

# IT and Telecom — Communication Tools

## The Heritage of the Telemedicine Conferences in Visby, Sweden, 1998 and 1999 — an expanding professional network

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### Summary

Since 1998 professionals in Ukraine, Russia, Sweden, Estonia, Latvia and Lithuania among other states has been collaborating in a special professional network within the healthcare sector, IT and tele-communication. This special network driven by enthusiasts for the new technology and its possibilities has expanded by its own to a couple of thousand members. The origin derives from the first telemedicine conference in Visby, Sweden in 1998. Nevertheless the Internet contacts, mainly by e-mails, net meetings and videoconferences, have made it possible to continue the collaboration on a survival level. AFCEA Visby Telemedicine Subchapter was founded to carry on the volunteer work. The second follow up conference, also in Visby, was arranged already in 1999. The third conference, TechNet Baltic 2001, was a virtual interactive and visual conference using Internet protocol with the control and coordination centre in Visby. A lot of contacts between professionals have been taken, discussions have started and multidisciplinary international projects have found its partners. The lessons learned are that volunteer work driven by enthusiasts only can live as long as the responsible ones have not lost their hearts due to the hard and exhausting struggle for economical support for fulfilling the shared visions. Projects probably have to turn into business plans for getting sustainability. A Clearing House, a tool for exchange of medical information and training might be a possible way for cooperation on the Internet. The author and co-author have been initiators and head organizers of all the activities mentioned above.

**Keywords:** business plan, Clearing House, interactive, Internet, network, sustainability, telemedicine conference, visual.

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## Activities

### The telemedicine conference in 1998

In the summer of 1998, an international telemedicine conference was held in Visby, Sweden, entitled «Telemedicine-International Medical Care Networks», organized by Gotland Military Command, Gotland County Administration, Municipality of Gotland, TMC (TeleMedical Development Centre Huddinge — Visby) and U.S. Embassy to Sweden. USA paid a naval visit in Visby with their huge hospital ship USNS Comfort. About 200 delegates, representing the countries of Russia, Ukraine, Estonia, Latvia, Lithuania, USA, Sweden, and other Scandinavian countries, met to discuss the possibility of collaboration, share their experiences in utilizing modern information technology within healthcare, and to build a contact network. The conference was focused on:

- The benefit of common development, education and training in the telemedicine fields by enhanced co-operation by civilian and military authorities in the Baltic Sea Region.
- The possibilities of more effective use of medical resources within the Baltic Sea Region.
- Trends in telemedical technical developments.

As part of the concluding remarks of the conference, the delegates proclaimed a number of issues to be especially important for the development of telemedicine and collaboration within the Baltic Sea Region. The delegates emphasised that, above all, what is needed is the establishment of a network of individuals, institu-

tions, and authorities who share an interest in collaborating for the betterment of telemedicine. Also concluded was that a virtual meeting and working place should be created to provide a cost-effective means for such a collaboration. (Suppl. 1, 2, 3, 4, 5, 6)

### The foundation of AFCEA Visby Telemedicine Subchapter in 1998

The history of AFCEA Visby Telemedicine Subchapter, a subchapter to AFCEA Stockholm Chapter, owes its origin to two conferences held in Visby 1998. AFCEA Stockholm Chapter on the subject of Information Technologies and Co-operation in the Baltic Sea Region arranged the first in May. Short thereafter came the international telemedicine conference mentioned above, coinciding with the US naval visit to Visby. It is a volunteer organization formed specifically to:

- Promote the telemedicine co-operation in the Baltic Sea Region.
  - Contribute to the creation of a network in the area of telemedicine.
  - Stimulate research and development in the area of telecommunication, in particular telemedicine.
- www.afcea.org.se

### The telemedicine conference in 1999

Already in September 1999, the conference on «Telemedicine — International Medical Care Networks» took place in Visby as a follow up conference to the one in 1998. The very strong wish within the

professional network to continue the collaboration advanced the meeting one year. The conference was divided into three parts. AFCEA Visby Telemedicine Subchapter was the responsible organizer for the telemedicine part, AFCEA Stockholm Chapter for IT and telecommunication in society designed for different authorities and the Ministry of Health and Welfare for the Expert meeting (CBSS Council for the Baltic Sea States) on «Children at Risk». About 125 delegates from Ukraine, Russia, Estonia, Latvia and Lithuania was participating among the 200 delegates! The purpose of the conference was to expand and stabilize the network, expose new project ideas and invite colleagues to participate multidisciplinary and multinational in future collaboration. Several parallel sessions took place focusing different topics followed by discussions and summaries. Many project ideas had already planted their seeds in the 1988 conference in Visby, among them LITMED, an ophthalmologic project between Lithuania and Sweden.

