

INFOLAC

PROGRAMA REGIONAL PARA EL FORTALECIMIENTO DE LA COOPERACION ENTRE REDES Y SISTEMAS
NACIONALES DE INFORMACION PARA EL DESARROLLO
EN AMERICA LATINA Y EL CARIBE



Universidad de
Colima

**Ministry of Education and Culture Science and Technology Division
&
Regional Programme for the Strengthening of Co-operation between National
Information Networks and Systems for Latin Americas and the Caribbean
(INFOLAC/UNESCO)**

Regional Centre of New Information Technologies for MERCOSUR

October 1998

**REGIONAL CENTRE OF NEW INFORMATION TECHNOLOGIES
FOR MERCOSUR (CRNTI)**

1. Long-term Objectives

This project presents the first phase (hereinafter Phase I), or pilot experiment of a longer-term project. All the long-term objectives are included in the framework of the general project; for Phase 1 it will only cover the objectives set out in the section *Immediate Objectives*. The evaluation of the results of Phase I, which is programmed to last for two years, will give rise to the strategy for approaching the whole project (Phase II) and steps will be taken to obtain the resources necessary to finance the latter.

All of the long-term objectives are (Phase I and Phase II):
To promote the use of and access to information to support cultural and academic activities in the national and regional spheres, in accordance with the objectives of the new mandate of UNESCO's General Information Programme (PGI): (1)

1. Memory of the World;
2. Public Domain On-line;
3. Virtual Laboratories;
4. Virtual Learning Communities;
5. Governability in the Information Era;
6. Training of Information Specialists;
7. Libraries and Archives as Footbridges to the Information Highways.

To systematise information by means of the use of new technologies, especially informatics, to extend the options for communication and data transmission, the information of the cultural patrimonies in libraries and archives, and the governments' information, at the local, national and regional levels. To promote through telematic technologies the exchange of information at these levels, deepening the concepts of "Public Domain On-line" and "Copyleft".

Through the transfer of technology, to help the Mercosur institutions to integrate, develop and maintain permanently updated the tele-informatic infrastructure, CD-ROM publishing, library services and in general the information systems that support cultural programmes, teaching and research.

To encourage the use and dissemination of information resources through the processing and data transmission technologies, with a view to the modernisation of teaching.

To form the necessary human resources for the use and development of information technologies to benefit education, raise the quality of teaching and contribute to the modernisation of education in the region. To obtain, through the opportune formation of these human resources, the timely assimilation of the new technologies.

To support with technology the UNESCO Associated Libraries Network in the Mercosur area.

To constitute a Mercosur Reference Centre to support, through the digitization of documents using HTML, UNESCO's "Memory of the World" Programme.

2. Immediate objectives

- Phase I:

Technological transfer from the existing centres linked to the PGI, such as the University of Colima (Mexico), DBA Engineering (Italy), BIREME/OPS (Brazil), for the use of developments under CDS/ISIS in networks, CD-ROM production, and WWW.

Equipping the Regional Centre of New Information Technologies (CRNTI) with the necessary hardware and software and continuous training of the staff necessary for carrying out specific projects.

Establishment of an Internet Server in the CRNTI with WWW pages to public access with information from the governments that integrate Mercosur, promoting the concept of *Governability in the Information Era*. To provide "spaces" in the Server for non-profitmaking educational and cultural institutions which form part of the Mercosur Cultural project.

To put on the electronic media national and regional catalogues, electronic publications, indexes, scientific magazines, cartography, specialised texts, census and statistical information, directories, guides, archive and museum information, cultural and journalistic information, tourism, ecology, etc. Creation of complete text data banks, and images.

To create a Regional Centre Compact Disc Editor, similar to the one at the University of Colima, Mexico, for the production of Didactic Media and Audio-visual Material, and to digitise selected documents of the Mercosur countries for the "Memory of the World" programme.

