EMISPHER NEWSLETTER

Euro-Mediterranean Internet-Satellite Platform for Health, medical Education and Research
www.emispher.org
co-funded by the European Union,
EUMEDIS B7-4100/2002/2165-083 P110

Newsletter July 2003

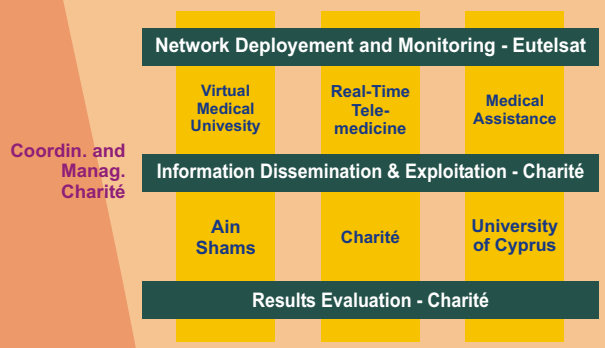
Avoiding a digital divide in the Mediterranean

The EMISPHER (Euro-Mediterranean Internet-Satellite Platform for Health, medical Education and Research) project aims to establish for all countries of the Euro-Mediterranean area an equal access to the quality of service that is required for the delivery of on-line services for health care. The project is structured in seven work packages namely: Co-ordination and Management, Virtual Medical University (to develop the concept of cross-Mediterranean Virtual Medical University in order to establish a permanent medical and scientific link), Real-time Telemedicine applications (for remote expertise and second opinion and foster cross-Mediterranean cooperation at expert level and for research), Medical Assistance (for shared management of the medical assistance file in case of repatriation of travellers and expatriates), Network Deployment and Monitoring, Information Dissemination & Exploitation and Results Evaluation.

Project work has crystallized in three main areas: the three applications of the integrated Internet-satellite platform, namely Virtual Medical University and E-Learning, Real-time Telemedicine and Medical Assistance.

The EMISPHER project started 1 September 2002 and is now in the middle phase. A first meeting of the partners took place at the kick-off meeting at IsMeTT in Palermo 23-25 October 2002.

EMISPHER Work packages and WP-Leaders



WP 1	Co-ordination & Management (Charité)
WP 2	Virtual Medical University (Ain Shams)
WP 3	Real-Time Telemedicine (Charité)
WP 4	Medical Assistance (University of Cyprus)
WP 5	Network Deployment & Monitoring (Eutelsat)
WP 6	Dissemination & Exploitation (Charité)
WP 7	Results Evaluation (Charité)

Real-time Telemedicine

Although the term "Telemedicine" has been widely used only since the last few decades, the underlying process itself, in its simplest form defined as "medicine at distance"[1], was first introduced in the beginning of the last century.

Telemedicine principally involves the transmission of patient data to a remote expert using some communication channel, asking for a first or second opinion. It is therefore not surprising that the developments in Telemedicine are closely related to new developments in information and communication technology. In the early days, a ship's MD onboard of a vessel, would contact colleagues from land medical centres using a radio transmission channel to ask for advice on a particular patient's case. As medical images have become more and more available in digital format, the used communication channels have changed accordingly and nowadays phone lines, DSL or satellite links are used.

Telemedicine aims at equal access to medical expertise irrespective of the geographical location of the person in need (a patient, or MD requiring a first or second opinion). New developments in information and communication technologies (ICTs) have enabled the transmission of medical images (both still pictures and live video sequences) in a sufficiently high quality that allows for a reliable diagnosis to be formulated by the expert at the receiving site.

Typical telemedical applications include Teleradiology, Telepathology, Telederma-tology, Telesonography, Tele-electrocardio-graphy, Telesurgery, Telemonitoring, etc..

Real-time telemedicine refers to those applications that involve live transmission of medical data and concomitant live Tele-consultation of the remote expert. Successful real-time telemedicine applications exhibit several key factors, such as a sufficiently high communication bandwidth that is also economically affordable and intelligent data compression modules that allow for a drastic reduction of the required bandwidth.

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Analysing the developments in Telemedicine in the last two decades, it must be noticed that, despite ICT revolutions, the principle approach taken by Telemedicine has remained the same: transfer of patient data to the remote expert, with the request for diagnosis. However, the promise of telemedicine to provide equal access to medical expertise irrespective of the geographical location, can only be met when not merely the patient's data are transferred, but rather a Telepresence is created, bringing patient and remote expert together using ICT. Besides general interactivity between the two sites, features like Telehaptic, Telesensation and remote control of medical devices (e.g. Telerobotics) are pre-requisites for a real Telepresence.

