Global Communications Newsletter

March 2003

The 13th ITS European Regional Conference, September 8–10, 2002, Madrid, Spain

By Nicolae Oaca, Romania

The International Telecommunications Society (ITS) is a long-standing, independent, non-profit association of professionals (academics and practitioners in operating companies, consultancies, and government agencies) with an interest in the growing field of telecommunications planning, policy formulation, and economic decision analysis. The aim of this worldwide network of professionals is to systematically encourage distribution of information, discussions, and research concerning telecommunications issues, and legislative and policy decisions. The ITS consists of approximately 400 individual members, corporate members and a Board of Directors. A conference committee organizes conferences and meetings, their proceedings being published. Also, *Communications & Strategies*, the journal of the ITS, publishes special editions in Fall and Spring.

The 13th ITS European Regional Conference was organized in Spain, September 8–10, 2002. The first day of the conference was held jointly with the 29th European Association for Research in Industrial Economics (EARIE) at Universidad Carlos III de Madrid, a new campus close to Madrid. Ten sessions with 40 papers were held, some of them more technical than others, and many on strategy and regulation, to reflect the audience mix between EARIE and ITS. This interaction proved very fruitful, and both organizations benefited from these joint sessions. Comisión del Mercado de las Telecomunicaciones, the Spanish regulatory agency, and the Spanish Ministry of Science and Technology hosted the last two conference days in Palacio de las Comunicaciones, a beautiful building at the Plaza Cibeles, together with the 6th Jornadas de Economia de las Telecomunicaciones. The conference then continued until Tuesday evening with 20 more sessions and 70 more papers. All papers can be found at the ITS homepage, http://www.ITSEurope.org, or on the conference CD, which can be mailed upon request. In general regulation was emphasized, especially regarding new services like mobile services, more than UMTS. A lot of attention was devoted to broadband networks and the issue of convergence.

There were about 150 speakers from 27 countries on all continents, while the number of attendees was 120, from 22 countries as far away as Mongolia, plus many locals from the main sponsors; so the number of participants was about 200. The participants came from a broad range of disciplines and institutions, including many regulators, not only from Spain, but also from Austria, Croatia, Jamaica, Malta, Hungary, Turkey, and other countries. There was also much participation from industry, with a good industry technical paper session.

Among the participants one could find Dr. Loretta Anania, ITS chairman and European Commission representative, Dr. Jurgen Muller, European ITS Regional Conference Coordinator, the local organizers including prof. Teodosio Perez Amaral of Carlos III University, Mr. Yoshio Utsumi, Secretary General of the International Telecommunication Union, and Mr. Carlos Lopez, State Secretary for Telecommunications in the Spanish government.

The conference presentations were grouped into three daily parallel sessions on Demand Analysis, Mobile Internet, E-commerce, Regulatory Aspects, UMTS, Interconnection and Access, Industry Restructuring, Country Case Studies, Cost Allocation, Broadband Networks, and Convergence. Special attention was paid to the question of how to manage telecommunications companies in the telecommunications crisis worldwide.

Less attention was paid to UMTS, an implicit recognition of its crisis. The sessions on Demand Analysis were dedicated to the memory of Dr. David Cracknell, the ITS vice chairman and well-known economist from BT, who was instrumental in the development of the ITS and especially its journal. All participants were unanimous in recognizing the world telecommunications crisis.

Among the most interesting topics, one could find:

— The United States, which 20 years ago pioneered demonopolization, now pioneering remonopolization

— In order to pass its crisis period, the Spanish government intends to give some incentives for telecommunications, which could indicate permission to increase tariffs.

— Tariffs differentiation (based on area-specific costs) could be a solution for providing telecommunications services in all areas (the promise of universal service).

— Due to the world telecom crisis and strong competition from mobile telephony, it seems that liberalization came too late in countries that opened their market too late; Central and Eastern Europe, for instance.

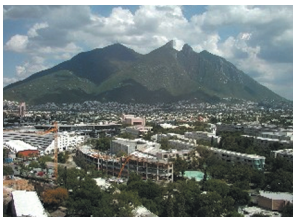
The past ITS Board of Directors meeting held on 18 August 2002 in Seoul, South Korea, decided on the future events. The 14th European Regional ITS conference will be held on August 23 and 24, 2003, in Helsinki, Finland, while the 2004 ITS Biennial Conference will be held in the United States at the University of Colorado June 27–30, 2004. A forthcoming Asia-Pacific ITS event will be held at Curtin University in Perth, Western Australia. Information on joining ITS is available at http://www.itsword.org.

