, European studies, financial aid.

    But for what practical specific questions? in what context of searching information? by what medium? how frequently? etc...

-   The total absence, or almost total absence of databases in some Member States, which will make the introduction of a transnational database network more difficult though at the same time even more necessary.

-   Linguistic problems:

    +   the difficulty which even experts have in understanding each other,

    +   translation costs,

    +   the complexity of the multilingual thesauri to be created.

-   The technical difficulties and the cost of telecommunications on a European scale.

-   The practical difficulties and cost of travel, working parties and conferences encompassing the 12 Member States.

-   Mutual lack of knowledge and inadequacy of relationships between organisations working with similar objectives, which may create rivalry and dispersal of efforts instead of consistency and the sharing of the workload which ought to prevail, to the benefit of all.

-   The difficulty of selecting working partners and setting their sphere of activity in the framework of the education and training system in their country.

PROPOSALS:

The proposals which follow are complementary. They can be put into effect separately and progressively.

They rest on three principles:

- Bringing information closer to the users,

- Incorporation of a European dimension into the everyday work carried out by all those dealing with information on education and training: public decision makers, database providers, careers advisers, official bodies, elected representatives, businesses...on local, regional, national and European Community levels,

- The indispensable institutional and financial involvement of the Commission of the European Communities, of CEDEFOP and European associations or networks working in the field of education and training.

Given the size of Europe and the different stages of development among the Member States on the level of databases and information systems, some of these proposals could foreseeably be tested out in more restricted multinational and multilingual areas, like the European border regions.

The proposals hinge on four objectives:

* To coordinate and develop information on databases and information services for education and training.

* To create common European data standards.

* To promote exchanges so as to facilitate access to information from other countries.

* To create databases on a European scale.

Proposal no 1:

To coordinate information on existing databases and information services

Given,

+ the almost total ignorance within the Member States of databases to be found in other Member States and at European institutional level,

+ the too low return from isolated efforts attempted by some database providers to make themselves known in another country,

+ the certain inefficiency and cost of setting up from scratch European databases to be responsible for centralised collection of information at a distance, unless already existing regional and national databases are involved,

the work of tracing and collecting information on databases and transnational initiatives form an indispensable first stage.

Several supplementary actions can be undertaken to this end:

1.1 Periodical publication of a Directory of databases on education and training.

A first detailed survey had been carried out in 1988 on people attending the Berlin conference.

A second was carried out in May-June 1991, in the context of preparing this report.

The details of the databases were fed into a computer and could form the basis of regular updating.

In future it would be advisable to allow for two further publications intended for different target audiences:

+ A detailed catalogue of databases, intended for providers and frequent users of databases, with a limited bilingual or trilingual distribution. Giving precise information on content and technical media, this catalogue would be the point of departure for seeking working partnerships.

This catalogue would also be available on floppy disk.

In order to increase distribution of it in other languages, its content could be sold at a low price or be free to any organisation undertaking to translate and distribute it under conditions acceptable to its co-financers.

+ A brief introductory brochure on the databases, intended for careers guidance centres, libraries and specialist research centres for wide distribution and in several languages.

For this guide to be really helpful to users, this brochure should be drawn up in collaboration with user representatives.

Two conditions for success :

- decentralising the collection of data in each member state to a relevant national organisation, operating on the basis of a common questionnaire,

- writing the annual survey into a scheme of activity including developments underway and projected, databases of international organisations (for their European content) and later those of the Scandinavian countries, Austria, Switzerland and Eastern Europe.

Although it can be entrusted to an association such as EUDAT, so detailed an inventory will only be completely effective with the institutional and financial support of the Commission of the European Communities.

1.2   **Periodical publication of user guides for European Community databases on education, training and employment.**

A brochure should be published and widely distributed by the Commission each year to providers of databases, and information and guidance services on education and training.

In order to encourage providers of databases and on line data services to incorporate and distribute these data in their own media, the text of the brochure could be sent to them free of charge on floppy disk on request (return of a file suggested at the end of the brochure) and agreement on their part to circulate the data contained.

This method would have the advantage of standardising the distribution of this information on the European Community databases.

