Global
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Newsletter

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Status and Movement of the IEICE Communications Society

By Tetsuya Miki, President, IEICE Communications Society, Japan

In November 1995, the Communications Society of the Institute of Electronics, Information, and Communications Engineers (IEICE) reached a Sister Society agreement with the IEEE Communications Society (ComSoc). The year 1995 was an important year for the IEICE, in which the IEICE instituted a "society" system almost equivalent to that of the IEEE. The IEICE currently has four societies and one group, which is smaller than a society but may grow into one. They are the Engineering Science Society, the Communications Society, the Electronics Society, the Information and Systems Society, and the Human Communication Engineering Group.

The Communications Society (CS) is the biggest society in the IEICE; it presently has about 14,000 members. Its technical fields of activity are very similar to those of ComSoc; there are 11 standing technical groups and 10 topical technical groups. Each standing technical group usually conducts a workshop-style technical meeting on a monthly basis. The papers presented in the workshops are published in a technical group report. Each topical technical group conducts two to three symposia, workshops, and/or seminars every year.

The IEICE CS also publishes three monthly transactions. One of them is the *IEICE Transaction on Communications*, which includes several papers on special topics together with other regular papers, all written in English. ComSoc members can subscribe to it at the discounted rate based on our sister society agreement. The two other transactions are for papers written in Japanese. The Society also publishes a newsletter four times a year; it is distributed in printed form and electronically over the Internet. The IEICE organizes two comprehensive national conventions every year, one in spring and one in fall. These are actually individual society conventions held jointly at the same place. Both attract about 4000 participants and have about 2500 paper presentations.

One of the major objectives of the IEICE reorganization toward a Society-oriented structure is to pursue flexible management that encourages more attractive and timely activities, taking into account the technical situation in each area. The IEICE CS is currently focusing on internationalized activity, electronic publication and information dissemination, and networked services. It is trying to promote international meetings and conferences both inside and outside Japan, especially in the Asia Pacific region, in cooperation with ComSoc and academic societies in the region. It is also providing financial support to foreign authors who write papers for the society's transactions.

The move toward an information society requires network provision of various services. The IEICE CS has a special team for promoting networked conferences headed by Prof. Nakagawa of Keio University. They are developing networking technologies and operating techniques for conducting online meetings and conferences. For example, the National Joint IEICE Societies Convention held in Kanazawa last fall was broadcast widely throughout Japan by using Internet video and audio tools. Questions from remote participants were answered in almost real time. This experience was applied to the broadcast of GLOBECOM '96 in London as a sister society collaboration (see *IEEE Communications Magazine*, April 1997).

As previously mentioned, the IEICE CS is also strongly promoting international meetings and conferences in cooperation with ComSoc. The Asia Pacific Conference on Communications (APCC) was first held in Taejon, Korea, in 1993. It is now held every one and a half years. APCC '95 was held in Osaka, Japan, and chaired by Prof. Tominaga of Waseda University. The first Opto-Electronics and Communications Conference (OECC) was co-chaired by Dr. Nakamura of Hitachi and Prof. Miki of UEC, and held in Makuhari, Japan in 1996. It is going to be held annually in the Asia Pacific region. The Intelligent Signal Processing and Communications Symposium (ISPACS) was first held in Taipei in 1992 and is now held every year in the Asia Pacific region. ISPACS '95, chaired by Prof. Higuchi of Tohoku University, was held in Sendai, Japan. The IEICE CS is also very much involved in organizing the Asia Pacific Symposium on Information and Telecommunication Technology (APSITT), which was first held in Bangkok, Thailand, in 1994. The second APSITT was held this year in Hanoi, Vietnam. A report on this conference is in this issue. Additionally, several international meetings and conferences sponsored by various technical groups were held in Japan, China, and Korea in recent years. Several international workshops are scheduled for the near future.

The IEICE Communications Society is thus actively involved in international meetings and conferences, publications, electric dissemination, networked services, and other important areas.

InfoWin: Online ACTS Information Space
Watch EU Efforts on Communication Technologies and Services through an "Information Window"

By Pirani Giancarlo, Italy

The ACTS project InfoWin provides an online information space for the community of engineers, researchers, and people involved in the telecommunications and information society sector. InfoWin is the ACTS information window. ACTS (Advanced Communication Technologies and Services), the sequel to RACE, is the European Union's main effort to support precompetitive RTD (research and technological development) in the field of telecommunications. Currently about 150 consortia are contributing to the ACTS program, carrying out specific projects in the context of trials, encouraging a dialogue between researchers and users.

