Global Communications Newsletter

June 2003

Technical Report on ICT 2003
February 24-March 1, 2003, Papeete, Tahiti, French Polynesia

By Pascal Lorenz, France and Petre Dini, USA

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The 10th International Conference on Telecommunications (ICT 2003) took place February 24–March 1, 2003 in Papeete, Tahiti, French Polynesia. It gathered approximately 300 participants originating from 45 different countries (http://conf.uha.fr/ICT2003.html).

The conference took place under the technical co-sponsorship of IEEE, and was supported by many other individuals and organizations. The documents have been registered under the IEEE publishing rights, and we consider it as a significant success. We recall that the charter of the conference is to acknowledge the highest technical standard, while promoting the best young researchers together with well-known experts. Additionally, another goal is to logistically assist local organizing teams that usually cannot get funds to organize such large international conferences. Indeed, a group of core people is doing very careful and continuous organizational work, in tandem with local organizing committees.

Since the IEEE model is our guide, we decided to reinforce our organizing model by forming a conference Steering Committee and adopt an organization style similar to IEEE's. Therefore, we are preparing a central ICT Web site with links to various local sites hosting past and coming ICT events.

We will contact appropriate IEEE staff to get the right guidance in this demarche, as all the Steering Committee's members play a significant role in different IEEE Committees.

Like other ICT events in the past, this professional meeting continues to be highly competitive and very well perceived by the international networking community, attracting excellent contributions and active participation. The topics of submitted papers covered a wide spectrum, from photonic techniques, signal processing, cellular networks, and wireless networks to ad hoc networks. As a result, the conference final program covers all communications layers and presents results on traffic engineering, MPLS, QoS, multicast, and security, among others. We believe ICT'2003 papers offer a wide range of solutions to key problems in telecommunications, and set challenging avenues for industrial research and development.

In addition to the conference regular sessions, seven tutorials were organized:

- IP Data Broadcasting, by Toni Paila, Nokia, Finland
- Photonic Switching Architectures, by Wojciech Kabacinski, Poznan University of Technology, Poland
- Guaranteed Services in Not-Guaranteed Environments: Management Challenges in GRID Networks, by Petre Dini, Cisco Systems, USA/Concordia University, Canada
- State-of-the-Art in Group Communications: From Protocols to Applications, by Pham Cong-Duc, University of Lyon, France and Vincent Roca, INRIA, France
- Proactive Management through Key Performance Indicators for 3G Systems, by Dr. Said
- Optical Networking: Architecture and Components, by Djafar K. Mynbaev, The City University of New York, USA
- Optical Transport and Switching Technologies for Ultra-Long-Haul Terrestrial Networks, by Ioannis Tomkos, Athens Information Technology, Greece

The ICT 2003 program included for the first time the Telecommunications + Education Workshop, supported by the IEEE Learning Technology Task Force. This is a pioneering activity in the series of ICT events that presents special contributions on education, training, curricula, industry-academy relationships, best teaching practices, and national educational projects in the telecommunications area.

We would like to thank the ICT 2003 Technical Program Committee members and referees. Without their support, the creation of this very broad conference program would have been impossible. We also thank all authors who dedicated particular effort in contributing to the conference. We truly believe that due to all these efforts the final conference program consists of top-quality contributions.

We are also indebted to many individuals and organizations that made this conference possible: the government of French Polynesia, OPT, France Telecom, IEEE, IEE, ARP, and the University of Haute Alsace.

In particular, we would like to thank the members of the ICT 2003 Organizing Committee for their help in all aspects of the organization of this professional meeting.

The ICT 2003 documents were published © 2003 by the IEEE (all rights reserved) as follows:

1. *Proceedings Vol. I* , pp. 1–902, ISBN 0-7803-7661-7
2. *Proceedings Vol. II*, pp. 903–1779, ISBN 0-7803-7661-7
3. CD, IEEE Catalog Number 03EX628C, ISBN 0-7803-7662-5 (CD-ROM)

IEEE Aerospace Electronics Systems, Communications, Laser & Electro-Optics, Society Chapter-India; Delhi Communications Chapter

Major Technical Activities in 2002

1. The Chapter was named Outstanding AESS Chapter 2001 by the IEEE Aerospace Electronics Systems Society, USA.

2. The Chair of the Chapter was appointed Vice-Chair of the Membership Development Committee for the Asia Pacific Region of IEEE Communications Society.