However, it will only succeed if the information is practical and drawn up with the user in mind, giving addresses of contacts in each Member State. To do this, its drafting should be directed and authenticated by a group of users.

1.3   **Organisation every two years of a European event,** allowing providers, users and decision makers to meet and exchange information on their practices and their projects.

This event should be work-orientated and demand real commitment on the part of participants - not in terms of payment of registration fees, but in terms of introducing projects, points of view or experience. In this way, every participant should be able to make his contribution and put forward the viewpoint of the sphere of activity (provider, user, decision maker) he represents for his country or region.

When the content of the conference is drawn up, very special attention should be given to:

+   a review of developments since the previous conference (survey updated with the contribution of one expert per member state and one specialist representing the European Community authorities),

+   presentation of a sample of working activities on a multinational and multiregional scale,

+	presentation of the Commission programmes with regard to information on education, training and employment and new computer and telecommunications technology.

It must be noted that this event will only assume its full significance under several conditions:

+	a comprehensive approach to information on training, employment and education, uniting closely all the networks which work with a European dimension to counselling and careers and educational guidance,

+	developments in different countries,

+	partnership of all international and European Community establishments and associations involved; CEDEFOP, OECD, UNESCO, the International Association of Information Centres for Young People, EUDAT etc...,

+	exhibition and demonstration areas,

+	visits to information systems in the host country,

+	working groups, on topics and activities: thesauri, collecting and providing data, marketing databases, software, on line data services, etc..

1.4	Setting up of an 'observatory' to monitor the use of new information technology in the context of vocational information.

In this context new information technology not only refers to databases and on-line data services, but more widely, to educational multimedia, computer aided careers guidance services etc..

It would be useful to compile a catalogue periodically, supplied with data by different associations and produced under the auspices of the Commission.

Its wide distribution (to members of the associations involved, research and information centres) would stimulate transfer of technology between different countries on the basis of working partnerships (see *Proposal 3.3)*.

Proposal no 2:

To develop European data standards

Given,

- the urgent necessity of working out standards for classification and structure of files, without which the exchange of data coming from different Member States will be costly and inefficient (data not valid or comprehensible outside the original national context),

- the very slight awareness on the part of protagonist nations involved in the pursuit of national standards of the interest there would be in planning this standardisation in conjunction with a European standards,

- the difficulties in understanding which providers and users encounter when they use foreign databases,

it is becoming extremely urgent to define standards for records and common information languages, which each linguistic community or each country would be free to add to with ideas of strictly national interest, and to set up taking into account their national use.

It would be really utopian and very costly to attempt to integrate into a European standard all the national specifications and all the national information languages. The European standard will have to cover only data useful at European level.

It is therefore proposed, as a matter of urgency,

2.1 To develop a multilingual thesaurus allowing the content of proposed training to be described in a common language.

For this, it would be important:

+ to use as a basis approaches between nations (linking specialists from all Member States) and between institutions (linking the Commission, CEDEFOP and in particular the Council of Europe), and the experience of planning and managing a multilingual thesaurus developed by the European network EURYDICE.

+ to contribute to the projected European metathesaurus on education and training promoted by the Commission of the European Communities, by proposing the formation of a multilingual microthesaurus of fields of training.

The size of the workload, the time limits and the technical abilities required, very well described in the EURYDICE proposal, must not be underestimated and justify the two conditions for success which follow:

- Strong involvement of the Commission of the European Communities on an organisational (endorsement and distribution of the thesaurus), technical and financial level.

- Equally strong involvement of the people in charge of national thesauri, already in existence or to be developed, so as to guarantee the transfer of European work to the national level and to benefit from work already carried out in that country (France, Italy, United Kingdom, Germany).

2.2   To define a common standard for describing records thus allowing their format to be standardised.

Defining precisely the title, content, length, methods of inquiry, for a set of headings for each information element (training period, training body, educational aid, university courses...); these common formats will be of threefold importance:

+   guaranteeing to all citizens, in all Member States, a minimum information level across the databases, it being understood that there would be a common nucleus around which providers of databases could add other headings for national use,

+   reducing costs and time taken for exchange of records by eliminating all reprocessing specific to adaptation,

+   facilitating for the user the movement from one record to another without having to adapt to different styles of presentation.

