Global Communications Newsletter

April 1997

Globalization: Long-Term Efforts of the IEEE Communications Society
By Lin-shan Lee, Vice President, International Affairs

Globalization has been a long-term goal in the development of the IEEE Communications Society (ComSoc) for many years. Many people have made great efforts toward this goal. In short, the society wishes to serve its members and related technical communities all over the world, and hopefully the services provided by the society will be uniform and ubiquitous globally regardless of geographical location. Such efforts will continue for many years to come. Table 1 is the membership distribution of ComSoc among different geographical regions. As can be found, in 1985 roughly 80 percent of the membership was in North America, but this ratio was reduced to 64 percent in 1995. For IEEE as a whole the membership percentage of North America (Regions 1–7) is still 74 percent. Thus, ComSoc is actually "very global" compared to many other IEEE societies in terms of membership distribution. Note that the membership of ComSoc in North America actually substantially increased from 1985 to 1995; however, the data in Table 1 actually indicate that such increases have been much faster in regions outside of North America. Right now both Region 8 (Europe/Africa/Middle East) and Region 10 (Asia Pacific) have 16 percent of the membership. Since this trend is expected to continue for many years to come, the time when the membership in North America will be less than 50 percent is not very far.

ComSoc has been making the long-term effort toward globalization right from the organizational structure of the society. One out of the three vice presidents of ComSoc has been the Vice President for International Affairs for many years. This vice president's primary responsibility is to develop better services to all members in all parts of the world, and to promote technical activities in all parts of the world. An International Activities Council (IAC), chaired by the Vice President for International Affairs, has been in operation for many years, and is the primary vehicle for this Vice President to fulfill the above responsibility. Three regional committees were established under IAC, the Europe/Africa/Middle East Committee (EAMEC) for Region 8, the Latin America Committee (LAC) for Region 9, and the Asia Pacific Committee (APC) for Region 10. IAC includes representatives from every part of the world, from the above three regional committees as well as from North America. This council has been making various policies, taking measures and various actions toward the globalization goal. Actually, globalization efforts have been made by many people in almost every department and all programs of ComSoc, from conferences to publications, from Chapters' activities to technical committees, and so on; they are certainly not limited to IAC, although many of the basic concepts and general policies were generated in IAC. Below is a brief summary of some, although certainly not all, of the major efforts made by ComSoc in recent years toward the globalization goal. Some of them may be developed under other major goals but are also very helpful in the globalization direction, and thus are also mentioned.

The Communications Society has been actively developing Sister Society relationships with many national societies of different countries. With such relationships not only can ComSoc conduct join programs with many technical societies all over the world, but the members of ComSoc (or the Sister Societies) can subscribe to the publications and attend the conferences of the Sister Societies (or of ComSoc) at reduced rates. So the members of one society are actually kind of "semi-members" of the other society. Up to this moment ComSoc has signed such agreements with quite a few national societies located in various parts of the world, including AEI of Italy, SBT of Brazil, CIC and CIE of China, KICS of Korea, CIEE of Taiwan, IEICE-CS of Japan, the Popov Society of Russia, and SEE of France. On the other hand, in addition to ComSoc's headquarters office in New York, ComSoc has established two regional offices in the other parts of the word: one in Brussels to serve members in Region 8, and one in Singapore to serve members in Region 10. Located within similar time zones and with staff understanding local environments better, these regional offices can certainly provide more timely services than the New York office to members in their regions. This *Global Communications Newsletter* inserted in *IEEE Communications Magazine* was also started a few years ago, reporting society information as well as programs and activities in all parts of the world to the global membership.

Geographical Regions	1985	1995
USA (regions 1-6)	72%	58%
Canada (region 7)	7%	6%
Europe/Africa/Middle East (Region 8)	10%	16%
Latin America (Region 9)	2%	4%
Asia Pacific (region 10)	9%	16%

Table 1. *Membership percentage distribution of ComSoc in 1985 and 1995.*

The IEEE ComSoc European Operations Corner
1996 Activities and 1997 Plans

By Jacques Kevers, Brussels

1996 Activities

During the past year, the Brussels office concentrated its ComSoc activities on membership promotion through the development of a potential members list and a mailing of Comsoc application forms, on attendance at ComSoc-sponsored technical meetings, and on providing support to the Europe/Asia/Middle East Committee (EAMEC).

• Mailing lists: 2000 addresses were collected (attendees of technical meetings held in Brussels, higher education institutes teaching telecommunications, research institutes, etc.).

• Mailing: Comsoc membership application forms were mailed to 1000 addressees in Region 8.