3. The Chapter organized ELITEX 2002 (April 29–30) under the Ministry of Information Technology, India.

Shri Pramod Mahajan, Honorable Minister of Communications and Information Technology and Parliamentary Affairs, inaugurated the event. The keynote address was delivered by Prof. Alex (Sandy) Pentland, Academic Director and Toshiba Professor of Media Arts and Science. Both honorable guests mentioned in their speeches the importance of the IT sector and the efforts required to take the advantages to the masses. The Honorable Minister announced plans to set up a committee by DIT to prepare a report on "e-readiness" of different states as well as various government departments and ministries with a view to encouraging competition and enhancing e-readiness. He also suggested making ELITEX a mega IT event, highlighting the advantages and utility of the IT sector to the general public. During the inauguration, the following products were released:

- Collab CAD Software developed by NIC on open source libraries
- Chitrankan-Devnagri OCR developed by CDAC
- Multimedia CDs on cyberlaws, a database of open domain software products, and e-Mark, developed through the IPR Cell of DIT
- A Linux-based word processor and thin client by ER&DCI, Noida
- A CD on IT standards to assist the IT community, developed by STQC, DIT
- CDs containing software for crop management, pest management, animal husbandry, and other topics that have been installed at Samadhan Kendras, and software for planning integrated watershed development by the KBE Division of DIT
- The GIST-II in 0.8 Micron Technology and Design Enabling Kit developed by SCL

The theme of ELITEX'2002 was "Enhancing E-Readiness," and sessions covered e-infrastructure, e-governance/citizenship, e-commerce, e-learning, e-security, domestic productivity through e-readiness, application in emerging areas, and innovation in IT industry. The seminar also covered presentation of e-governance applications from some states in India and a presentation by the DIT of technologies, products, and services developed under the financial support of DIT. All the sessions attracted large crowds.

A compilation on technologies and products developed, containing a brief write-up on each technology, was circulated.

The Website, www.elitexindia.com, which was launched during ELITEX 2000, is being continuously updated and will provide information related to developed technologies. The presentations at the seminars are now available on the Website. The proceedings of ELITEX 2002 were webcast live on www.elitexindia.com and www.mit.gov.in, and the archive is available on these Websites.

ELITEX 2003 was held on April 28–29 at India Habitat Center, New Delhi.

4. The Chapter organized a lecture on electromagnetic scattering and guidance by two-divisional photonic bandgap structure by Kiyotoshi Yasumotu, Kiyotoshi University, Fukuok, Japan, at the University of Delhi South Campus. 75 participants attended.

5. The AGM of both chapters was held on January 20, 2002, followed by a lecture by Dr. D.V. Kapur, "Reforms of the Power Sector in India."

6. A technical paper prepared by the Chair, "The Status of Electronics, Information Technology, and Telecommunications," was published in *IEEE Communications Magazine*, May 2002.

7. DLT programs of Prof. Roger Ziemer were arranged at Delhi, Mumbai, Bangalore, and Hyderabad, May 26–June 5, 2002. The lectures were well attended at all places.

8. Lecture on peer-to-peer computing in SYNC 2002 by Mr. Harish Tejwani at Chandigarh.

9. "Techno Vision" Paper Presentation Contest organized by Delhi Engineering College, February 12–16, Delhi.

10. Technically supported a lecture organized by Telecom Users Group of India and Computer Society of India on "Internet Telephony" during Sept. 9, 2002 at IIC, Delhi.

11. Technically supported the National Conference on the Impact of Environmental Pollution on Health — Problems and Solutions organized by the International Development Center Foundation on August 29, 2002 at IIC, Delhi.

12. Supported EMIST 2002 and a Tutorial Workshop on EMC by Design organized by the Society of EMC Engineers (India) Delhi Chapters, May 9–10, 2002, at IETE, Delhi.

13. Celebrated along with IETE 34th World Telecommunication Day. Theme lectures on ICT were arranged.

14. Technically supported International IT Conference (IITC) at Sri Lanka on October 9, 2002.

15. Supported a seminar on IT at Karpadan Educational Institution at Coimbatore, August 22–23, 2002.

16. Organized along with Institution of Electronic Data Processing and Telecommunication a lecture, "Status of IT and Electronics Industry in India," on August 17, 2002 at India Habitat Center, New Delhi.

17. Technically supported the IEEE student branch celebration, An Intellectual Odyssey: ENCOMIUM '02, held at Jamia Millia Islamia University October 30–31, 2002.

18. The Chapter Chair made a presentation on organizing successful Chapter activities" at a LEOS Chapter Retreat on November 10, 2002.

19. The Chapter Chair presented a paper, "How to Promote ComSoc Activities," at an APRCCC meeting, November 16–20, 2002.

20. Technically supported the 6th International Conference on Electronics, Fiber Optics and Photonics, December 16–18, at Mumbai.