Training courses for information workers in the development of ISIS applications under WWW, CD-ROM, Internet, Unix, WAIS-ISIS, CGI-BIN, CISIS, ISIS_DLL for visual programming, and client-server interfaces under the Z39.50 norms, and the technological architectures that may emerge in the future.

Creation of a chair specialising in informatic applications for libraries, archives and complete text data bases, with a view to incorporating them in the University of Uruguay's study plans.

- Phase II:

To develop on-line electronic scientific publications, using SGML and HTML. Electronic cataloguing of publications and generation of scientific productivity indicator banks, using CDS/ISIS and IDAMS.

To promote the production of educational technology through computer and multimedia techniques.

Creation of a Telematic Chair and a Pedagogic Research and Development Chair, similar to the one created in Phase I, in other universities selected by Mercosur.

To establish the necessary agreements for the generation of products, both in CD-ROM and teleinformatics, emphasising Internet/Intranets and WWW with national, regional and international entities. To promote the marketing of products developed in the CRNTI with a view to recovering costs and achieving self-financing.

To train teaching staff to write educational scripts for the production of didactic CD-ROM and the use and application of education technologies based on Internet and Intranets in order to promote the *Virtual Learning Communities*.

Creation of a centre of information dissemination and electronic document delivery to subscribers according to interest profiles.

Digitisation of selected documents of the Mercosur countries for the "Memory of the World" programme.

3. Background and justification

The MERCOSUR is formed by Argentina, Brazil, Paraguay and Uruguay, with 200 million inhabitants, and a vast network of government and educational institutions.

There are no systems or networks of Documentation Centres in the region with a very developed automation (libraries, archives, museums, etc.). However, there are hundreds of institutions which use isolated, modest and diverse applications, the majority implemented in some of the CDS/ISIS variants. There is also a long experience in the exchange of information in networks: LILACS, ECLAC/CEPAL, etc. And a mechanism to promote collaboration in information in the framework of PGI/UNESCO, which is known as INFOLAC.

During the last decade, the distribution of CDS/ISIS made it possible to form in the region thousands of professionals and users and to create hundreds of reference and bibliographic data

bases. These are dispersed in a similar number of Documentation Centres, and at the moment there are not enough ways to incorporate them in mass dissemination systems like Internet and/or CD-ROM, or to create virtual libraries or electronic publication systems, etc. However, there is a broad base of human resources trained in the UNESCO/INF guidelines (UNISIST formats, use of CDS/ISIS, etc.), as well as a critical mass of compatible information resources.

Similar reasons to those described gave rise to the creation of the CENEDIC in the University of Colima, Mexico, today a UNESCO reference centre, which attends satisfactorily to the needs of Central America and part of the Caribbean. The aim of this project is to make a similar centre for Mercosur.

Uruguay, headquarters of the Mercosur Secretariat, has one of the best telephone communication systems in Latin America, with very low tariffs and a high connection capacity. On the other hand, there are highly trained human resources that would make it possible to obtain rapid results with the possibility of repeating them in the rest of Mercosur.

Uruguay currently has four international connections for data communication, administered by the national telephone company (ANTEL). The current transmission speed via the telephone network is 33.600 Kbs. Uruguay possesses one of the highest densities in the world of Internet users (23 for each 1,000 inhabitants), with a growth of 7.5% a month. National coverage is 100% digital, including the rural areas.

For the conceptualisation of the CRENTI that it is desired to create, in addition to the model developed by CENEDIC and the experience of BIREME, the following projects have been taken into account:

- ELISE (electronic libraries image server for Europe), first phase of the European Libraries Plan (ELP), of the Third Framework Telematics programme, (3)
- ELSA (European SGML application), second phase of the ELP, (4)
- PHEONIX of the South Bank University (London), (5)
- ELINOR (electronic library information online retrieval) of the British Library Research & Development Department. (6)

The viability of this project is understood on the basis of the models being experimented with in the European Community are closer to Mercosur's socio-economic reality than those being carried out in the United States.