EMISPHER will set up a satellite-based network for real-time Telemedicine applications, using the combined WoTeSa (Workstation for Telemedical applications via Satellite) and WinVicos (Wavelet-based interactive Video communication system) modules for real-time telemedicine.

1: For this and more comprehensive definitions see "Telemedicine Glossary Glossary of Concepts, Technologies, Standards and Users", Information Society, European Commission, 4th edition, 2002, Editor: L. Beolchi.

EMISPHER Workshop on "Real-time Telemedicine"

Heraklion, 21-23 February 2003

The EMISPHER Workshop on "Real-time Telemedicine" (WP 3) on 21-23 February 2003 brought together the partners involved in this part of the project at F.O.R.T.H. Each partner that will receive a communication system in the course of the project received a hands-on training in the use of WoTeSa / WinVicos. 9 PC's and laptops were connected in a LAN and each site could connect to the other (fully-meshed topology). It was pointed out that no new technology shall be developed but only existing technology shall be implemented. For some applications (e.g. education) a multipoint version of WinVicos might be useful and solutions for multipoint connections within the satellite network have been sought. A full-screen window size and an increase of the satellite bandwidth from 2 Mbps to 4 Mbps have been discussed.

Training on WoTeSa/WinVicos: Eng. Vedat Guerkan (l) instructs one of the participants, Dr. Olivier Ami, CICE (m).

As concerns the WP 3 the concrete real-time telemedical applications have been discussed. The following categories of applications have been defined:

- Second opinion
- Demonstration and Spread of new techniques
- Telementoring
- Undergraduate teaching courses
- Optimisation of the learning curve

The following medical fields will be worked on :

- Surgery (open and minimally invasive)
- Multi-organ transplantation
- Endoscopy
- Pathology
- Radiology
- Interventional Imaging
- Infectious Diseases
- Oncology
- Gynaecology & Obstetrics
- Reproductive Medicine
- Emergency Medicine (depending on response time)

Interactions and interfaces of WP 3 with the other WP's have been defined.

Many of the needs expressed by the MD's are closely related to continuing medical education (WP 2 Virtual Medical University). Some of the multimedia teaching material in WP 2 will need to be presented in real-time. A clear difference between the WP's is the target audience (students & continuing education in WP 2, specialist doctors in WP 3).

The HealthE software (WP 4 Medical Assistance) is designed to allow shared access to the electronic patient dossier. HealthE supports the handling of medical assistance cases, as well as second opinion service on a store-and-forward basis..

A defined protocol of satellite channel management needs to be implemented (WP 5 Network Deployment and Monitoring).

In addition to the four EMISPHER Meetings open to the public, other contributions to the Dissemination of the project are asked for (WP 6 Dissemination & Exploitation). Partners are asked to express what particular content from their own work they want to disseminate.

All deliverables have the potential to be included in the Dissemination plan as information to be disseminated.

In conclusion, this workshop has allowed the MD's from the participating Consortium members for the first time to work with the WoTeSa/WinVicos workstation for real-time telemedicine and thus to start to design successfully their first application scenarios for EMISPHER. It has also become clear that for some particular application scenarios for real-time telemedicine and the Virtual Medical University, the capability for multipoint communications (simultaneous connection to more than one remote site) constitutes a more effective communication tool than point-to-point connections. The EMSIPHER network must therefore include multipoint features.

News

EMISPHER will organise four international Dissemination Conferences, each one dedicated to one of its key features :

- "Medical E-Learning", EMISPHER Conference from 9-12 October 2003 in Casablanca, Morocco;
- "Public Health in the Euro-Mediterranean Area", EMISPHER Conference from 19-22 February 2004 in Cairo, Egypt;
- "Continuity of Care", EMISPHER Conference from 24-27 June 2004 in Nicosia, Cyprus;
- "Telemedicine: Best Practice", EMISPHER Conference from 16-19 September 2004 in Istanbul, Turkey.

Each of these Conferences is open to all interested partners in the Euro-Mediterranean health sector. Announcements and Calls for Contributions will be published on the EMISPHER website.

Preparation of the on-site meeting Minutes of the "Real-time Telemedicine" workshop by Céline van Doosselaere, EHTEL (l) and the Project Manager Dr. Theo A. Roelofs, SRU OP 2000, Charité (r).

The Call for Contributions for the first "Medical E-Learning" EMISPHER Dissemination Conference (9-12 October, 2003 in Casablanca; see above) will soon be available on our website. The tentative programme includes keynote lectures by representatives from W.H.O., UNESCO, ESA, and the EC, various contributions from EMISPHER Consortium members and from additional key players in the Euro-Mediterranean health sector, as well as contributions from other EUMEDIS projects. The Call for Contributions will also be sent to all entries on the EMISPHER Newsletter Mailing list. For further details, please check our website www.emispher.org or contact the local Organising Committee www.fmp-uh2c.ac.ma.

