

Report of
ITU Face-to-face Training for CIS on
Complex Aspects of Mobile Network Migration to LTE technology
Odessa, Ukraine, 15-18 March 2016

The Face-to-face Training for CIS on Complex Aspects of Mobile Network Migration to LTE Technology, organized jointly by the ITU and the Alexander Popov Odessa National Academy of Telecommunications (ONAT) as part of the Digital Broadcasting and the Policy and Regulation programmes under the auspices of the ITU Centres of Excellence for CIS, was held in Odessa, Ukraine, from 15 to 18 March 2016.

The training will be held in Russian language with simultaneous interpretation into English.

The training lessons were delivered by Professor Vladimir Balyar, the Associate Professor of the ONAT Television and Radiobroadcasting Department; Professor Vadim Kaptur, Vice-rector on Scientific Work, ONAT and vice-chairman of the ITU-D Study Group 1; and Mr. Dmitry Makoveenko, Associate Professor, Television and Radiobroadcasting Department, ONAT.

The training was attended by **14 participants from 3 CIS countries**: Kyrgyz Republic, Republic of Moldova, and Ukraine.

The training was aimed at examination of current and future mobile technologies and broadband access in the LTE standard.

Within the framework of the training opening, welcome speeches were delivered by Professor Pyotr Vorobiyenko, Rector of the ONAT; Professor Vadim Kaptur, Vice-Rector on Scientific Work, ONAT; Mr. Farid Nakhli, Programme Officer, ITU Area Office for CIS.



Opening of the training

Within the four days of the workshop, participants were introduced to:

- evolution of mobile communication systems; main radio interfaces of IMT-2000, IMT-Advanced;
- principles of forming of content for transmission in modern broadband and mobile communication systems;
- main technologies used at the LTE physical layer;

- principles of implementation of the LTE physical layer in downlink (OFDMA) and uplink (SC-FDMA);
- principles of LTE network implementation;
- frequency-territorial planning of LTE networks; directions of the further evolution of LTE networks;
- economic aspects of LTE network implementation.



Training participants

As a result of the training, the participants obtained understanding of theoretical aspects of mobile network transition to LTE and completed a practical training on systems models and their components.

Participants were actively involved in group and informal discussions. Instructors regularly checked the knowledge level obtained by the participants. The final test on the last day of the training was successfully passed by all participants.

Referring the impressions of the instructors expressed after the training, the participants showed quite high professional level. The instructors thanked the participants for their dedication to the training process.

The participants thanked the instructors for the granted opportunity to raise the awareness in the field of LTE, which is essential for their professional activities.

Both the instructors and the participants indicated as potential advantage the provision to remote participants of an opportunity to participate in practical exercises.

Evaluation matrix

**ITU Centres of Excellence Network for CIS
The O.S.Popov Odessa National Academy of Telecommunications
(ONAT)**

**Face-to-face Training on
Complex Aspects of Mobile Network Migration of LTE technology**

| № | Name | Surname | Score | | | Weighted Score | | | Total Score |
|----|------------|--------------|------------|--|------|------------------|--|------------|-------------|
| | | | Attendance | Participation (Group work, Pop Quiz) | Exam | Attendance (10%) | Participation (Group work, Pop Quiz) | Exam (60%) | |
| 1 | Eduard | Frunze | 100 | 100 | 95 | 10 | 30 | 57 | 97 |
| 2 | Constantin | Gilca | 100 | 100 | 90 | 10 | 30 | 54 | 94 |
| 3 | Dmitrii | Diacikovskii | 100 | 100 | 100 | 10 | 30 | 60 | 100 |
| 4 | Ion | Leahu | 100 | 100 | 90 | 10 | 30 | 54 | 94 |
| 5 | Andrei | Leontiev | 100 | 98 | 98 | 10 | 29 | 59 | 98 |
| 6 | Oleksii | Sabadyrov | 90 | 90 | 90 | 9 | 27 | 54 | 90 |
| 7 | Kostiantyn | Prakhin | 90 | 90 | 90 | 9 | 27 | 54 | 90 |
| 8 | Rinat | Bakytov | 95 | 95 | 88 | 10 | 29 | 53 | 91 |
| 9 | Mahabat | Mukambetova | 95 | 95 | 88 | 10 | 29 | 53 | 91 |
| 10 | Liudmyla | Kikhai | 75 | 80 | 80 | 8 | 24 | 48 | 80 |
| 11 | Vitaly | Sakmo | 75 | 80 | 80 | 8 | 24 | 48 | 80 |
| 12 | Fedir | Kikhai | 70 | 70 | 70 | 7 | 21 | 42 | 70 |
| 13 | Oleksandr | Dudko | 80 | 80 | 80 | 8 | 24 | 48 | 80 |
| 14 | Serhiy | Ropyy | 70 | 70 | 70 | 7 | 21 | 42 | 70 |

Final results of the Workshop participants