• GLOBECOM '96: Jacques Kevers attended the meetings of R8 chapters chairs committee, EAMEC, and the International Activities Committee, where he represented the Brussels office and participated in discussions on possible future activities. He also staffed the Comsoc info desk for three days, taking this opportunity to multiply contacts with conference attendees.

• International Workshop on Community Networking (Antwerp, Belgium): In cooperation with the organizers, an information desk was staffed, ComSoc membership application forms distributed, and a range of relevant IEEE books displayed.

• EAMEC support: The office did set up an EAMEC reflector for the members of this committee who have access to electronic mail. This reflector is regularly updated with address changes or new e-mail addresses. The latest EAMEC elections were also handled by the office, which sent out, collected, and counted the ballots and circulated the results. The office will continue its cooperation with the new EAMEC Chair, Dr. Horst Bessai.

• Chapters support: The office has on its computers a complete set, updated monthly, of IEEE members' addresses in Region 8. This program (SAMIEEE) was used to provide several local chapters with mailing labels for ComSoc members in selected Region 8 countries.

1997 Plans

The office will, of course, continue the same type of activities in 1997. New activities are sought, and all suggestions in this respect are welcome.

• Mailing lists: The office will continue to develop current lists. List brokers will be contacted , and a test mailing of membership forms to one selected list could be done.

• Conferences: Main ComSoc-sponsored conferences organized in Region 8 during the current year will be contacted with a request for free space for a ComSoc/Brussels office info desk. All other ComSoc-related events organized in the region will be contacted with a request to display ComSoc and Brussels office promo material.

• Chapters support: An e-mail reflector similar to that set up for EAMEC will be created for the Comsoc chapter chairs in Region 8. An e-mail address will be proposed for those who do not yet have Internet access.

• The office will provide a bimonthly column in the *Global Communications Newsletter*. It is hoped that this column will raise reactions and suggestions from the readers.

• Finally, the office will, of course, continue to provide specific services upon request of Comsoc members, visiting Comsoc officers, and others.

Contact information for the Brussels ComSoc office are as follows:

IEEE ComSoc European Operations Centre
13 Avenue de l'Aquilon
B-1200 Brussels
Manager: Jacques Kevers
Phone: +32-2-770-66-34
Fax: +32-2-770-85-05
E-mail: memservice-europe@ieee.org

The Technical Committee on Personal Communications

By Justin Chuang,
Chair of IEEE ComSoc Technical Committee on Personal Communications

The Technical Committee on Personal Communications, known affectionately as TCPC, is one of the largest technical committees of the IEEE Communications Society. We currently have more than 250 members worldwide, and we have been expanding very rapidly. Our membership, which has more than quadrupled in the last two years, comprises a full cross-section of wireless communications. It includes persons from industry, government, and academia who are involved in all aspects of the field, including research, equipment manufacture, software, systems and network design, service provision, and regulation. TCPC acts as a resource base for six major IEEE ComSoc-supported conferences. These include ICUPC, PIMRC, ICC, GLOBECOM, INFOCOM, and MILCOM. TCPC also sponsors several workshops that focus on subjects related to our field of interest. Committee members are active in organizing and chairing technical sessions, tutorials, and panel discussions for all of these meetings. The committee is "home base" for ICUPC, to which we devote special effort and provide a more complete forum for site selection, planning, and organizational discussion. In Summer 1997 TCPC is involved in supporting the 7th Annual Virginia Tech Symposium on Wireless Personal Communications, and in Fall 1997 the committee is involved in supporting ICUPC '97 (San Diego), PIMRC '96 (Finland), and MoMuC-3 (Korea), a workshop on mobile multimedia communications. More information about these activities and others is available at our Web site.

The committee meets regularly at least twice a year, usually at ICC and GLOBECOM, and sometimes at ICUPC or PIMRC. On a more continuous basis, members keep in touch via e-mail. We maintain an e-mail "exploder" through which any TCPC member can broadcast a message to all other members, and a Web site which has up-to-date information on meetings relevant to our mission.

Interested persons are invited to visit us on the Web at

http://www.comm.toronto.edu/~sousa/tcpc.html

or from the ComSoc Web site at

http://www.comsoc.org/

under "Technical Committees."

Regional Chapter Chairs Meeting
Held at GLOBECOM '96 in London

by Dr. J. Baal-Schem
Region 8 Communications Chapters Coordinator
j.baal.schem@ieee.org

A Communications Chapters Chairs meeting was held in London at the Queen Elizabeth II Conference Centre at GLOBECOM '96, which was organized and chaired by Dr. Jacob Baal-Schem, Region Communications Chapters Coordinator, with financial assistance from the Communications Society, Region 8, and the organizers of GLOBECOM '96.