Photonics 2002 was the sixth in the series of international conferences organized biennially in India. This conference is organized jointly by the Tata Institute of Fundamental Research and Indian Institute of Technology, Bombay. Photonics 2002 provided a forum for interaction and exchange of ideas among participants from research institutes, universities, government, and industry. Prof. E. Yablonovitch gave the keynote address, and there were five plenary talks. An evening talk by Prof. A. K. Ghatak traced the history of optical communications with particular emphasis on the Indian part. The invited and contributory papers were organized in 34 oral sessions (about 160 papers) and two poster sessions (about 190

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papers). With participation of more than 400 persons, the three-day conference was a grand success. The theme of the Conference was Advances in Optoelectronics, Fiber Optics and Photonics, and the topics covered were: Optoelectronic Materials and Devices, Integrated Optics, Nonlinear Optics; Optical Fibers, Communications and Networks, Optical Sensors, MEMS; Optical Signal Processing, Optical Computing, Information Storage and Displays; and Emerging Areas: Biophotonics, Organic Electronics, and Quantum Computing.

The conference was preceded by 11 Tutorials on the following topics:

- EDFAs and Fiber Bragg Gratings, Prof. K. Thyagarajan (IITD)
- Optical Networks I: Next-Generation SDH/SONET and DWDM Networks, Dr. K. Sivarajan (Tejas Networks)
- Far IR semiconductor Lasers: From Quantum Wells to Quantum Cascade Lasers, Prof. G. Doehler (Erlangen)
- Optical MEMs, Prof. P.R. Apte (IITB)
- Fiber Optic Sensors and Components, Prof. B.P. Pal (IITD)
- Optical Networks II: Next Generation Optical Internetworking Technologies: Architectures and Protocols, Dr. M. Tatipamula (Cisco Systems) and Dr. K. Sivarajan (Tejas Networks)
- Physics and Fabrication of Semiconductor-Based Infrared Detectors, Dr. A. Majumdar (Princeton/TIFR)
- Quantum Computing, Prof. R. Simon (Matscience)
- Introduction to 3D Microscopy, Dr. S. Maiti (TIFR)
- Optoelectronic Packaging, Dr. N. R. Basavanhally (Lucent)
- Microwave Photonics, Dr. D. K. Paul (Nayna Networks)

The next Photonics will be organized by the International School of Photonics, Cochin University of Science and Technology, Kochi (Kerala) in December 2004.

21. The Chapter organized its major activity, the 2002 IEEE International Conference on Personal Wireless Communication (ICPWC).

IEEE ICPWC 2002 was held December 15–17, 2002, New Delhi, India. It was indeed a great success. The event began with intensive lecture courses on Space Time Codes, Third Generation Wireless Systems — CDMA2000, Wireless LANs: Infrastructure and Ad Hoc Networks, Mobile Communications, Standards, Diversity Techniques, OFDM — Choice of Next Generation Wireless Communication and Pervasive Networking, Architecture, and Protocols. The above courses were very well attended, and there was much demand from industry to hold longer versions of these courses to have better interaction and understanding.

The plenary session was held on December 16, 2002 with the keynote address by Dr. D. P. S. Seth, Member (Telecom), Government of India, Mr. V. P. Chanden, President, QualComm, India, Mr. V. S. Lakshman, Director, Lucent Technologies Bell Laboratories Innovations, Mr. V. Shrinivasan, Associate VP, L&T InfoTech, and Mr. Ajit Jain, Assistant VP, Hughes Software Systems. Seventeen technical sessions were held continuously through the evening of December 17. These sessions included:

Modulation and Coding; Resource Allocation; 3G Wireless Networks; MIMO and Space-Time Systems; Wireless TCP;

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The Spanish Law for Information Services and Electronic Commerce

By Josemaria Malgosa-Sanahuja and Manuel Escudero-Sanchez, Spain

The Law for Information Society Services and Electronic Commerce (or LSSI at it is known in Spain) is the implementation into Spanish law of the European Union Directive on electronic commerce (Dir. 2000/31/CE). Briefly, it tries to regulate all economic Internet activities to offer the Spanish people reliance enough to use electronic mechanisms for business purposes. Thanks to this law, new actions and new economic sectors can now emerge in the marketplace, and old ones can also take advantage of the Internet. After almost two years of discussion (the first draft was issued January 2001), the government finally approved it on October 14, 2002.

The framework created by the LSSI does not attempt to impose any scheme for taxes or exploitation permission. In fact, the law states that users do not require authoritative permission to perform economic activities on the Internet. Conversely, it tries to promote the use of the Internet in the business world in many ways, for example, by giving legal status to electronic contracts (excluding only some types of contracts, e.g., death duties).