4. Results

Objectives to be achieved in Phase I:

- WWW Server in the CRENTI for Mercosur's cultural information and information in the public domain. (The problems of copyright for another type of publication should be solved).
- Mastery of the technology: software, interfaces, appropriate work methodologies.
- Lodging service for data bases on ISIS platform for educational and government institutions that do not have their own technical resources. This service may be free or on a cost recovery basis.

- Holding of two seminars/training courses and transfer of technology for information workers, so as to create a nucleus of specialized human resources who will serve as trainers at a regional level in Phase II.
- Creation of a Chair of new information technologies using telematics, aimed at developing applications for libraries, archives and educational material, as a specialization of the informatics course.
- Production of an experimental title for the "Memory of the World" programme (CD-ROM and Internet) as a CRNTI project.
- Creation of a virtual library in a third level educational institution in Uruguay as a prototype.

Objectives of Phase II:

- Holding of regular training seminars in the region for transfer of technology (informatic workers).
- Training of education professionals in the use of new information technologies (librarians, teachers, professors).
- Creation of a Chair of new information technologies using telematics in one university in Argentina, another in Paraguay and another in south Brazil, similar to the one created in Uruguay in Phase I.
- An electronic publication using SGML/HTML in a science or education discipline. Creation of a data bank with library and science measurement indicators.
- Production of a title for one year for the "Memory of the World" programme (CD-ROM and Internet) as a CRNTI project.
- Production of other CD-ROMs, as projects with financing are obtained. For this case PGI/Caracas has offered a similar intermediation to that being carried out with Colima.
- Creation of a pilot system of completely electronic current contents and document supply.

5. Action plan

Only the Phase I action plan is described:

Year 1: Installation of infrastructure

- Contracting of CRNTI personnel.
- Installation and equipping of the office.
- Basic informatic equipment for initial projects.
- Advice on technological transfer and training will be received. These can be in one or more of the following institutions: University of Colima (Mexico), DBA Engineering (Italy), BIREME/OPS (Brazil). Visits will be made and apprenticeships carried out in these institutions, and/or consultants will come from those institutions to help with the projects and give training courses.
- Training of informatic personnel in a preliminary course to be held in Montevideo.
- Installation of the CRNTI's WWW Server and supply of the existing information in the educational non-profitmaking institutions in the region, selected to participate in the project.

Year 2: Beginning of the multimedia projects

- Informatic equipping is completed.

- Implementation of a pilot project for "Memory of the World". It could be a complete collection of one of the country's important newspapers, totally digitized or in a combination of microfilm and digitization.
- Training of informatic professionals in an intensive course (100 to 120 hours). As a pilot experience of a Chair in information technologies for (a) libraries and archives and (b) preparation of educational materials.
- Pilot training experience in a virtual library and/or archive.
- Installation of multiple data bases on ISIS platform in the CRNTI server.
- Technical assistance will continue to be received from Colima, DBA, BIREME, etc.
- The Chair of New Information Technologies will be created for students in Computation, Communications, Library Science, etc. in a selected University (or third level education institute) in Uruguay.

6. Resources and budget

NOTE:

- The amounts of money are detailed in the annex.
- Only an estimate of payments for Phase I are presented:

7. Staff:

Experts/Consultants:

Year 1: 1 consultant, for 1-2 weeks each, from Colima, BIREME and DBA.

Year 2: 2 consultants for 2 weeks each from BIREME and another to be defined from DBA. The DBA consultants will be financed with money from the European Community that the DBA will provide.

Administration staff:

Year 1-2: 1 coordinator, (UNESCO/national) for 24 months. 1 informatics worker with experience in libraries, part time (national) for 18 months. 1 part time administrative assistant (national) for 24 months.

7. Visits

Year 1-2: Attendance at the CDS/ISIS regional meetings.

Year 1: The CRNTI will receive training for one week (minimum) in each one of the centres: Colima, BIREME, DBA.