Defining these formats is comparatively easy, achievable in a short space of time, and well accepted by those responsible for national standards, if it meets the following conditions:

+   involvement of people in charge of national standards,

+   official distribution of the standards by the Commission to the authorities in Member States.

EUDAT could be entrusted with preparing these standards and asked to set up working parties, gathering together for each aspect (training bodies and courses, higher education, educational aids, etc...), representatives of specialist databases in the different Member States or within the Commission.

Their validation by Member States should be the subject of an official move undertaken by the Commission with the national authorities concerned.

2.3   To raise the level of awareness of, and provide training for, decision makers, and those responsible for and users of databases, in these European standards.

Attractive publication of the standards explaining their importance and making them easy to understand should be undertaken, with wide distribution.

National conferences will have to be organised, and coordinated with promotion of the European standards already established by EURYDICE and CEDEFOP.

Proposal no 3:

To promote exchanges, so as to widen access to information from other countries

Given :

- the priority accorded every day by decision makers and providers of databases to the national, regional or local level of work at the expense of the European level,

- the awareness on the part of those same providers of the unavoidable necessity (under pressure from their users, and in the short term) to open up to Europe,

- the first efforts, made for four years by the Commission, CEDEFOP and EUDAT (on the level of databases) and other associations working in the field of occupational data,

- the financial possibilities offered by the different programmes of the Commission,

it is proposed to accelerate and widen transnational exchanges nations by incentives coming from the Commission.

3.1   To instigate the setting up of databases in countries where there are none, by exchanging know-how,

- by financing preparatory research and training activities, the organisation of which could be entrusted to EUDAT, which could use to this end its network of database providers,

- by sharing in the investment needed to start these new databases.

3.2   To encourage the exchange of practices between providers of databases,

by financing each year 2 or 3 study visits to countries where databases are most advanced, to be taken advantage of by data providers, decision makers and frequent user organisations.

In order to do this, an additional topic could be added to the European Community programme of study visits run by CEDEFOP: new information technology, to be used in the field of information on education, training and employment.

The first study visit could, for example, involve Dutch and Belgian databases and those in the Commission which are too little known in Member States.

A research report describing the organisation of databases and technology used should be drawn up at the end of the visit and widely distributed to providers of databases who ask for it (notice in information sheets published by the Commission of the European Communities, CEDEFOP, EUDAT, etc...)

3.3 To encourage the exchange of data by setting up databases on a European scale (see *Proposal 4.1*).

3.4 To encourage transfer of services or technology tried out with success in a Member State

The Commission of the European Communities could offer awards for the transfer of experiments, which have succeeded in one Member State, to other Member States who could adopt them for operational purposes. The awards would be granted according to the final usefulness of the new information services thus created, their European nature, and the previous success of the experiment.

It would not be a matter of financing an experiment, with the risks that would involve, but financing the transfer of a technological project successfully tested in one country, to other countries, giving it a European dimension.

In this context 'advanced technology' means all progress involving the tools used to provide and distribute information: software, multimedia aids, thesauri, telecommunications...

Registration in programmes run by the DG XIII (eg. public on-line data services) would allow constructive partnerships to be set up using the most advanced technology.

3.5 To encourage the exchange of experience between careers advisers so that through their European partnerships they form one or several bodies to express demands to and to put pressure on database providers.

Proposal no 4:

To create databases on a European scale

Given,

- the extent of investment (budget, time, languages, formats and different thesauri, marketing...) which a database on a European scale requires and which national database operators cannot provide on their own initiative.

- the example of technical and organisational success of the CD-ROM ROMeo experiment, backed by the Commission and by EUDAT (eight database providers participating, representing eight different countries, and seven different languages).

- the cost and difficulties of collection and distribution which the developer of a European database working alone and in competition with services already established on national, regional and local levels, would encounter.

it is proposed to the Commission of the European Communities:

4.1: to create networks of databases on a European dimension in the most important areas,

4.2: to develop databases on Community initiatives.

4.1 To create networks of databases on a European scale by linking the services already existing in Member States.

The areas of priority could be higher education, continuous training, equivalent values of qualifications and degrees, educational multimedia, distance learning, etc.

