



Ministero dello Sviluppo Economico

Regional Seminar for Europe and CIS Spectrum Management and Broadcasting

29-31 May 2017

Hotel Roma Aurelia Antica, Convention Centre
Rome, Italy

This meeting is targeting the following countries : Albania, Andorra, Armenia, Austria, Azerbaijan, Belgium, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Kazakhstan, Kyrgyzstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, The Former Yugoslav Republic of Macedonia, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, San Marino, Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Tajikistan, Turkey, Turkmenistan, Vatican, Ukraine, United Kingdom, Uzbekistan

FINAL AGENDA – WITH ABSTRACTS

Monday, 29 May 2017

9:00 – 10:00 Registration and Welcome Coffee

10:00 – 10:30 Welcome Addresses

Dr Eva Spina, Director of Spectrum management and Planning, Ministry of Economic Development

Mr István Bozsoki, Head of Telecommunication Networks and Spectrum Management Division, BDT, ITU

10:30 – 11:00 Coffee Break and Group Photo

11:00 – 12:30 **Session 1: Regional Initiative for Europe, Actions in CIS and Update on the Study Question Q8/1 & Resolution 9**

Setting the context for Europe & Moderation by Ms Rosheen Awotar-Mauree, Programme Officer, Europe Coordination, ITU

Actions in CIS region by Mr Farid Nakhli, Programme Officer, CIS Regional Office, ITU

Update on ITU-D Study Group 1 Q8/1 and Resolution 9 by Mr István Bozsoki, Head of Telecommunication Networks and Spectrum Management Division, BDT, ITU and Mr Arseny Plossky, Vice-Rapporteur of ITU-D Study Group 1 Question 8

Abstract: This presentation gives overview on the BDT activities on broadcasting including projects, country assistance, capacity building etc. and the ITU-D SG1 relevant Questions

Country experiences

- Republic of Hungary

12:30 – 14:00 Lunch Break

14:00 –15:20 Session 2: Future of Digital Terrestrial Television Broadcasting

Setting the context & Moderation by Mr István Bozsoki, Head of Telecommunication Networks and Spectrum Management Division, BDT,ITU
Digital switchover and Digital Dividend Presentation by Mr Evghenii Sestacov, Engineer, Broadcasting Division, Terrestrial Services Department, Radiocommunication Bureau, ITU

Abstract: The presentation is devoted to the two interrelated issues: Digital Switchover (DSO) and Digital Dividend (DD). It contains definition of DSO and DD, DSO benefits, examples of 700MHz and 800 MHz bands auctions in Europe, as well as current DSO status and DD situation in Europe and CIS countries. It also includes information on multilateral coordination related to this topic and steps in order to release DD and to ensure the continuity of DTT.

The evolution of digital terrestrial distribution by Mr Marcello Lombardo, Project Manager, European Broadcasting Union

Abstract: The consumption of audiovisual content is living a golden era and in this context traditional broadcasting still plays a crucial role in the distribution. In the television domain, DVB-T2 is becoming the reference standard, while in radio the digitisation process is starting with the deployment of DAB. Nevertheless the EBU is active in collaboration to shape the future of distribution.

Country experiences

Italian digital terrestrial television towards 2020 by Ms Elena Cappuccio, CRTV-DTT, Italy

Abstract: Economic and social value of Italian DTT toward refarming 700MHz band with 20 single frequency networks at national level, 500 local broadcasters, DTT-only households, free and pay multichannel offer.

15:20 – 15:40 Coffee Break

15:40 – 17:00 Session 3: Towards Effective Uses of the Digital Dividend

Setting the context & Moderation by Mr Farid Nakhli, Programme Officer, CIS Regional Office, ITU

Understanding the Digital Dividend by Mr Arseny Plossky, ITU Expert

Abstract: This presentation gives overview on the ITU studies on Digital Dividend including the development of term and description. Also it provides general information on features and the ways of rational use of Digital Dividend.