The meeting was attended by seven Chapter Chairs (R. Israel, France; P. Constantinou, Greece; I. Frigyes, Hungary; A. Livne, Israel; E. Panayirci, Turkey; A. Aghvami, UKRI; G. Paunovic, Yugoslavia), as well as by EAMEC Chair H. Bessai and Brussels Office Manager J. Kevers.

Region 8 was represented by Region 8 Director P.M. Larsen and the Communications Society by President S. Weinstein; VP International Affairs L. Lee; VP Membership Affairs J. R. B. de Marca; Director of Chapters T. Miki; and Division III Director C. L. Desmond.

The discussions which took place there are summarized below:

1. Dr. Baal-Schem mentioned that there are actually 21 Communications Society Chapters in Region 8. Communications Society members in the Region account for over 6000 (16 percent) of total ComSoc members (in 1985 they were only 10 percent). During the years 1993–1995 ComSoc membership in region 8 grew 12 percent versus a growth of 7 percent in total Society membership.

2. Since the last Chapter Chairs meeting, the following main regional activities have occurred:

a. Eight new Chapters were founded, and all 21 Chapters are functioning actively.

b. A Communications Seminar was organized by the Hungary Chapter.

c. Two Satellite Communications Conferences were organized by the Russia Chapter.

d. Several additional Chapters are now in formation.

3. Region 8 Director Larsen stressed the importance of strengthening the interaction and cooperation between the Region, Sections, and Chapters. At the regional level a Chapter Coordination Committee is set up in order to secure cooperation between Societies, Chapters, and Sections. Regional Workshops are sponsored by Region 8, and for the next year the IEEE Technical Activities Board plans to arrange an Entrepreneural Workshop in St. Petersburg, Kiev, and Minsk.

4. Communications Society President Weinstein presented an overview of new developments in ComSoc. He stressed the subject of electronic publishing as well as the development of the ComSoc Web site.

5. VPs Lee and De Marca stressed the Society's initiatives to retain members as well as to reward long-standing members and volunteers. They mentioned the availability of funding for Chapter initiatives.

6. Brussels Office Manager Kevers presented the activities of the Brussels Office, including online access to the IEEE database, maintenance of address lists, and replacement of copies of periodicals. He mentioned the possibility of using the office as a focal point for organizing lecture tours and other ComSoc activities in the Region. The e-mail address of the Brussels office is j.kevers@ieee.org.

7. During the discussion period the following main points were addressed:

a. The Brussels office should become a focal point for organizing ComSoc activities in the Region (e.g., Distinguished Lecturer tours).

b. J. Kevers will set up an alias for Region 8 ComSoc Chapter Chairs, the Regional ComSoc Chapters Coordinator, and the EAMEC Chair.

c. J. Kevers will prepare a set of information sheets regarding ComSoc services for Chapters (e.g., Chapter of the Year Award forms; lists of Distinguished Lecturers, including local lecturers and funding availability) and circulate this list periodically to Chapters Chairs.

Web Hosting for All Chapters

The IEEE Communications Society is providing Web hosting for all Chapters. Each Chapter will be given an ID and password to post Web pages and graphics. Each Chapter is also responsible for its password and for the content placed on the server. The ComSoc Information Systems Department will provide technical support Monday through Friday 9 a.m. to 5 p.m. EST. Technical Support can be reached by e-mail: comsoc-techsupport@ieee.org, or by phone: 212-705-8646.

The Information Systems Department is dedicated to supporting its customers as quickly as possible and is here to assist in making comsoc.org as active as possible for all chapters.

Alexander Pelaez
Manager of Information Systems and Networking
IEEE Communications Society
E-mail: a.pelaez@ieee.org
Fax: 212-705-7865

CDMA Technology in the '90s and Beyond:
Korea's Successful Deployment of
CDMA-Based Commercial Digital Cellular Services
By Dongmyun Lee, Korea

During the last decade, the world has seen a dramatic expansion of wireless technology as a basic tool for fulfilling customers' requirements for mobile communications. In Korea, over the last three or four years demand for cellular communication service has increased over 100 percent per year and has saturated frequency resources reserved for analog cellular communication services. This has led Korean research institutes and telecommunications companies to look into code-division multiple access (CDMA) digital cellular technology as an alternative solution.

