

**Interregional Seminar on the Transition from SECAM
to Digital TV Broadcasting**
Kiev, Ukraine, 13-15 November 2000

- **THIRD SESSION: 17h50 - 18h10**
Strategy, Policy, Regulatory Considerations and Decision-Making Process of going to Digital TV in Brazil
Mr. José Leite Pereira-Filho, ANATEL, Brazil

Abstract

This presentation provides an overview of the decision-making process undertaken by the Brazilian administration toward the adoption of a digital television (DTV) standard for the country. It begins with a brief description of the main resolutions and public consultations enacted by the Board of Directors of the National Telecommunications Agency (ANATEL) with respect to the procedures for testing the three existing DTV systems, i.e. the ATSC, the DVB and the ISDB system. Next, the presentation examines some key aspects related to the evolution of the television broadcasting service and emphasises the fact the whatever decision on the adoption of a certain DTV standard should not be confined to technical parameters or assessments of the technologies involved. It suggests that other factors ought to be taken into consideration, namely strategic, economic, social and cultural factors. Finally, the presentation concludes by indicating some of the scenarios, under current analysis by ANATEL, in which the DTV systems are deployed in the country and associated services are provided. It points out the clear motivation of the Brazilian regulatory agency toward the adoption of the DTV standard whose services to be rendered to the consumers can best serve the interest of the Brazilian broadcasting industry and meet the requirements and expectations of the Brazilian society.

Biography

Dr. José Leite received the degrees of Doctor of Philosophy (Ph.D.) and Master of Science (M.Sc.) in Electrical Engineering from the Naval Postgraduate School, California, United States of America. He received the Diploma of Telecommunications Engineer from the Catholic University of Rio de Janeiro and the Diploma of Navy Officer from the Brazilian Navy Academy. Dr. Leite has a broad experience in several areas. From 1970 until 1990, he worked with the Navy, holding several posts, including Head of the Technical Department; in Embratel ,as Head of the Transmission Division; in the Catholic University of Rio de Janeiro and in the Federal University in Niteroi, Rio de Janeiro, as Associated Professor. From 1990 until November 1997, he held a position of senior engineer, at the level of Counselor, in the Telecommunication Development Bureau (BDT) of the International Telecommunication Union (ITU). Since November 1997, Dr. José Leite is one of the 5 Members of the Board of Directors of ANATEL, the Brazilian regulatory body.

- **THIRD SESSION: 18h10 - 18h50**
Digital Television Broadcasting Systems Testing in Brazil
Mr. Renato de Mendonça Maroja, CPQD, Brazil

Abstract:

The Brazilian National Telecommunications Agency (Anatel) decided that the process of choosing a digital television (DTV) system to replace the analogue 6MHz bandwidth PAL-M system should be subsidised by extensive testing, along with other considerations, such as economic and service aspects. The American ATSC, European DVB-T and Japanese ISDB-T DTV systems presently under analysis in a world basis were tested in Brazil. Laboratory tests were conceived to test the systems under controlled conditions, in aspects of mutual interference between analogue and digital and between digital systems, robustness to interference, to impulsive and to Gaussian noise, to static and dynamic multipath propagation and its peak to average ratios. Additionally, the DTV systems were tested in the field, under real world conditions found in Sao Paulo city, which allowed the evaluation of their robustness concerning outdoor and indoor coverages, influenced by the simultaneous occurrence in various degrees of the above mentioned imperfections.

Biography

The author graduated in Electronic Engineering in University of Brasília, 1976. From 1978 to 1982, while coursing post-graduation in University of Campinas, worked also as a researcher in digital telecommunication and as a professor in graduate disciplines. Latter on, from 1983 up to the present, has worked for TELEBRAS at the Research and Development Centre, CPqD, in Campinas, SP. In 1998, CPqD was converted to a private Foundation, Research and Development Centre Foundation, FCPqD. The author worked in projects, implementations, laboratory and field testing of Digital Radio equipment, with experience in signal processing such as amplification, digital modems, bit error rate estimators, baseband and RF signal switching, RF oscillators, clock recovery and adaptive equalisation. He also works in Satellite Communication, as a consultant and in providing training courses to Brazilian telecommunication operating companies. Among his present activities, the author has been a member of the FCPqD's team that work as consultant to ANATEL, the Brazilian regulatory agency, in the process of choosing the Brazilian Digital Television System.

- SIXTH SESSION: 09h05 - 09h40
Digital Terrestrial Television Transition Strategy for Brazil
Mr. Jarbas J. Valente, ANATEL, Brazil

Abstract

This presentation has the main purpose of providing an in-depth examination of the transition strategy that Brazil intends to purpose in the introduction of digital terrestrial television broadcasting (DTTB) services while phasing out the rendering of analogue television broadcasting services. Focusing on relevant market and technical issues, the presentation first introduces an overall background on the Brazilian analogue 6MHz PAL-M-based television broadcasting market. It follows with the characterisation of the country's existing television broadcasting networks, which consists of a number of private-owned television networks, thus reflecting a minimal participation of the State in network ownership. Such networks comprises more than 300 stations associated with over 5,300 relay stations that deliver television programming to 95% of the total of Brazilian householders, meaning a substantial coverage as compared to 13% of the householders covered by the pay-television services. Accordingly, the configuration of such networks makes channel planning a crucial challenge to be tackled. Next, the presentation shows that endogenous and particular conditions associated with the current stage of social and economic development of Brazil, e.g. differences in investment capabilities amongst network owners, vertical and horizontal diversity in income distribution and the regional features of existing networks, Brazil's transition strategy from analogue television services to DTTB services seems to leaning towards a gradual, heterogeneous implementation path. As a result, the presentation concludes that, owing to sharp intra- and inter-regional differences in the consumption power of the Brazilian population, set-top box built-in features and prices are likely to have to adapt to such a reality of the Brazilian market.

Biography

The author is an electronic and telecommunication engineer, graduated in the University of Brasília. He is also a system analyst with a specialisation course in Marketing of Services and an extension course in Anti-Competition Practices, by Getúlio Vargas Foundation. Presently, he is Superintendent of Mass Communication Services at Anatel. In nineteen years of professional activities, the author occupied several managerial functions in the enterprises of the Telebrás System, Ministry of Communications and ANATEL, also being responsible for the several tender processes in radio and TV broadcasting and pay-TV services. Furthermore, the author has been attending to several national and international seminars.