

Regional Workshop for CIS on LTE Mobile Communication Networks: Technologies and Practice

Moscow, Russian Federation, 3-5 March 2014

The Regional Workshop for CIS on LTE Mobile Communication Networks: Technologies and Practice, organized in cooperation with the Institute of Upgrade Qualification of Moscow Technical University of Communications and Informatics (MTUCI), ITU-D Sector Member, and with support of the Ministry of Telecom and Mass Communications of the Russian Federation, was held in Moscow, Russian Federation from 3 to 5 March 2014.

The Workshop was attended by representatives of communication administrations, regulators, telecommunication providers, scientific and research institutions and universities of 8 ITU Member States of the CIS region (Republic of Kazakhstan, Kyrgyz Republic, Republic of Moldova, Russian Federation, Republic of Tajikistan, Republic of Uzbekistan, Ukraine) and Poland. Also, the Workshop was attended by experts representing international organizations: Mr. Nikolai Vassiliev, Head of Fixed and Mobile Services Division of BR ITU and Mr. Igor Minaev, Technical Officer of the European Technology Standardization Institute (ETSI) ERM. Also, the presentation on *Access Technology for Broadband Telecommunications including IMT, for Developing Countries* by Mr. Riccardo Passerini, Head, Telecommunication Technologies and Network Development Division, BDT ITU, who was not able to attend the workshop. Number of the workshop participants totaled 55 persons.



The workshop was held during 3 days and in 3 sessions:

- Development of Mobile Broadband Communications: from 3G to LTE-Advanced
- LTE – Technology, architecture and planning
- Prospects for the Development of LTE Networks.

Thanks to a good and creative atmosphere built by the workshop organizers and the speakers, as well as the interest of the audience, the workshop become a good platform for exchange of information and experience between representatives of different bodies and countries and furthered striking up useful working contracts.

The success of the workshop can be measured based on following KPIs:

1. Number of participants
2. Number of participating countries
3. Number of presentations

4. Fine comments of the workshop participants, confirming its usefulness
5. Information and knowledge obtained by the workshop participants.

During 3 days of the workshop, 23 presentations were delivered on different issues referring to development of mobile broadband communications LTE/LTE Advanced.

Session 1 covered the issues of **Development of Mobile Broadband Communications: from 3G to LTE-Advanced**, broadband access technology, including IMP, radiofrequency spectrum for mobile broadband communication (Nikolai Vassiliev). Also, the speakers presented the situation in Russian LTE market (Valery Tikhvinsky), and implementation of an LTE project in the Republic of Kazakhstan (Altay Aitmagambetov).

The speakers of Session 2 acquainted the audience with some aspects of LTE networks architecture and planning, such as: OFDM and SC-FDMA access methods, framing structure and resource blocks of LTE radio interface (Mikhail Lohvitsky), LTE Networks Planning and



Optimization (Nikolai Vassiliev), provision of voice service over LTE networks (S.Terentyev), Provision of Roaming in LTE Networks (Valery Tikhvinsky). The issue of management and provision of quality of services in LTE/ LTE Advanced networks was presented by Pawel Biskupski from Polish company Systemics-PAB.

Session 3 covered the issues of LTE network deployment, such as Prospects of Building of the LTE Networks on the basis of SDN Technologies (Vladimir Yefimushkin, Tatyana Ledovskikh), RAN cloud technologies (Valery Tikhvinsky), HetNet (Vadim Belyavsky), standardization of the LTE technologies and equipment in Europe and in the world (Igor Minaev), Monetizing of LTE Networks on the basis of M2M Services (G.Bochechka), Conceptual Aspects of Creation of the 5G Networks (Valery Tikhvinsky) and the issues of elaboration and standardization of 5G in ITU-R (Vadim Poskakukhin).

The results of the workshop were summarized at the roundtable. The workshop reached following results:

1. The workshop participants (55 representatives of 8 CIS and one non-CIS countries), listened to 23 presentations and exchanged opinions and experience in the field of LTE networks, obtained certain information on different aspects of LTE networks planning. Therefore, they essentially raised the level of their knowledge in the field and practically furthered their countries to deployment of LTE networks.
2. Thanks to the workshop, the participants got acquainted with European and world experience of standardization of LTE technologies and equipment, which should be



taken into consideration in development of LTE networks in the CIS countries, as well as the issues of elaboration and standardization of 5G systems in ITU-R.

3. The workshop participants now possess enough knowledge in the field of mobile broadband communication development, from 3G to LTE Advanced, LTE networks structure, LTE planning and optimization, provision of quality of service in LTE/LTE Advanced networks and others.
4. In most countries of the region, LTE networks have been already deployed, and LTE market is being developed.

The Regional Workshop for CIS on LTE Mobile Communication Networks: Technologies and Practice was held successfully and reached the objectives fixed in the 2014 ITU Operation Plan.

The successfulness of the workshop can be measured by KPIs, such as significant number of participants (55), great number of meaningful presentations (23), which show topicality of the workshop and importance of the workshop topic for the CIS countries, as well as fine comments of the workshop participants, who appreciated organizational and substantial aspects of the workshop. In particular, the participants expressed gratitude to the ITU Area Office for the CIS and the Communication Administration of the Russian Federation for organization of the workshop, as well as to the Institute of Upgrade Qualification of MTUCI for organizational arrangements and carrying out of the workshop.

The workshop participants expressed special gratitude to a row of speakers for their very interesting and topical presentations.

The ITU, in their turn, express gratitude to all the participants, the Ministry of Telecom and Mass Communications, and the Institute of Upgrade Qualification of MTUCI for cooperation and support.