The first task would be to define a single schedule of specifications, applicable to all, stating:

- the type and content of data useful on a European level.

For example:

+ *university courses at levels BAC + 3 and higher.*

+ *specialist continuous training organisations (restoring historic monuments, protecting the environment, running cultural activities, etc ...), rather than detailed descriptions of training courses,....*

- the method of setting up the database: single format, common thesaurus, shared collection with one correspondent per Member State (committed to a certain quantity and a rate of updating), coordination and merging of data in a single place, etc...

- the conditions for data distribution: on-line access, production of floppy disks, CD-ROM, production of catalogues, incorporation in national databases etc...

- the rights of ownership and usage of the data.

Databases to bring together information on training opportunities in different Member States can only be created on the initiative of, and with the support of the Commission, and with the participation of Member States (involvement of decision makers, inclusion in production and distribution networks, either in existence or to be created, at national level).

The extent of the investment which such a link-up of national databases would represent, prompts recommendations :

+ to perceive the linking of databases in the wider framework of an information system on education and training opportunities using different media (electronic, hard copy) from the same database

+ to be very sure of the demand by users, in terms of content and distribution media

+ to contact other international organisations to set up possible partnerships.

For example :

+ *The International Association of Universities and UNESCO for the TRACE project on higher education,*

+ *EUDAT, European Association for the Development of Databases on Education and Training, for the experience built up by its members, its practical experience of international and linguistic work, its interest in setting up services helpful to the user, its concern for sharing acquired technological knowledge, particularly with regard to the countries in Europe which have not yet developed an information system on training,*

+ not to undertake this task without previous definition of a common format accepted by the Member States and agreement on the setting up of multilingual thesauri,

+ as a first step, to test out the methods and procedures in several European border regions,

+ to allow for a budget and marketing and advertising campaign uniting all partners over several years,

+ to entrust the work to database operators who have already proved themselves and their experience, rather than to consultants, either individuals or a company, who would not be familiar with the technical and organisational constraints of such work.

+ to demand in return for Commission financing, very precise production in terms of content, quantity, quality and timetabling.

4.2 To create databases of European Community initiatives

All the activities and programmes undertaken by the Commission on the level of education, training and employment provide many possible openings for citizens of Member States, for whom information - in spite of many efforts made - is still inadequate.

The creation of databases on European programmes would have four advantages :

+   comprehensive information, updated in real time by the agencies in charge of programmes and activities,

+   search for information made easy by computer technology and telecommunications,

+   data transfer to a European Community host and also (floppy disk, remote down loading) to regional or national hosts,

+   computerised production of catalogues, practical files...

It should be a priority for these databases to focus on European Community programmes, on comparability of qualifications and on the systems of education and training in the Member States.

In three cases, databases exist or are sketched out on the initiative of the administrators of European Community programmes (cf. for example, EUREKA distributed on EUROBASE), of CEDEFOP or of EURYDICE.

It would be appropriate to coordinate them, to speed up the rate of updating, to define common formats for files and to reduce distribution costs.

On this last item, it would be helpful to allow for :

+   distribution by computer or on-line data services across the existing local, regional and national networks: free transmission of floppy disks or remote down loading, in return for undertaking to distribute the information received.

+ .   the promotion of these databases, to research and information centres, brokers, specialist journalists, (education, employment, information and documentation technology) at national, regional and local levels.

+   a very practical presentation of the type 'Droits et demarches' ('Rights and steps to take'), taking the real needs of the users as a starting point.

+   in conjunction with DG XIII, the possible setting up of a front end processor giving access to all databases from the same request and at a distance.