Many technologies evolving from the European Union's research and development programs are already close to the end-user market. Assisting the ongoing efforts in the field of advanced communication technologies and services to actually meet their market and its demands is what the ACTS InfoWin initiative is all about. InfoWin collaborates closely with everyone interested in the success of information sharing, which includes the ACTS Project Office within the European Commission DG XIII. InfoWin reaches the worldwide research community and all other interested parties via regional representatives, as well as via the Internet. At the official Web address

http://www.infowin.org

information about the program and ongoing projects, as well as news clips about upcoming events which impact ACTS projects and the information and communication society (updated every fortnight) can be found. In addition, a quarterly *InfoWin Bulletin* published online covering special research topics relating to ACTS as well as the addresses of InfoWin's regional representatives are available through the information window.

The InfoWin consortium is made up of the following partners:

- RUS, University of Stuttgart, Germany (project manager)
  http://www.rus.uni-stuttgart.de/
- Analysys, United Kingdom (information server management)
  http://www.analysys.com/
- IENM, Austria (information gathering)
  http://www.dir.fh-sbg.ac.at/
- UNI-C, Denmark (information editing)
  http://www.uni-c.dk/
- CP2i, France (information dissemination and marketing)
  http://www-cp2i.cea.fr/
- Open University, United Kingdom
  http://www.open.ac.uk/
- INRIA, France
  http://www.inria.fr/
- Telenor, Norway
  http://www.telenor.no/
- Post and Telecom Iceland, Iceland
  http://www.simi.is/
- DeteBerkom Gmbh, Germany
  http://www.deteberkom.de/
- IGD — Fraunhofer Institute for Computer Graphics, Germany
  http://www.crcg.edu/
- Telefonica + ID, Spain
  http://www.telefonica.es/
- CSELT Italy
  http://www.cselt.stet.it/
- BBN - Burger Breedband Net, Belgium
- Swiss Telecom, Switzerland
  http://www.telecom.ch/
- NCSR Demokritos, Greece
  http://www.ariadne-t.gr/
- Intracom, Greece
  http://www.intranet.gr/

For more information, please contact Barbara Burr at RUS (e-mail: burr@rus.uni-stuttgart.de).

Introduction to the Tactical Communications Technical Committee

By Ken Young
Chair, Tactical Communications Technical Committee

The new Tactical Communications Technical Committee (TCTC) was formed in recognition of the fact that defense and disaster recovery organizations rely on increasingly sophisticated communications systems and networks to accomplish their goals in an environment where effective leveraging of information technology is vital. A major sector of defense and disaster recovery applications involves tactical communications systems that call for rapid deployment and reconfigurable capabilities. It is the mission of the TCTC to provide an open and unclassified forum in which professionals in relevant industries, government agencies, and academic institutions can exchange knowledge and cooperate to advance the state of the art in defense-related tactical communications.

An important goal of the Technical Committee is to promote the peaceful use of tactical communication technologies in peacekeeping activities and natural disasters such as earthquakes, hurricanes, and floods. Within the domain of defense communications, the Technical Committee will cover a wide range of topics, including military communications technologies, architectures, systems, applications, and terminals.

Because future defense communications will leverage off technological advances in the commercial communications sector, and industrial applications can benefit from defense solutions, this Technical Committee will interact strongly with other technical committees in the Communications Society and with relevant outside professional organizations. The Technical Committee will sponsor conferences, publications, workshops, technical sessions at Society meetings, and other methods for information exchange among its participants. The TCTC may also explore information exchange and educational opportunities with interested organizations such as G7 and NATO educational bodies to address the professional interests of a significant group of Communications Society members.

The TCTC will play a strong role in helping to organize the technical programs at MILCOM conferences. The TCTC will meet at MILCOM and at other IEEE ComSoc conferences, such as ICC and GLOBECOM. The TCTC maintains a Web page at

http://gump.bellcore.com:4400

For more information on the Technical Committee on Tactical Communications, contact TCTC's Chair, Ken Young, at kcy@bellcore.com

A Report on Communications Society Publications

Viewing the Horizon of Communications Society Magazines

By Curtis A. Siller, Jr.
Director of Magazines

Many readers will undoubtedly remember that the IEEE Communications Society Board of Governors, at their November 1996 meeting, approved a restructuring of the Department of Publications into two new departments, effective the beginning of this year. My close colleague, Bill Tranter, was appointed Director of Journals and assumed responsibility for guiding the evolving direction of the Society's highly regarded journals and transactions, of which *IEEE Communications Letters* is the most recent addition. I was appointed Director of Magazines, a responsibility that brings with it many diverse responsibilities, briefly described below.