At the end of the conference some common visions for the future were proclaimed:

- The necessity to find funding for the common Internet working place where professionals can find each other and inform about projects, look for partners and topics for discussions.
- The use of IT, Telecom and the Internet was essential for a prosperous future collaboration enhancing and speeding up the possibility to work in between the face-to-face conferences.
- The third follow up conference within the network should be a virtual conference. (Sappl. 7, 8, 9, 10)

## The set up of the company telMEDit AB in 2000

How to achieve sustainability within a professional network? In spite of a hard volunteer work it had been impossible to get economical support for the Internet working place asked for by the professional network. Even with support international cooperation tends to end up when the project period is over. Much valuable knowledge is rapidly vanishing and the spread of specialist competence is discontinued. For achieving sustainability in cooperation there has to be a lot of incitements, otherwise the voluntary non-profit work comes to an end when the real enthusiasts have lost their hearts. Members in the board of AFCEA Visby Telemedicine Subchapter realized that they had to create a business plan with a plain commercial idea, for being able to apply for

special funds designed for international trade and industry development. The company telMEDit AB was founded in June 2000.

telMEDit's business idea is to create a community based on stringent business rules. A Clearing House for exchange of medical information and education will serve its members. Such a community with the Internet as the common communication interface is in itself not unique. The uniqueness is the way to work international, multicultural as well as multilingual and multidisciplinary. Key contacts in the involved countries must be real enthusiasts for being able to handle the work with such a community, which certainly is a great challenge.

The Clearing House will offer a variety of services and act as a hub for human cooperation and communication. The most important services will be:

- On-line Institute/Academy with e-training, seminars, workshops, conferences etc. (TechNet Baltic 2001 acted as a great showcase, see below).
- Online Centre for R&D
- A Business platform for international cooperation, B2B/Business to Business and an on-line trade fair for medical industry. (For example the virtual exhibitions on the ISfT conference, International Society for Telemedicine, Uppsala Sweden, with the 3D online show running in June/July 2001, and the TechNet Baltic 2001 running in September/November 2001).

A factor necessary for sustainability is a large portion of national participation with the use of multilingual information in native language and English. This is possible with the system architecture where the key contact persons in the different countries themselves have the administrative legal possessions to make an update of the information. Members of the professional network are active parts of the group. All professionals «working» in the Clearing House will be available in a searchable catalogue. The catalogue also makes it possible to administrate authorities and roles for all members in the community. Such a catalogue is open just for members.

A virtual on-line meeting on the Internet can of course not replace face-to-face meetings – but visual communication will permit the participants to rapidly be acquainted with each other and give reason for extended contacts and physical meetings. The Internet technique today permits visual communication, which makes knowledge exchange with the help of virtual online conferences, seminars, workshop etc possible. For realizing these ideas all services have to be web-based and all communication IP-based. Design,

content and function have to be separated for having a cost effective update.

A tool is needed where the information is easy to handle on the Internet, a so-called Content Management System. This system also handles authorization control and roles, necessary for making delegations of administrative legal rights. The members of the community – the people owning the information – are the most useful webmasters. If national key contacts, working on a daily basis with information, are directly responsible for entering and updating their site – their part of the site will always become of great current interest. The site will have the potential to become a dynamic site while letting everyone participate in building up a knowledge-based, multilingual community.

An integrated site where all members easily can move from public pages to restricted secure pages must be allowed. The information system becomes Internet-based, accessible globally but at the same time restricted according to the individual user's profile (department, project, position, etc).

## The virtual conference TechNet Baltic 2001

At the conclusion of the telemedicine conference in 1999 the goal was to set up and perform a virtual conference within a couple of years. AFCEA Visby Telemedicine Subchapter was the initiator but soon realized that the task was big enough for including several AFCEA Chapters. AFCEA Stockholm Chapter together with Visby became the leading chapters. The company telMEDit was used as consultant for using the ideas on how to give professionals within the health care sectors tools for communication and collaboration on the Internet. These tools have to be interoperable and with a very easy to understand interface.