Snapshots from a Latin American Distinguished Lecturer Tour

By Steve Weinstein, USA

It was my privilege to be authorized to make a Distinguished Lecturer Tour in early September 2002 to four cities in Mexico, Central America, and the Caribbean. The tour began in Monterrey, Mexico, where the famous Instituto Tecnologico de Estudios Superiores de Monterrey (ITESM or TEC) is located. My host was Cesar Vargas, coordinator of TEC's Master's program in Telecommunications and Chair of ComSoc's Monterrey chapter, and arrangements were made by David Munoz, Director of the Center for Electronics and Telecommunications. Gerardo Castanon, Jose Antonio de la O (from the Universidad Autonoma de Nuevo Leon), Jose Ramon Rodriguez, and Ramon M. Rodriguez also offered kind hospitality.

Faculty and students at ITESM. Cesar Vargas: far right; Jose Antonio de la O: sixth from right.



The spectacular Cerro de la Silla, a symbol of Monterrey, with university construction in the foreground.

The photograph on the right was taken on the ITESM campus on the way to the lecture hall. Prior to the lecture I had a give-and-take discussion with students in which their major concern was opportunities for jobs in the communications industry, a difficult problem in these bad times. My lecture on "Broadband Access Networks" introduced xDSL, cable data, cellular mobile, and wireless LAN systems as well as a number of promising broadband applications. I visited the Virtual University serving all of Latin America with satellite-delivered programming, and there was just a little time for touring, including a visit to beautiful neighborhoods close to the mountains.

The second city on the tour was Guadalajara, Mexico, where my principal host was ComSoc Chapter Chair Araceli Garcia, coordinator of the Electronics Engineering Undergraduate Program at the Instituto Tecnologico de Estudios Superiores de Occidente (ITESO), a distinguished Jesuit university. Two colleagues, Prof. Lino Evgueni Coria and student Antonio Bricio, were my almost constant companions and also generous hosts.

Lunchtime outing in Guadalajara. Left to right (excluding mariachis): Roberto Castellanos, Ivan Jileta, me, Sergio Palacios, Francisco Martinez (IEEE Region 9 Director-Elect), Lino Coria, Araceli Garcia, Antonio Bricio.

The historic cathedral in the old city.

The photograph shows me with my hosts in a restaurant featuring an excellent mariachi band. I gave two shorter talks here, one on broadband access networks, emphasizing wired access, and a second on the prospects for both cooperation and competition between 3G cellular mobile and wireless LANs. After my lectures I had a chance to talk with students and people from local industries. I met Araceli's husband and son, both named Victor, on a recreational visit to the Tlaquepaque region of the city.

From Guadalajara, I flew, via Mexico City, to Panama City where my main host was Gustavo Diaz, ComSoc Chapter Chair, ably assisted by Tanya Quiel, past Chair, Jorge Him, Chapter Treasurer, and Eduardo Gonzalez, Panama's IEEE Chapter Vice-Chair. My talk, a three-hour presentation in a conference room at my hotel, again combined all of the material on broadband applications and the wired and wireless core, metropolitan and access networks that are the broadband infrastructure of the near future.

Miraflores lock of the Panama Canal.

Tanya Quiel, Gustavo Diaz, and Jorge Him in the IEEE Panama Section office.

Ethnic dancers at the Tinajas restaurant.

My hosts took me out a long causeway to an island restaurant in Panama Bay, and with Gustavo I visited the Miraflores locks on the Panama Canal, although unfortunately the next ship was expected when my talk was to begin. After a visit to the Panama Section's neat office in a professional societies building, I was taken by my generous and kind hosts to a restaurant, Tinajas, with a wonderful ethnic music and dancing show, and on a tour of the old city.

Colleagues and students at the Universidad de las Americas, Bayamon, Puerto Rico. Left to right: Edgardo Oliveros, Pedro Juan, William Bonaparte, and me.

The final stop on this tour was San Juan, Puerto Rico, where my host was ComSoc Chapter Chair William Bonaparte, the IT manager for Banco Popular de Puerto Rico and an adjunct professor at the Inter-American University of Puerto Rico in Bayamon, an adjacent town. I gave the 3G Cellular-Wireless LAN presentation twice, one to a conference at my hotel organized by the Puerto Rico Section, and again at the University, where the students seemed particularly interested in the technologies I described. I had the pleasure of meeting Prof. Edgardo Oliveros, chair of the Electrical Engineering department and of the November 13–15, 2002 (in

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Entering the Global Information Society: The Buryat Way

By V. D. Garmayev, G. N. Popov, and V. P. Shuvalov, Russia

Globalization is the primary trend of the world community development in the early 21st century. Globalization is understood as seeking increasingly extensive cooperation between countries, economic systems, and people, and development of international organizations as well. All that is supported and, perhaps, determined by the very intensive development of the infosphere.