Integrated system for the assessment of coverage, QoS and transmission capacity of TV broadcasting by Ms Marina Boumis, Senior Researcher, Fondazione Ugo Bordoni

Abstract: The availability of an integrated tool based on measurements and predictions on coverage, QoS and transmission capacity of TV broadcasting, is essential to assess effectiveness of current uses for UHF band and to elaborate future scenarios. The integrated tool is based on the logical interaction among various functional units sharing multiple databases (transmitters, DTT reference networks, etc.) and various simulation algorithms. The tool aim is the simultaneous control of the parameter trend variations according to different and feasible using models of UHF band.

Utilization of the digital dividend and the use of 470-790 MHz band in the EU by Mr Krisztián Stefanics, Expert on Broadcasting, National Media and Infocommunications Authority, Hungary

Abstract: This presentation gives overview on the EU regulations on the 700MHz digital dividend band, result of the RSPG questionnaire and the Hungarian plans for the future in the broadcasting issues.

700 MHz band as key to success for wide-area 5G services by Mr Ulrich Rehfuess, Head of Spectrum Policy, Nokia

Abstract: 5G services will improve efficiency in many adjacent industries as well as European citizens' lives in many ways. Highly automated driving, management of smart grids, remote eHealth and education solutions etc. will all require wide area 5G coverage, i.e. the EU 5G pioneer band 700 MHz.

Country experiences

Digital Broadcasting Implementation in the Kyrgyz Republic by Mr Eshmambet Amatov, Deputy Chairman, State Committee of Information Technologies and Communications of Kyrgyz Republic

Montenegro Experience

Tuesday, 30 May 2017

9:30 – 10:50

Session 4: National Regulatory & Policy Measures for Spectrum Management and Broadcasting

Setting the context & Moderation by Mr Antonio Vellucci, National Coordinator of Spectrum Management and Planning, Ministry of Economic Development, Italy

Spectrum Access Regulation in Europe: ETSI's Pivotal Position by Mr Dirk-Oliver Von Der Emden, Advisor, Office Fédéral de la Communication (OFCOM), Switzerland

Abstract: Market access regulation has profoundly been deregulated in Europe in 1999 with the adoption of the R&TTE Directive. The experiences gathered have led to the consolidation of the regulatory framework with the adoption of the Radio Equipment Directive (RED) in 2014. Of prime importance for the implementation of this framework are the outputs of European Standardisation Organisations. Spectrum access regulation is also undergoing a steady process of deregulation. In particular, the principle of technological neutrality of spectrum access regulation has induced a shift of the decision-making power towards standard-setting organisations. In the field of radiocommunications these transformations have thus entrusted the European Telecommunications Standards Institute (ETSI) with a significant role in the regulation of market access and spectrum usage in Europe.

Assistance in Spectrum Management by Mr István Bozsoki, Head of Telecommunication Networks and Spectrum Management Division, BDT, ITU

Abstract: This presentation gives overview on the BDT activities on spectrum management including projects, country assistance, capacity building, spectrum management software etc.

ESIMS: A harmonised licensing framework for mobile broadband provision on a global scale by Ms Yulia Koulikova, Inmarsat

Country experiences

The Italian transition from analogue to digital terrestrial television : challenges, problems and lesson learnt by Mr Vincenzo Lobianco, Chief Technology and Innovation Officer, AGCOM

Abstract: The presentation illustrates the actions carried in Italy by MISE and AGCOM for the transition from the analogue TV to DTT, in a period ranging from GE06 conference to the current days, when the activities for the repurposing of 700 MHz band is being started. A specific focus is given, in the presentation, to the national specific situation, with a huge legacy from the analogue television, and the resulting challenges and problems that have been addressed during this process in 10 years.

Spectrum Management Policy for Mobile Broadband Promotion in Republic of Serbia by Ms Katarina Tomic, Senior Advisor, Department for Electronic Communications in the Ministry of Trade, Tourism and Telecommunications

Abstract: The presentation gives overview regarding the issues related to mobile broadband in Republic of Serbia that mainly include analysis on mobile broadband environment and mobile spectrum management policy. Specific focus will be given to several factors such as mobile broadband market status, spectrum management scheme including legal and institutional system, current spectrum assignment status, as well as global trend of mobile spectrum management.

Experience in the area of electromagnetic field by Dr Aleksander Soltysik, Ministry of Digital Affairs, Republic of Poland

Abstract: The permissible EMF levels in Poland are too low for the optimum distribution of the networks across multiple frequency bands in one place. This may put the deployment of the 5G network at stake. In the nearest future the EMF levels across the ITU countries should become a key issue.