Years 1-2: Trips by the Coordinator to Unesco/Caracas, Colima, Bireme, DBA.

8. Training

Scholarships and help for studies:

Years 1-2: Selected people will be sent to projects under way to be trained at BIREME and/or the University of Colima. The visits to the DBA that may be necessary will be financed by the DBA with funds from outside this project.

Two seminars will be held as prototypes of the chair to be created. Some participants outside Uruguay may be invited. Economic assistance will be given to train personnel from institutions without resources in the country.

9. Equipment

- Inputs: Office material, for making CD-ROMs, magnetic tapes and inputs for production.
- Hardware: local network server, terminals, cables, communications server, modems, UPS, scanners, photocopier, CD recorder, back-up unit in magnetic tape, audio equipment, camcorder, VCR, TV, datashow, retroprojector, laptop, furniture (tables, shelves, chairs) etc.
- Software: networks operative system (server and clients), communications software, basic office software, OCRs, authoring systems, programming languages (C, Vbasic, etc.).
- Installation: infrastructure expenses (electricity, telephone, fax, cleaning, water, etc.)

10. Miscellaneous

- Marketing and public relations expenses (open houses, etc.)
- Bibliographic material (subscriptions to magazines, books, directors).

11. Institutional framework and responsibility

The CRNTI will function as a UNESCO Centre in co-ordination with the Ministry of Education and Culture of Uruguay (MEC) within the Mercosur project, under the MEC's Department of Science and Technology. Physically, it will be located in the offices of the National Information System with which it will share the administrative support resources and installations.

A minimum number of permanent staff will be available. UNESCO will provide administrative assistance for auditing, account transfers, etc. The host country will provide the necessary office and communications infrastructure.

The staff necessary for the carrying out of specific projects and for giving courses not included expressly in this budget will be contracted when necessary and when resources are obtained. All the work will be under the administrative and technical supervision of the CRNTI Co-ordinator.

12. Permanent staff

- One project co-ordinator.
- One informatics worker with experience in libraries, in ISIS architectures and information implementations of the PGI.
- One administrative worker.

13. Functioning structure with contracted staff

- Telematic Services
- Hardware and software infrastructure housing/hosting of data bases and WWW pages
- Communications support

14. Training courses

- Holding of WWWISIS, visual programming (DLL), complete text courses
- Preparation of manuals
- Development of applications for the public domain
- Development of applications on request.

15. Compact Disc Editing Centre

- Production
Image digitisation
Text digitisation
Data processing
Edition
- Research and Development
Programming
Multimedia and hypermedia
- Marketing, Advertising, Public Relations

16. Didactic Media Production Centre

- Interactive Media
Animation and virtual worlds
Sound creation
- Pedagogic Research and Development
Scripts
Graphic design
Evaluation and Analysis

17. Other resources of international co-operation

Technical aid will be received from the institutions detailed below, as they are also carrying out similar projects with the PGI. The institutions' offer for the transfer of technology is non-profit-making and will be done through agreements. Only the cost of the visits and daily allowances for the consultants sent should be paid, or the tickets and expenses of the people that CRNTI sends to those places to receive training. Royalties for the use of the software applications ceded to the CRNTI will not have to be paid.

- University of Colima, Regional Centre for the Production of Compact Discs and New Information Technologies (Unesco logo). Colima, Mexico.

Contact: Victorico Rodriguez.

Tel: (331) 4-62-22, e-mail: rorv@volcan.ucol.mx

- DBA Engineering, Associazione per la documentazione le biblioteche e gli archivi, Firenze, Italy.

Contact: Gian Luigi Betti.

Tel: (3955) 438-3119, e-mail: m.cervelli@mail.regione.toscana.it

Total 1st Year	<u>35.000</u>			<u>30.000</u>			<u>65.000</u>
Total 2nd Year		<u>36.600</u>			<u>20.000</u>		<u>56.600</u>
TOTAL		<u>71.600</u>			<u>50.000</u>		<u>121.600</u>