Recently, the EMISPHER Consortium Agreement has been signed by :

- The Egyptian Ministry of Health and Population (MOHP), represented in the project by the Nasser Institute for Research and Therapy (NIFRT);
- The Faculty of Medicine of Tunis, which agreed to take over the role initially foreseen for La Rabta Hospital.

Thus, EMISPHER has now the initially foreseen 17 Consortium members ready for full activity in the project.

- The procurement of the communication equipment for the satellite network is subject to an international open call for tender (published on 16 May 2003). The deadline for tender submission closed on July 15 2003 and was followed by an evaluation of the received tenders by the specially appointed Tender Evaluation Committee and subsequent submission of the Evaluation Report to the EC. The outcomes will be published on the corresponding EC website :

  http://europa.eu.int/comm/europeaid/index_en.htm

- On 24-25 June 2003 the EMISPHER Project was monitored during a Monitoring Visit to Charité, Berlin, as part of the general MED Monitoring Programme ordered by the EC. Besides the partners present in Berlin (Charité, Faculty of Medicine of Tunis and the Nasser Institute for Research and Therapy), the Monitoring Officer Dr. Konstantinos Missirlis from the EPU-NTUA Consortium (MEDMonitoring) also interviewed 10 additional Consortium members via audio- and video conference.

  During the 2nd Workshop on the EMISPHER Virtual Medical University, held on 24-25 June 2003 in Casablanca, some of the key players in this WP have discussed the various procedures for the production, editing, copyright protection, access and scheduling of the pedagogical programme. More details will be given in the next issue of the EMISPHER newsletter (to be published by the end of September 2003), which will be dedicated to Medical E-Learning.

Co-ordinator's Corner

Dear Colleagues,

As this issue of the EMISPHER Newsletter appears, the project has been running for 11 months. In this period we have accomplished some significant progress and have produced all deliverables foreseen for this period in the Technical Annex, except the Deliverable "Report on access to information and the future standardised collective know-how database" (D3.2), which has been postponed due to the lack of an operational network for telemedicine thus far in the project.

The next steps are obviously the accelerated deployment of the satellite network, the start of operation of the integrated internet-satellite platform and the onset of the real-time telemedicine applications.

We wish all of our Consortium members, as well as all subscribers and readers of this newsletter pleasant and relaxing summer holidays. And for all of you who are interested to learn more about EMISPHER, we hope to welcome you at our first "Medical E-Learning" Conference in Casablanca (9-12 October 2003).

The EMISPHER Management.

EMISPHER PARTNERS

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Faculté de Médecine et de Pharmacie - Université Hassan II, Casablanca, Maroc

Faculty of Medicine of Tunis Tunisia

Istanbul University, Istanbul Medical Faculty, Continuing Medical Education and Research Centre (ISTEM) Istanbul, Turkey

National Centre for Scientific Research (NCSR) "Demokritos" , Athens, Greece

Istituto Mediterraneo per i Trapianti e Terapie ad Alta Specializzazione (IsMeTT), Palermo, Italy

Foundation for Research and Technology (FORTH) Center for Medical Informatics and Health Telematics Applications, Heraklion, Crete, Greece

Société européenne pour le E-learning médical (SEPELM), Paris, France

Inter Mutuelles Assistance S.A. (IMA), Niort, France

European Health Telematics Association (EHTEL), Brussels, Belgium

Centre International de Chirurgie Endoscopique (CICE), Clermont-Ferrand, France

Telemedicine Technologies S.A. Boulognoe-Billancourt, France

EUTELSAT S.A, Paris, France

EUMEDIS Guest Project

In the framework of the EUMEDIS Programme from the EC, four other projects are currently active in the Health Care Networks Sector (Sector 1):

EMPHIS

Euro-Mediterranean Public Health Information System,
www.emphis.org.

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BurNet

Euro-Mediterranean Burn Centres Network,
www.burnet.org

Co-ordinator: Prof. M. Masellis, Mediterranean Council for Burns and Fire Disasters,
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PARADIGMA

PARticipative Approach to DIsease Global Management,
www.paradigmamed.org

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EuMed Cancer - GeMed Network

Euro-Mediterranean Cancer Prevention and Genetic Medicine Network,
www.eurogene.org

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EUMEDIS Guest Project

In future EMISPHER Newsletters, this place will be reserved for guest contributions from other projects, starting in the upcoming issue with EMPHIS.

COLOPHON / IMPRINT

- Content of Leading Articles on (Real-time) Telemedicine : SRU OP 2000, Charité, Berlin.
- Editors of the EMISPHER Newsletter :
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  - C. van Doosselaere, EHTEL
  - T. A. Roelofs, Charité