APPENDICES

*   Bibliography

*   Useful Addresses

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USEFUL ADDRESSES

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Eastern Europe and the USSR

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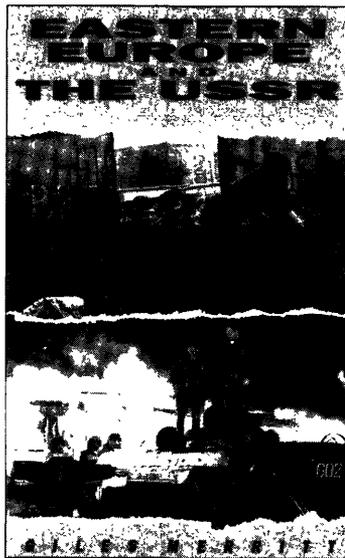
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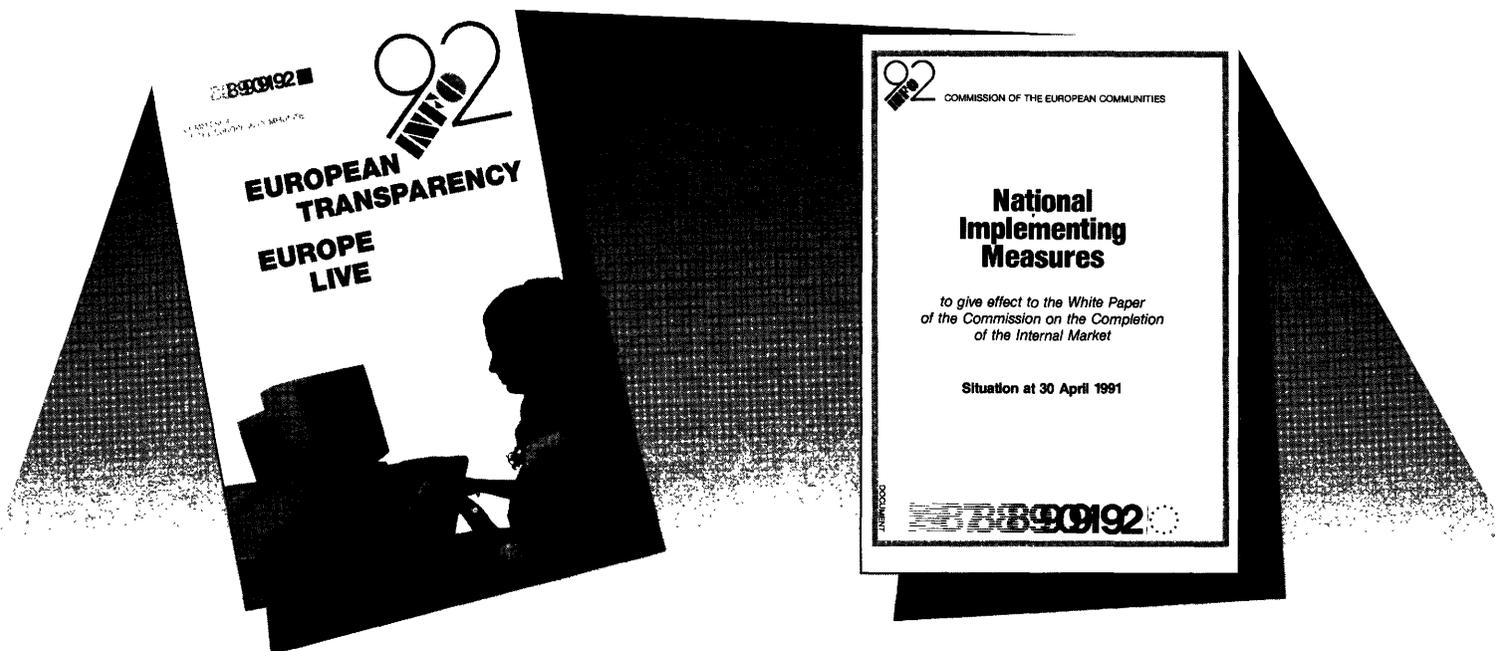