Despite the technical merits of CDMA, such as greater capacity, better coverage, enhanced audio quality, and extended battery life, choosing CDMA as the basis for next-stage cellular services was always disputed by proponents of time-division multiple access (TDMA) technology, because the technology itself has not been commercially proven and the implementation of CDMA technology appeared to be complex. Therefore, the commercial suitability of CDMA technology was still under question when the first CDMA-based commercial cellular service was started in April 1996.

This CDMA-based digital cellular service was provided by two Korean companies: Korea Mobile Telecom (KMT), which provides both analog and digital cellular services, and Shinsegi Telecom, which provides digital cellular service only.

Cellular Deployment in Korea/*cont'd from page 3*

CDMA-based digital cellular service subscribers reached around 830,000 as of the end of 1996. Despite initial worries in telecommunications markets as to whether the CDMA-based commercial service would be successful with large systems and subscribers, the service has shown sharply increasing subscription; surveys show high customer satisfaction in using the new digital cellular service. In particular, figures have shown that ex-analog cellular users give higher points to CDMA-based digital cellular service than those who started directly with digital cellular service. This result shows a very promising feature of CDMA, and it is expected that digital cellular subscribers will be over two million by the end of this year.

Besides the digital cellular service, CDMA technology is considered to play a basic and important role in providing next-stage services such as personal communications services (PCS) and Future Public Land Mobile Telecommunications Services (FPLMTS). In Korea, commercial PCS based on upband CDMA (IS-95) is expected to be available in early 1998. Currently, Korea Telecom (KT), jointly with major telecom equipment vendors in Korea, has developed a PCS system based on upband CDMA (IS-95) technology. For preparing FPLMTS, major telecom operators in Korea are announcing the development of a wideband CDMA system which will be used for broadband wireless access to future networks. Due to its high-speed, high-quality information transfer capability, wideband CDMA technology is considered an almost unique solution for providing broadband wireless access to upband CDMA networks.

As our society becomes more information-oriented, the importance of a high-speed reliable wireless access mechanism grows. This may be why the successful introduction of CDMA-based commercial digital cellular service in Korea is considered the start of widespread of future personal mobile communication era.

Globalization of ComSoc/*cont'd from page 1*

Various programs have been developed by the Publications Department. More and more publications will be available online via the Web, so members in faraway regions won't have to wait too long to read the hard copies. The editors, reviewers, and authors of the publications also indicate much better global distribution in recent years. A complimentary subscription program was started several years ago, in which free publication packages have been provided to major libraries in countries with economic difficulties but with active telecommunication development. This program began with several East European countries, and now has reached many more, including Egypt, Algeria, Morocco, Senegal, Zimbabwe, Zambia, Turkey, Slovenia, and Croatia of Region 8, and India, Sri Lanka, China, Vietnam, Bangladesh, and Pakistan in Region 10. The Meetings and Conferences Department has been making similar efforts. Many major conferences of different sizes and subjects have been rotated to different parts of the world. For example, GLOBECOM was in Singapore in 1995, in London in 1996, and will be in Sydney in 1998 and in Rio De Janeiro before 2000. Experiments on broadcasting conference sessions electronically via networks to global members started at GLOBECOM '96 in London. Travel grants have been provided to members with difficulties in traveling to attend major conferences. For example, 75 students from 22 countries received this grant in 1996.

The Chapters department is now trying to provide special activities funds to all chapters globally. Right now ComSoc has 19 chapters in Region 8, 11 in Region 9, and 13 chapters plus two councils (Korea Council and India Council, each with more than one chapter) in Region 10. Moreover, all the technical committees of ComSoc are now trying to provide technical information and technical programs over the Web, and have their activities available for members to participate in via Internet. Similar to the online publications, these are of special interest to members in faraway regions since the electronic media are the most helpful in overcoming geographical distances, although they are also very helpful to members in North America. The Distinguished Lecturer Tours is another very helpful program, in which distinguished lecturers give a series of talks to several chapters in a tour. A new international student membership awards program has also been started in 1997, in which the chapters in each country can select their student recipients with their own criteria.

Globalization is a long-term goal, and the efforts will be continued by many people for many years to come. It is my belief that this long-term goal can be achieved by many small steps taken one at a time, and this is why we are trying to make as many such small steps as possible in all directions. If you have any further suggestions, comments, opinions, or questions regarding the globalization efforts of ComSoc or the details of any programs mentioned above, please feel free to contact me:

Lin-shan Lee
Institute of Information Science
Academia Sinica
Taipei, Taiwan, Republic of China
Phone: +886-2-783-8642
Fax: +886-2-782-4814
E-mail: lsl@iis.sinica.edu.tw

I look forward to hearing from you.