One of the most important aspects of the law is that now, commercial Web pages must clearly show legal and financial information about the company and its products (including an exhaustive list of prices, taxes, etc.). Enterprises must also specify the manner to solve the possible problems that may arise between the company and users in their commercial relationship. In addition, the law also regulates the use (or far better, overuse) of email for commercial channels. From now on, these communication mechanisms are completely forbidden. Companies can only send commercial email to customers who have first joined their channel or list. Moreover, at any time, users are freely allowed to quit lists in an easy way.

At a first glance, all information society services are allowed to operate into the network but, in article 8, the law indicates some cases in which a law authority can switch off temporarily or even permanently some information services. Obviously, these cases are all strongly related to serious crimes like terrorism or pederasty. Therefore, it is not applicable in general and, in any case, always requires the supervision of a judge. If the Web crime is located outside Spain, the local Internet carriers must cooperate with the authorities to disallow connections with the URLs involved.

The new law has drawn much criticism among Web site owners around Spain mainly because, by definition, the Internet is a free channel of communication, not directly subjected to a government, a judge, or another kind of authority. In our opinion, some of the aspects pointed out by the opposition to the LSSI have very weak arguments. For example, the law forces to register the company's URL in a common well-known commercial registry. This has been observed like an attempt to establish police procedures in the Internet but, in fact, this only affects to companies that have to be enrolled to this commercial registry due to some other sort of business

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Network Capacity, Planning and Design; Detection and Estimation; Wireless LANs; Handovers; Wireless Application and Protocols; Mobile Adhoc Networks; OFDM; Multi-user Detection; Mobility/Location Management; Wireless Multimedia; CDMA Systems; Spread Spectrum; and Interference Rejection.

The conference was attended by 129 participants from nine countries. ICPWC 2002 ended with a note stating that the conference is playing a very vital role in disseminating information on the state-of-the-art of technologies in the personal wireless communications area and should continue with active support of IEEE.

22. Technically supported the 28th Annual Convention and Exhibition of IEEE India Council at Kolkatta, December 20–21, 2002. The theme was Entertainment, Power, Information Technology, and Communication. The Chair was a member of the National Advisory Committee.

23. The Chapter approved supporting INCEMIC 2003, being organized by the Society of EMC Engineers (I), December 9–12, 2003 at Chennai.

24. The Chapter submitted a proposal to the ITU and ITU-Japan for organizing a seminar on e-governance activities in India. The proposal is being actively considered by these agencies.

25. Along with EMC Society of Engineers (I), the Chapter has explored the possibility of having permanent accommodations either at IIT, Delhi or in the office of IETE. The officers of both organizations have ensured their consideration.

26. Supported a Ph.D. student in presenting a paper at IEEE ICC, April 28–May 1, 2002.

27. The Chapter widely circulated information regarding the development of IEEE standards, and their use in Japan and India.

28. The Chapter initially supported one issue of the *IEEE India Council News Bulletin*.

29. Provided Asia-Pacific Microwave Conference proceedings on request to John Wiley & Sons.

30. Nomination sent for Distinguished Lecturer for LEO Society.

31. Nomination of five members for upgrade to Senior Member or Fellow.

32. A family get-together along with IEDP members was supported.

33. Supported applications to enroll new IEEE members and student members.

34. The Chapter initiated a Student Chapter Activity at Mahila Institute of Technology under the Chapters above.

35. A new Student Chapter has been formed at Jammu on initiatives taken by the Chapter.

36. Information related to various national and international seminars and conferences was disseminated to the members of both Chapters.

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A publication of the
IEEE Communications Society

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laws. Moreover, the idea behind this aspect of the law is only to be able to supply some Internet information to the people asking for it. Another hot discussion point is how the law is applicable to personal Web pages. The LSSI says that only personal Web pages with payments (a page with one publicity banner is considered inside this group) are subjected to the law, but the only requirement is to show information about the owner of the page (name, address, email address, etc.).

It is surprising that when someone is looking for information about the law in international newspapers, magazines, Internet searches, or the like, almost all points of view are always opposed to the law. But, in fact, after an exhaustive analysis of the exposed reasons, it is clear that reporters have not read carefully and entirely all articles of the law and, in many cases, are twisting the real meaning of the LSSI. This phenomenon is easily explained by two reasons: first, because the law has been poorly disseminated; and second, because some Internet organizations have spread dramatic and unrealistic alerts about the possible implications of LSSI.

In any case, we hope that this new Spanish Information Society Services law will give enterprises and customers the confidence needed to wake up the telecommunications market again.