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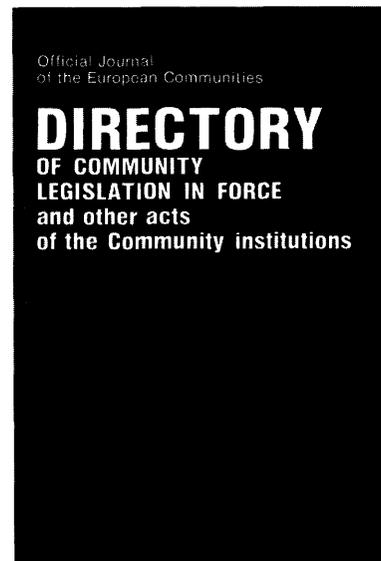
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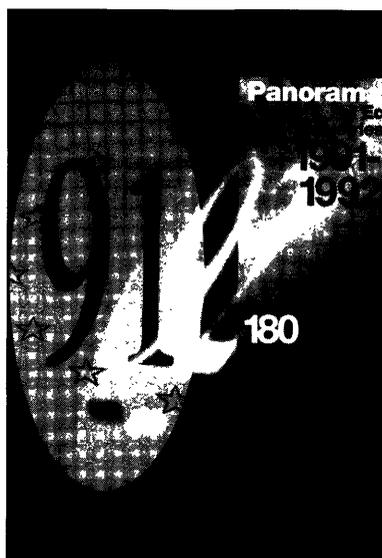
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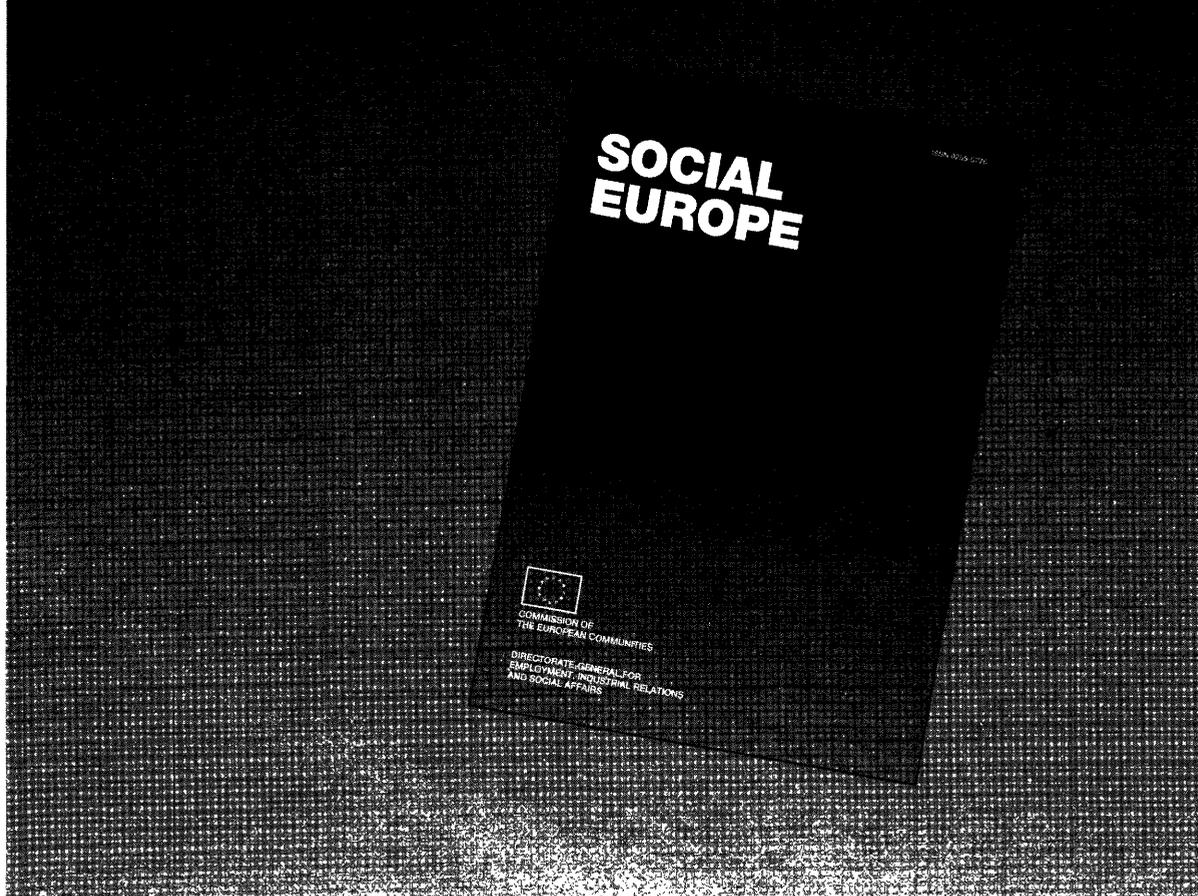
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