10:50 – 11:10

Coffee Break

11:10 – 12:30

Session 5: Economics of Spectrum Management, including Spectrum Pricing Strategies and Tools

Setting the context & Moderation by Ms Marina Boumis, Senior Researcher, Fondazione Ugo Bordoni

Spectrum Pricing or Administered Incentive Pricing by Mr Dirk-Oliver Von Der Emden, Advisor, Office Fédéral de la Communication (OFCOM), Switzerland
Abstract: Distinction between administrative charges and spectrum fees. Presentation of the “universal” spectrum fee calculation model. Some practical considerations when introducing administered incentive pricing.

Economic Methods in Spectrum Re-allocation by Mr Pavel Mamchenkov, ITU expert

Abstract: With the rapid evolution of radio technologies spectrum turnover is becoming the significant subject of spectrum management. It is hardly possible to provide newcoming radio technologies with spectrum bands being vacant from incumbent Radio Services and applications. Administrative methods in the process of phasing out of existing uses are no longer efficient with the scarce spectrum resources. The economic methods successfully applied by administrations in primary issuing and

post-issuance operation of spectrum should be introduced with regard to re-issuance (or re-allocation) of spectrum usage rights.

Country experiences

Albania experience by Mr. Shefqet Meda, Director, Technical Regulation and Infrastructure Department, Electronic and Postal Communications Authority.

12:30 – 14:00

Lunch Break

14:00 – 15:20

Session 6: Spectrum Monitoring

Setting the context & Moderation by Mr Evghenii Sestacov, Engineer, Broadcasting Division, Terrestrial Services Department, Radiocommunication Bureau, ITU

Practical implementation of the ITU-R methodology for planning and optimizing spectrum monitoring networks by Mr Arseny Plossky, ITU Expert

Bringing the worlds of Spectrum Management, Policy, and Monitoring together through Big Data analysis by Mr Robert Thelen-Bartholomew, LS Telcom AG

Abstract: It is normal for Spectrum Management, Policy making and monitoring to be separate functions within an NRA. The use of large scale spectrum monitoring networks is ever increasing. In this session we will explore the use of these networks, the application of big data approaches, the analytical advantages from the data, and the value it can add to spectrum planning, decision making, and audit.

Evolution of Spectrum Monitoring by Mr Philippe Aubineau, Counsellor for ITU-R Study Group 1 and the Conference Preparatory Meeting for WRC, Study Groups Department, Radiocommunication Bureau, ITU

Country experiences

Moldova experience by Mr Vladimir Vornic, Ministry for Development of Information Technologies and Communications of the Republic of Moldova

15:20 – 15:40

Coffee Break

15:40 – 17:00

Session 7: International Mobile Telecommunication (IMT) for 2020 and Beyond

Setting the context & Moderation by Mr Philippe Aubineau, Counsellor for ITU-R Study Group 1 and the Conference Preparatory Meeting for WRC, Study Groups Department, Radiocommunication Bureau, ITU

5G: The Connected World of Tomorrow by Mr Muluk Turhan, Government and Policy Group, Intel

Abstract: It is expected the number of devices connected to the Internet will reach to 50 billion by the year 2020. Data is growing tremendously faster than ever before. We need 5G networks for a smart connected world and new services to improve the quality of life and economy. Timely availability of sufficient spectrum is key for the success of 5G and to benefit from this opportunity.

Towards 5G Opportunities & challenges by Mr Rinaldo Bausani Director Technical sales support Network products, Ericsson

Abstract: While blazingly fast radio technology is at the heart of 5G, the rest of the system is also critical for delivering on the promises of 5G. Ericsson is addressing the

full end-to-end 5G system, which helps customers take advantage of all the capabilities of 5G (high capacity and data rates, flexibility, sustainability, low latency, security, robustness, and scalability).

Huawei view on the future use of the 470-694 MHz band for IMT by Mr Alexander Gulyaev, Senior Manager for European Regulatory Policy, Huawei
Abstract: According to recent studies, Digital Terrestrial Television consumption in Europe is constantly decreasing while use cases for IMT systems requiring wide and deep coverage (e.g. IoT, last mile “wireless fiber”) are developing rapidly. The presentation will describe Huawei vision towards the future progressive use of the 470-694 MHz range for IMT technologies.