The conference TechNet Baltic 2001 was carried out by five countries linked together with Internet based video connections. The control and coordination centre of the conference was located in Gotland University in Visby, Sweden. The latest Internet technology and broadband communication were used. Finland, Lithuania, Norway, Russia and Sweden hosted their respective node. The university data net was used within Scandinavia and satellite net was used in Russia and Lithuania. Each participating country was responsible for an on-ground seminar, which was broadcasted to the other nodes with interactive discussions. In connection to the conference a 3D digital virtual

exhibition was running over the Internet including poster stands. It was possible for all Internet users all over the world to visit the exhibition and even visit the conference.

The aim was to focus on the possibilities to meet and work on the Internet within different areas of interest in a worldwide network and to use modern technology. The objectives of the conference:

- Promote knowledge within the fields of IT and Telecom in the Baltic Sea Region
- Enhance cooperation and networking within the Baltic Sea Region first of all between academic institutions and civil departments
- Draw the attention to the Baltic Sea region's potential for growth and economic integration and to profile the significant commercial opportunities in the Baltic Sea region
- Initiate annual meetings for the Baltic Sea region business leaders and decision makers within civil departments and other authorities.

The conference was running for five days with five different topics. Russia

(St. Petersburg Telecom Centre) was responsible for the telemedicine part (2001-09-27) and Lithuania (The Distance Education Centre of Kaunas University of Technology) for the distance education part (2001-09-25).

Poster stands in the virtual exhibition were exposing medical reports on R&D and many reports were originating from Ukraine, Russia, Estonia and Lithuania. The visitor could stroll around in the hall and look at the posters from different perspectives. When the poster was clicked on the scientific presentation was exposed and possible to download for free. All needed information for further contacts also was added.

On the website the video lectures were able to download for three months. Biographies/CV:s and presentations of the lectures also were able to print out.

The conference acted as a showcase for the Clearing House idea, and also proved that the needed IP technology already is here. Which are the obstacles for using the new technology and what about the acceptance of it? (Suppl. 11, 12, 13, 14, 15, 16, 17, 18,19)

## Barriers and concerns that may affect telemedicine implementation

IT and Telecom give the health-care professionals new possibilities to get in touch with facilities they need especially in remote areas and tuff climate with sparse population. Collaboration with the telecom community is therefore essential with need of close multidisciplinary cooperation between telecommunication operators and health-care authorities. The impact of telemedicine on health-care structures can be significant. Telemedicine can be seen as a very potent and useful tool for reorganizing and building up new health-care structures but also enhancing democracy and over-all welfare. Particular attention has to be paid to capacities and needs in different countries. Evaluation of projects for adding knowledge to the community is of great importance. Some of the barriers might be:

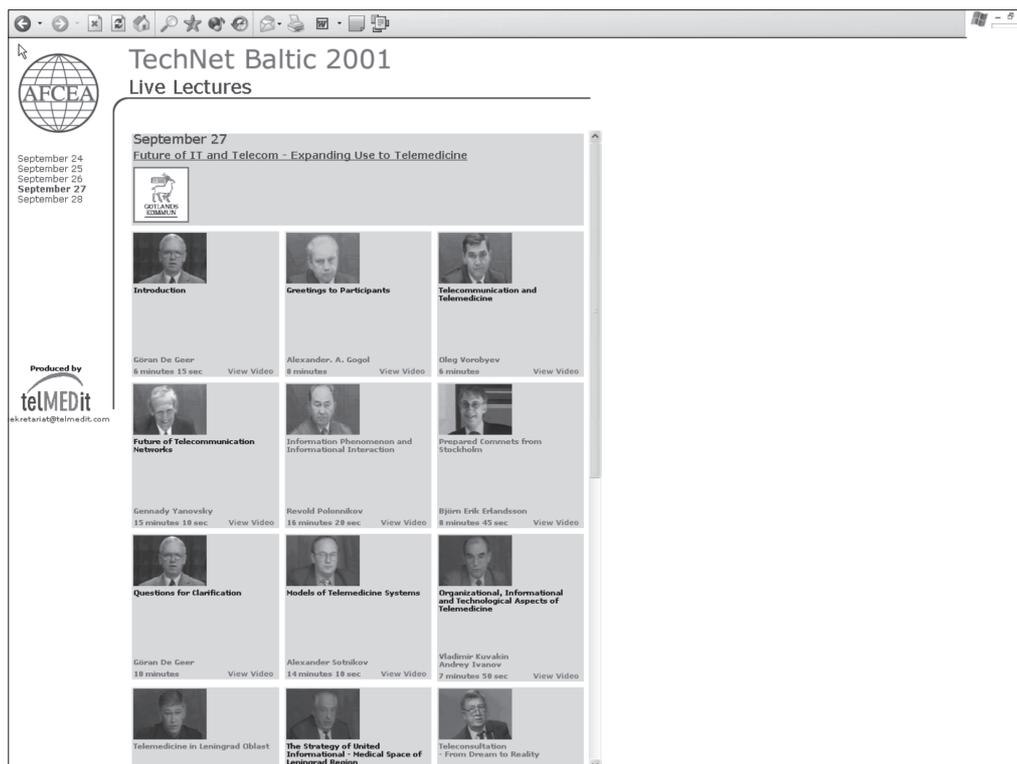
- Lack of money.
- Poor infrastructure (telephone system and telemedicine equipment, lack of the Internet, lack of interoperable interfaces).
- Shortage of health-care professionals.
- Poor access to medical journals after graduation and hard to get post-graduate education.
- Need of telemedicine training – to use the equipment and how to perform, need of exams and certifications.
- Lack of or poor knowledge of standards.
- Low knowledge of finding the right way to incorporate telemedicine services in the medical routine clinical work (for ex. consultations and training).
- Lack of integration of telemedicine projects in the existing organizational structure.

ITU, the International Telecommunication Union, is the international organization within which governments and the private sector coordinate global telecom networks and services. They have already evaluated important telecommunication/telemedicine projects within Europe (Asia and Africa) with a lot of experiences to be learned.(www.itu.org)

The Federation of Swedish County Councils has edited reports on telemedicine to address the communication of information on a wide front in health and

The picture below shows posters from Ukraine and Russia in the exhibition hall.





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medical services. Past and current evaluation activities and their findings within the Swedish Health Care Sector are to be found in some papers with the following titles:

- What is the Potential for Telemedicine?: A Report from the Project on «Telemedicine – Regional and National Collaboration». Subproject: «Incentives and Implementation»
- What are the Barriers Facing Telemedicine?
- Telemedicine from a Management perspective – from Trials to Standard Practice! – This presentation gives a summary of the experiences, critical aspects and conditions and provides a basis for a successful implementation of telemedicine within Sweden. Many of these aspects may be useful also for other countries. ([www.carelink.se](http://www.carelink.se))

## Conclusion

A professional network with a great competence in clinical informatics and telemedicine has expanded by its own force during the last years linking East and West Europe together over the Internet.

The use of Internet has become the base-ment for communication and the face-to-face conferences have acted as triggers for the collaboration.

Some proposed items to be measured for assuring the quality of distance delivered medical information and health care are:

Recommendation of standards and interfaces for making the consultation qualified (soft-ware and hard-ware), training of telemedicine personnel on-site and on-line, some kind of certification for trained telemedicine personnel, cost-benefit analysis and evaluation of quality of services. On-line and face-to-face conferences are necessary for following up these items.

The progress in telemedicine is running very fast. With the use of modern information technology telemedicine creates new and fascinating possibilities for co-operation between regions and countries. In the Baltic Sea Region this progress will be of special importance giving the opportunity to break down the borders between the countries and to establish medical care networks. The extensive shipping, the vast number of ferry lines crossing the Baltic Sea Region and the location of heavy chemical industry and nuclear plants in most countries entails great risks for accidents and disasters. By the means of an

international medical care network, competence will be easily exchanged and joint programs for disaster relief operations, post-graduate education and health-care programs can be prepared and realised.

Never before have the possibilities for an international collaboration been more technically available and exceptional than today. Still there are many barriers, not only economical ones. No visions will ever come true without acceptance among the ordinary users for the new technology. There is a demand for a very easy-to-understand interface between the user and the computers software and hardware. Something special has to be offered that adds values to the user. Participating in an Internet conference, e-training or a virtual project collaboration must be a part of a wider context. Key contact persons in different countries, with a very strong belief in the new technology and its possibilities, will act as forerunners and be a part of the international community.

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