

Dear Ladies and Gentlemen!

Allow me to present the report on “**The strategy of transition from SECAM to digital TV broadcasting in Ukraine**”.

The necessity of implementation of Terrestrial Digital Video Broadcasting (DVB-T) in Ukraine is determined by world, regional and national progress in the field of digital technologies, which secures the convergence of broadcasting, telecommunication, information services and computer systems; and taking into account the economic factors it is determined by the need for the most effective radio frequency resource use in Ukraine. Efficient implementing of digital TV broadcasting in Ukraine allows to bring in additional income to the State Budget of Ukraine.

The backlog in the development of DVB-T may threaten Ukraine with unmet social needs, non-competitiveness of the domestically produced equipment both on world and home markets, and difficulties in coordination of TV stations with other neighboring countries.

At present, more than 1300 radio broadcasting stations operate in Ukraine. Those stations are designed for analogue TV and radio broadcasting in all five bands, which are intended for the analogue radio broadcasting. Emission power of the TV transmitters designed in 50 – 80s is within 1W – 10 kW limits. Low power transmitters constitute more than 85% of the total transmitters' quantity. For instance, in accordance with the Frequency Plan, based on the provisions of the Stockholm Agreement, 1961, more than 40000 TV transmitters operate in Europe at present.

Considering the results of the Chester (United Kingdom) 1997 Multilateral Meeting, and the follow-up evolution of the process, the range of 510 – 862 MHz was determined as the priority range for the development of digital TV broadcasting.

The implementation of digital TV broadcasting in Ukraine is associated with the need to solve several problems, relating to the choice of the most effective system of digital data procession and transmission, frequency re-planning, development and organization of the equipment serial production in quantities sufficient for the full-scale system development, creation of normative-technical and normative-legal base. Creation of the principal State **Program for Implementation of Digital TV Broadcasting in Ukraine** is considered to be of highest priority. This program will be preceded by the development of the **Concepts of the Implementation of Digital TV Broadcasting in Ukraine**, the main targets of which are as follows:

- 1) ***Choice of the terrestrial digital TV broadcasting system***, which will secure the solution of the multi channel TV broadcasting problems, as well as transmission of large volume of digital data of mass interactivity. PAL, SECAM, and NTSC systems are used in the world for the analogue TV broadcasting. DVB-T system, which was developed in Europe and ATSC, created in the USA, were determined as the principal systems for terrestrial digital TV broadcasting.
- 2) ***Determination of transition stages from analogue to digital TV broadcasting in Ukraine***, termination of the above stages, and singling out the main targets for each stage. That determination shall be performed considering the results of the upcoming ITU Conference on the planning development of the digital radio broadcasting, CEPT and RCC decisions and taking into account the fact that starting 2005-2010, the tendency in the world arises to put out analogue TV transmitters of operation and to pass free frequency channels over to other radio services;
- 3) ***Necessary frequency resource planning***, which is required to implement digital TV networks. That implies the substantial choice of channels, detecting the possibilities of their sharing with frequency channels of other radio services, solving the problems of EMC. At present, range of 470-638 MHz has been allotted to the radio broadcasting service on primary basis. The range of 638-790 MHz has been allotted into the shared use by radio broadcasting and aeronautical radio navigation services. The range of 790 – 864

MHz until recently has been allotted to the aeronautical radio navigation service on the primary basis, and to the land mobile and fixed radio services. Since 1998 frequency bands **790 – 822 MHz and 846 – 862 MHz** have been designated for the development of digital TV broadcasting on the priority basis. **Other frequencies** of that range may be used for the purposes of radio broadcasting, provided that EMC with other services is secured.