Country experiences

Representatives are requested to provide oral updates or presentations.

Gala dinner at Aurelia Antica Roma Hotel on May 30 at 20.00

Wednesday, 31 May 2017

9:30 – 10:50

Session 8: Spectrum Management for IoT Deployment

Setting the context & Moderation by Mr Vincenzo Lobianco, Chief Technology and Innovation Officer, AGCOM

ITU-R studies in support of IoT by Mr Philippe Aubineau, Counsellor for ITU-R Study Group 1 and the Conference Preparatory Meeting for WRC, Study Groups Department, Radiocommunication Bureau, ITU

Abstract: The presentation provides an overview of some activities within ITU Radiocommunication (ITU-R) Study Groups 1 (spectrum management), 4 (satellite services) and 5 (terrestrial services). It refers to relevant past and on-going studies that are related to the topic of Internet of Things (IoT) in response to [Resolution ITU-R 66 \(from RA-15\)](#), as well as to the topic of Machine-Type-Communications (MTC) infrastructure in response to [Item 3 of the Annex to Resolution 958 \(WRC-15\)](#).

Spectrum Management Aspects Enabling IoT Implementation by Mr Pavel Mamchenkov, ITU expert

Abstract: IoT is at the emerging stage of implementation in the vast majority of jurisdictions. The nearest future will witness enormous development of IoT revealing essential spectrum demand thus requiring effective spectrum supply and regulatory policies by administrations. New regulatory approaches are foreseen needed to facilitate implementation of IoT applications. Nevertheless, the pivotal spectrum management principles will remain relevant. Unbiased view on spectrum management environment for IoT should be established in order to proceed with this market entrant.

Country experiences

- **Netherlands** by Mr Aljo van Dijken, Radiocommunication Agency Netherlands

10:50 – 11:10

Coffee Break

11:10 – 12:20

Session 9: Towards the WTDC 2017 and WRC 2019

Setting the context & Moderation by Ms Rosheen Awotar-Mauree Programme Officer, Europe Coordination, ITU

ITU preparations for WTDC 2017 by Dr Fabio Bigi, TDAG Vice-Chairman, ITU

Abstract: An overview of the process, the content development through the consultations at events such as the Regional Preparatory meetings, the outcome to date and the next steps.

ITU preparations for WRC 2019 by Mr Philippe Aubineau, Counsellor for ITU-R Study Group 1 and the Conference Preparatory Meeting for WRC, Study Groups Department, Radiocommunication Bureau, ITU

Future use of millimeter waves in 5G by Mr Massimiliano Simoni, Frequency Management, TIM Group, Italy

Abstract: The next WRC-19 will identify new candidate bands for IMT-2020 above 24 GHz. The intervention will describe the state of art of the discussion across Europe and the candidate bands.

5G and FSS Coordination Procedure for 3.6-3.8 and 27.5-29.5 frequency bands by Mauro Di Crescenzo, Frequency coordination Manager of Leonardo, Thales

Abstract: Telespazio is supporting a dedicated MISE/FUB team for a measurement campaign in Italy to understand interfering issues between terrestrial and satellite operators in the frequency band (3600-3800) MHz. The ITU and CEPT are investigating new frequency allocation for 5G services in the frequency bands 3.6 -3.8 GHz, as well as in the 27,5 – 29,5 GHz bands, which represent a commercial risk for teleports operating in such bands. This paper analyses the several proposals under discussion and explores new solutions to manage the interfering aspects hypothesizing that a coordination is possible. Starting from the measurement results and based on the characteristics of the electronic equipment, the paper has the objective to identify a protection area, around the Italian teleports, able to protect the FSS from harmful interference. The coordination procedure showed in this paper could be a material suitable for the preparation of the next WRC 2019.

12:20 – 12:30

Main Conclusions and Closing

Dr Eva Spina, Director of Spectrum management and Planning, Ministry of Economic Development

Mr István Bozsoki, Head of Telecommunication Networks and Spectrum Management Division, BDT, ITU

12:30 – 14:00

Lunch