As Director of Magazines, I oversee *IEEE Communications Magazine* (of which the *Global Communications Newsletter* is an especially important complement, and was coincidentally launched by its first Editor, Andrzej Jajszczyk, while I served as Editor-in-Chief), *IEEE Network*, and *IEEE Personal Communications*. In addition to these classic Society print magazines, my department also administers liaison relationships with *IEEE Multimedia* and *IEEE Internet Computing* (both published by the IEEE Computer Society) and IEEE Press. These are weighty responsibilities, and I actually paused as I wrote "my department," since I rely upon the outstanding skills and commitment of a talented volunteer and New York-based staff.

One of the most exciting initiatives that falls within my domain of responsibility relates to our two online publications, *IEEE Communications Interactive* (an electronic multimedia counterpart to *IEEE Communications Magazine*) and *IEEE Communications Surveys* (an electronic publication providing in-depth overview articles that address important subjects in communications). The respective online publications' Editors, Ed Schloemer and Thomas Chen, our Publications Manager Joe Milizzo, along with Ron Bose and Tom Plevyak deserve kudos for seeing the successful launch of these publications. However, still more is planned: *IEEE Network* and *IEEE Personal Communications*, as well as the Society's journals and transactions, will all go online toward the beginning of 1998, and careful attention is being given to additional publications that would fill gaps in our publications repertoire.

Online publication carries important implications for our readership, especially those in the global community outside North America. In particular, readers should no longer be hampered by delayed delivery, but will benefit from immediate access to our publications. Moreover, online publications may ultimately offer a richer experience than hard copy (e.g., multimedia content, convenient access to archived papers, and links to other sites), although I suspect that, for many, online publication will augment rather than supplant print publications.

The IEEE Communications Society is in the midst of drafting an "Integrated Online Publications Plan." Well into the future this will remain a "living" document, one that will guide our overall direction. To the extent that successful fulfillment of shared goals requires the considered thoughts of the entire readership, your views are very much welcome at any time. I hope to hear back from you.

A Report from the Department of Journals

By William H. Tranter, Director of Journals

The Department of Journals is involved in a number of activities that will impact members of the Communications Society living outside of North America. The problem of delayed delivery of journals has always been a concern of both members and the management of the Communications Society. I became even more aware of the distribution problem upon spending part of last year in New Zealand. One way to alleviate this problem is to make better use of the Internet for timely distribution of technical articles and other technical materials. The Communications Society is moving rapidly in this direction, and plans are underway to place all of the journals published by the Communications Society (*Transactions on Communications*, *Journal on Selected Areas in Communications*, and *Transactions on Networking and Communications Letters*) online within the next few months. I would be very interested in receiving feedback (both positive and negative) from users of this service.

Another important area is the Sister Society relationships that are being forged with technical societies around the world. The agreements are important and provide advantages to the membership of both the Sister Societies and the IEEE Communications Society. (See the "Message from the President" in the November 1995 issue of *IEEE Communications Magazine*) These relationships directly affect the Department of Journals by providing more direct access to technical journals and papers published by participants in the Sister Society agreements. An issue closely related to journal publication is that of multicasting from conferences. This was attempted from GLOBECOM '96 in London as an experiment and was, for the mot part, judged successful. If you are not familiar with this activity please see the "Message from the President" in *IEEE Communications Magazine*, April 1997. The learning curve is steep, but the commitment has been made to use the Internet and related tools to better serve all of our membership.

The main concern of the Department of Journals is to ensure that the publications provided to our membership are of the highest quality and that the content of our journals is relevant to today's communications industry. The peer review process, conducted by a worldwide team of reviewers, is the basic quality control mechanism. The content is impacted by the papers submitted, proposals for special issues (especially *JSAC*), and the suite of journals that are published. This suite of journals is under constant review to ensure that new and important areas are appropriately emphasized. All ComSoc members can participate in these activities by reviewing papers, submitting proposals, and providing feedback to ComSoc management.