- 4) **Determination of the production targets** for the digital TV broadcasting receiving and transmitting equipment.
- 5) **Determination of the possible sources of financing** the implementation of DVB-T networks.
- 6) **Development of the national regulation issues** for the radio frequencies usage, software production licensing, multiplex digital data flow, international legal support of users' radio frequency assignments. The State Committee of Communications and Informatization of Ukraine, being the Administration of Communications and Radio Frequencies of Ukraine, pays much attention to the normative-legal regulation of telecommunications development. In July 2000, the President of Ukraine has signed the State Law of Ukraine "On Radio Frequency Resource of Ukraine", which has set up favorable conditions for implementation and development of various progressive radio technologies in Ukraine, including those of digital TV broadcasting. The above has greatest impact on economic, social, informational and cultural development of Ukraine, and on fulfillment of Ukraine's international undertakings. **Licensing Regulations for radio frequencies' use by TV organizations – radio broadcasting channels users** have been developed and adopted in association with National Council of Ukraine of TV and Radio Broadcasting. Other important state normative-legal acts are being developed as well. Those acts will determine the procedures, peculiarities and conditions of international operation, allocation, allotment licensing of use and assigning of radio frequencies to digital radio broadcasting systems in Ukraine.

Long - term transition to digital TV broadcasting in Ukraine is planned and performed in several stages. The main stages are:

Initial stage (1997 – 2002) – allotment in the frequency bands, which are intensively used by the analogue systems of radio broadcasting and other radio services, frequency channels for experimental digital TV broadcasting. Main researches shall be done during that stage as well as the completion of the main normative-legal basis for the implementation of the digital TV broadcasting.

Transitional stage (2003 – 2008) – wide introduction of terrestrial digital broadcasting and gradual elimination of analogue radio broadcasting.

Concluding stage (after 2008) – liberalization of various limitations and restrictions for the development of digital radio broadcasting and final passing of free frequency channels over to other radio services.

Depending on the results of the previous stages, the terms of the follow-up stages may be altered.

In conclusion, being the vice-chairman of ITU-R Study Group 6, I would like to brief the respected conference on the final results of this Study Group meeting, which took place in September in Geneva (Switzerland).

At that meeting the functional structure of the Study Group was revised, discussed and confirmed. The Study Group comprises the following Working Parties:

? 1 – 6P **"Broadcasting systems, production, baseband signals, etc."**. The Party's terms of reference cover the researches on signal source specifications, its analogue-digital presentation, coding methods and interface development programs.

? 2 – 6R **“Recording for broadcasting”**. The Party’s terms of reference cover the researches of studio usage recording and its playing, international programs and TV films exchange on physical carriers and creation of archives.

? 3 – 6D **“Digital coding”**. The Party’s terms of reference cover the researches of analogue-digital multiplexing and demultiplexing, access and service information control, coding for the primary distribution of programs, development of distribution interfaces and determination of the conditions for primary and secondary distribution of programs.

? 3 – 6E **“Terrestrial emission”**. The Party’s terms of reference cover researches of channel coding and decoding, signal modulation and demodulation, frequency planning and shared use of voice, video, multimedia signals and interactivity, transceiver antennas and service areas, technical specifications of transmitters and receivers, output system specifications and determination of conditions of signal source coding for terrestrial transmission.

? 4 – 6S **“Satellite broadcasting”**. The Party’s terms of reference cover the researches, similar to the ones of the Working Party 6E, but are aimed at space transmission.

? 5 – 6M **“Interactivity and multimedia”**. The Party’s terms of reference cover the researches on the determination of requirements for the interactive systems and TV and radio broadcasting services, multimedia program approaches, coding and multiplexing, development of Internet interfaces; that includes service support as well.

? 6 – 6Q **“Quality assessment”**. The Party’s terms of reference cover the study of the subjective video and voice assessment, user quality assessment and service quality from the beginning till the end.

Besides, a special Task Group 6/6 has been founded, the main purpose of which is generating the recommendations for the development of digital broadcasting standard below 30 MHz.

Please contact me should any questions as for the international coordination of terrestrial or space TV and radio broadcasting in the countries of Eastern Europe and CIS arise. You may find my contact details in the seminar materials.

Thank you for your attention.