As a matter of fact, human society is passing through the third revolution in its history. The first revolution was agricultural, with the land tiller playing the key role and the land being the basic resource. The second was industrial, with the capital owner as the leading force and capital as the basic resource.

In the third revolution, the information one, the owners of information form the dominant social group, and knowledge, or information, becomes the basic resource. In the course of current revolutionary transformations, a new form of world community existence is rapidly emerging, called the global information society (GIS). The distinctive feature of GIS is that knowledge and information are becoming the most important production factors, the material basis for the existence of society.

In the course of globalization, as an objective result of the current information revolution, the world community is divided into three groups of countries:

- The elite group characterized by a high level of informatization, with its main task being production of knowledge (information) as well as determination of terms and methods for its delivery to other countries
- Manufacturing countries providing material production for the world community (predominantly for the elite group) , based on knowledge (information) transferred to them
- Raw material supplier countries engaged mainly in producing raw materials and semi-finished products for the countries of the first and second groups, and receiving what the world community discards

Today, the state of the information infrastructure in Russia is, according to conventional criteria, far enough from the standards in industrially and informationally developed countries. For example, telephone service density (number of telephone sets per hundred people) in the Russian Federation was 21.3 in 2000 and is expected to grow to 30.7 in 2005 and 60 in 2015. On the other hand, in the elite group countries, this figure for 2002 is already about 80–120. It is obvious that, in terms of telecommunications development, Russia would be at best rated as belonging to the second group of globalization era countries.

The condition of telecommunications in the Asian part of Russia is even more alarming. There, the overwhelming majority of federal subjects falls into the third group of GIS classification according to all figures.

Let us explain this using the telecommunication networks in the Republic of Buryatia as an example. The Republic of Buryatia is situated in the southern part of East Siberia and occupies an area of 352,000 km^2. The population of the republic is 1,030,000 with 405,000 living in the capital, Ulan-Ude. The natural western boundary is Lake Baikal. To the northwest, the republic borders with the Irkutsk Oblast, to the southwest with the Republic of Tyva, and to the east with the Chita Oblast. To the south, the republic has a frontier with Mongolia.

The main telecommunications operator in the Republic is Elektrosvyaz Joint-Stock Company, which provides service to 135,000 basic telephone sets owned by legal entities and individuals (telephone service density is approximately 13 in the republic), with about 100,000 located in the capital. Thus, telephone service density is 25 in the capital and four outside it.

In general, Ulan-Ude appears to be an advanced city in terms of quality and range of infocommunication service compared to average figures for Russia. The condition of the intrarepublic or, as telecommunications people say, intrazonal network is, however, far from conformity to GIS requirements.

Structurally, the intrazonal telecommunications network in the Republic consists of steel conductor aerial lines built in the 1930s and copper wire cable lines (60 and 40 percent of total length, respectively) used for analog transmission. As an example, the Japanese communications network structure consists of 50 percent fiber optic lines and 50 percent digital radio relay and satellite lines, with completely digital transmission of information.

It is obvious that any changes in the structure of the intrazonal network in Buryatia modeled to GIS standards would mean tremendous investments and actually an endless payback period considering vast telecommunication distances, low population density, and low incomes of individuals and organizations (Buryatia is still a subsidized region of Russia).

Finding investors among sensible businessmen and companies in such starting conditions would be a Utopian venture (leaving Sir Thomas More's book far behind).

At the same time, digital transmission of information is vital and, moreover, a direct necessity because the Electronic Russia program has been adopted and is already starting to be implemented. This program envisages that every citizen of the Russian Federation, regardless of his or her location, should have access to any form of remote education or telemedicine service through the Internet or email. Besides, the transparence of public administration and banking/financial operations at any level (starting from village councils) should be ensured. These program targets cannot be reached unless digital transmission capability is available in the intrazonal network.

In order to fulfill this task in the conditions of Buryatia, the authors have offered a series of measures and engineering solutions that may, in essence, be described as follows:

- Utilization of existing analog network facilities such as aerial and cable lines to transmit standard digital signals, without any significant change
- Building terminal equipment adequate to the particular capacities of those newly organized digital paths, compatible with the gradual replacement, as the intrazonal network develops, of electric paths with fiber optic, radio relay, or satellite links
- Utilization of engineering structures currently available in the region for data flow transmission, such as electrified railroad contact and power line wires

The management of Elektrosvyaz Co., Republic of Buryatia, including its General Director S. P. Borgolov, supports the initiative to introduce the intrazonal network into the process of international globalization. Consequently, a project to transmit several E1 data flows through the coaxial linear path in the K-1920 analog system has been implemented.