APSITT '97 Report

By Dr. Kenzo Takahashi, Japan

APSITT '97 was held at the Hanoi University of Technology (HUT) in Vietnam on 13 and 14 March 1997, in commemoration of the 40th anniversary of HUT. This symposium was organized to promote academic activities in the field of computer networking and multimedia technologies in the Asia Pacific region by HUT and the IEICE Communications Society with the technical cosponsorship of IEEE ComSoc, the Vietnamese government, and other academic institutions. Two hundred fifty-five people from 11 countries in Asia, North and South America, and Europe participated in the conference. There were 10 guest speeches by leaders of this area, 85 paper presentations in 15 technical sessions, and a panel discussion by six outstanding

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MINISAT 01: The First Minisatellite Made in Spain

By Joan Garcia-Haro, Spain

On April 21, 1997, the MINISAT 01 satellite was successfully launched. It is not the first Spanish satellite, since there were such other previous experiences as the experimental satellite Intasat (1974) and the first commercial Hispasat satellite (1992). In addition, Spain has research and industrial groups able to complement multinational space projects and to collaborate in the framework of the European Space Agency (ESA) for the development of subsystems and for terrestrial control of space missions. However, the MINISAT 01 is the first satellite totally designed and manufactured in Spain using only Spanish technology.

The MINISAT 01 satellite consists of a hexagonal platform 1 m wide and 1.6 m high that only weighs 200 kg. It is cheaper and faster to construct than traditional bigger satellites. This satellite was basically financed with public funds, but it also had the participation of several Spanish companies such as CASA, Sener, Crisa, and TGI. The project was managed by the National Institute of Aerospace Technique (INTA) which depends on the Spanish Ministry of Defense.

The investment was about US$40 million, and more than 100 engineers worked in the design of this space platform. Nevertheless, the cost is expected to be lower when the system can be serially manufactured.

MINISAT 01 is an experimental prototype that can be catalogued as a research and development satellite. In particular, it transports the necessary equipment onboard to carry out several technological and scientific experiments. These experiments are the results of a fruitful cooperation between Spanish and foreign researchers.

The experiments have the following main goals:

- The study of diffuse ultraviolet radiation coming from the space
- Data collection and study of the behavior of fluids on microgravity conditions (proposed by the Polytechnic University of Madrid)
- Analysis of gamma rays emitted by several sources in the universe (carried out by a research team at the University of Valencia)
- Study of a system to install in orbit signal reflectors and supports, managed by the aeronautics company, CASA

Apart from the scientific instruments onboard, it is also important to highlight the way the satellite was launched. It demonstrates the viability of launching a transport rocket from an airplane instead of from the Earth's surface. The cost per kilogram is ten times lower than that using conventional shuttles; furthermore, launching can be done from within the national territory. However, it can only be applied to small satellites.

Spain does not yet have a rocket able to place the satellite in orbit; therefore, the Orbital Science Corporation (OSC) was contracted to do it. This American company used a Lockheed L-1011 plane modified to transport a Pegasus X-L rocket that was in charge of situating the satellite in an orbit at 600 km from the Earth. Nevertheless, Spain is working on a proprietary satellite launcher, and a prototype is scheduled for the end of this year.

Two more MINISAT satellites are in construction (MINISAT 1 and 2). The first one is scheduled for 1998–1999, and it has military and civil purposes. It is designed to observe the Earth for area surveillance, harvest and fire control, control of chemical and nuclear incidents, and environmental vigilance.

MINISAT 2 is a telecommunications satellite that will be situated in an orbit much higher than 600 km. Its aim is to be competitive enough to be dedicated to the continuously expanding telecommunications market.

MINISAT satellites have a strategic interest for the country, which can change its role from client to provider, and they are the result of an accurate analysis of the real capacity of the Spanish research centers and industries to find a potential market where it is possible to compete with success. In fact, there are good commercial options to sell the product to several Latin-American countries. Among the first customers are also transportation companies, for vehicle control, and airlines, for traffic regulation.

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Tetsuya Miki
Chapters Corner

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people on the linkage of Asia Pacific countries with multimedia technologies.

Attendees from the government and academic areas included Dr. Pham Gia Khiem, Minister of Science, Technology and Environment of Vietnam; Prof. Vu Dinh Cu, chairman of the Science Technology Committee of the Vietnam National Congress; Dr. Hoang Van Nghien, chairman of the Hanoi People's Committee; Dr. Do Trung Ta, chairman of Vietnam Posts and Telecommunications; and Prof. Pairash Thajchayapong, rector of King Mongkut Institute of Technology Ladkrabang of Thailand. The hosts were Prof. Nguyen Minh Hien, chairman of the symposium and the rector of HUT; Dr. Toshiharu Aoki, vice president of the IEICE; and Prof. Tetsuya Miki, president of the IEICE CS. The main topics covered included advanced technologies for multimedia networks, ATM, and next-generation switching systems. The symposium was reported on favorably in the press and on television.