However, the extensive efforts to upgrade the intrazonal network of the Republic of Buryatia and adapt it to the GIS structure are hampered due to lack of sufficient funds (as we said above, Buryatia is a subsidized region).

In order to become the testing ground for modernization in the infocommunication sphere and an example of entering informational globalization for underdeveloped countries (belonging, moreover, to the third group according to the GIS

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ICT for Bridging the Digital Divide: Report from APCC 2002

By Arief Hamdani Gunawan, Indonesia

Information and communication technology (ICT) in Indonesia has advanced rapidly. The progress of science and technology is primarily marked by the improvement of living standards. Dr. Suhono Harso Supangkat, General Chair of the Asia Pacific Conference on Communications (APCC) 2002 Organizing Committee, discussed the issue of the digital divide. At this conference many researchers exchanged their experiences and interests in science and technology. Dr. Supangkat observed that the Asia Pacific countries, with abundant natural resources, will play an important role in the globalization era.

APCC 2002 was successfully held in Bandung, September 17–19, 2002, and its theme was Information and Communication Technology for Bridging the Digital Divide. APCC was hosted by the Department of Electrical Engineering, Institut Teknologi Bandung (ITB), and the Indonesian Society of Electrical, Electronics, Communication and Information (IECI). Thirteen countries from the Asia Pacific region participated, and about 154 papers were presented. Dr. Isnuwardianto, head of the Department of Electrical Engineering at ITB, stated that all topics discussed at the conference will contribute to the advancement of science and technology in the future.

As a commitment of the Indonesian government policy in the ICT area, President Instruction No. 6, 2001 on the development and use of ICT was issued as a way to Indonesian economic recovery. The Ministry of Communication and Information has promoted serious and intensive action in the ICT area, including e-Government/Government Online. As a synergistic action, Syamsul Muarif, Communication and Information Minister, established the Task Force on e-Government Development, through Ministry of Communication and Information Policy No. 12/SK/Meneg/KKI/2002, March 1, 2002. The Ministry of Communication and Information launched the national portal, http://www.indonesia.go.id, on May 20, 2002. At the opening of APCC 2002, Aswin Sasongko, from the Ministry of Communication and Information, pointed out that e-Government is the main priority as the e-Business implementation of the government function, also empowering government to government (G2G), government to business (G2B), and government to consumer (G2C). Richard Mengko, from the Ministry of Research and Technology, said that information literacy is an important subject. Today, the need for information literacy is frequently raised within educational circles, and should not be restricted to the ability of people to operate a computer. Up to now, there are many human resources for the IT field who should also benefit from the skill and knowledge of innovation, teamwork, and entrepreneurship.

APCC 2003 (apcc2003.upm.edu.my), will be held again at Penang, Malaysia, September 21–24, 2003, and will be organized by ComSoc Chapter Malaysia and Malaysia International Conference on Communications (MICC). You are invited to submit papers describing original work in all aspects of communications for presentation at the conference.

Important dates for APCC 2003:

Conference/abstract due:	November 30, 2002
Conference/notification of acceptance:	February 28, 2003
Conference/full paper due with registration:	June 30, 2003
Tutorial topics due:	January 2003
Notification of acceptance:	April 2003

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Global Communications Newsletter
www.comsoc.org/pubs/gcn

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A publication of the
IEEE Communications Society

THE BURYAT WAY/*(continued from page 3)*

classification), the republic needs external investments. An international project with participation of interested Asian countries, particularly Mongolia, Kazakhstan, and China, or assistance from international nongovernmental organizations (UNICEF, UNESCO, United Nations) could be possible ways to materially support the Buryat way to globalization.

DISTINGUISHED LECTURER TOUR/*(continued from page 2)*

San Juan) First Electrotechnology International Symposium, and sampling typical Puerto Rican cuisine at a restaurant in Bayamon later that evening.

All of the professors and colleagues in industry whom I met were well informed about current technologies and our discussions were mutually helpful. The students were attentive and eager, and it was a pleasure to interact with them, although many were, despite my pleading, not quite bold enough to ask questions. Everyone seemed appreciative of the Distinguished Lecturer Program as a constructive and successful program to help build the Global Communications Community that is one of the main strategic goals of the IEEE Communications Society.