



Republic of Bulgaria



**NEXT GENERATION MOBILE NETWORKS –
BULGARIAN EXPERIENCE IN THE
DEVELOPMENT OF LTE**

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Geographical and administrative data about the country



Territory: 110,994 km²

Water (%): 0,3

Population: 7,364570 mln

Density: 66,35/km²

Persons per household: 2,4

Provinces: 27 and a metropolitan capital province (Sofia-Grad)

Municipalities: 264

General conditions of the market (1)

✓ **Gross domestic product for 2015 – BGN 88 571m.**

✓ **Growth rates:**

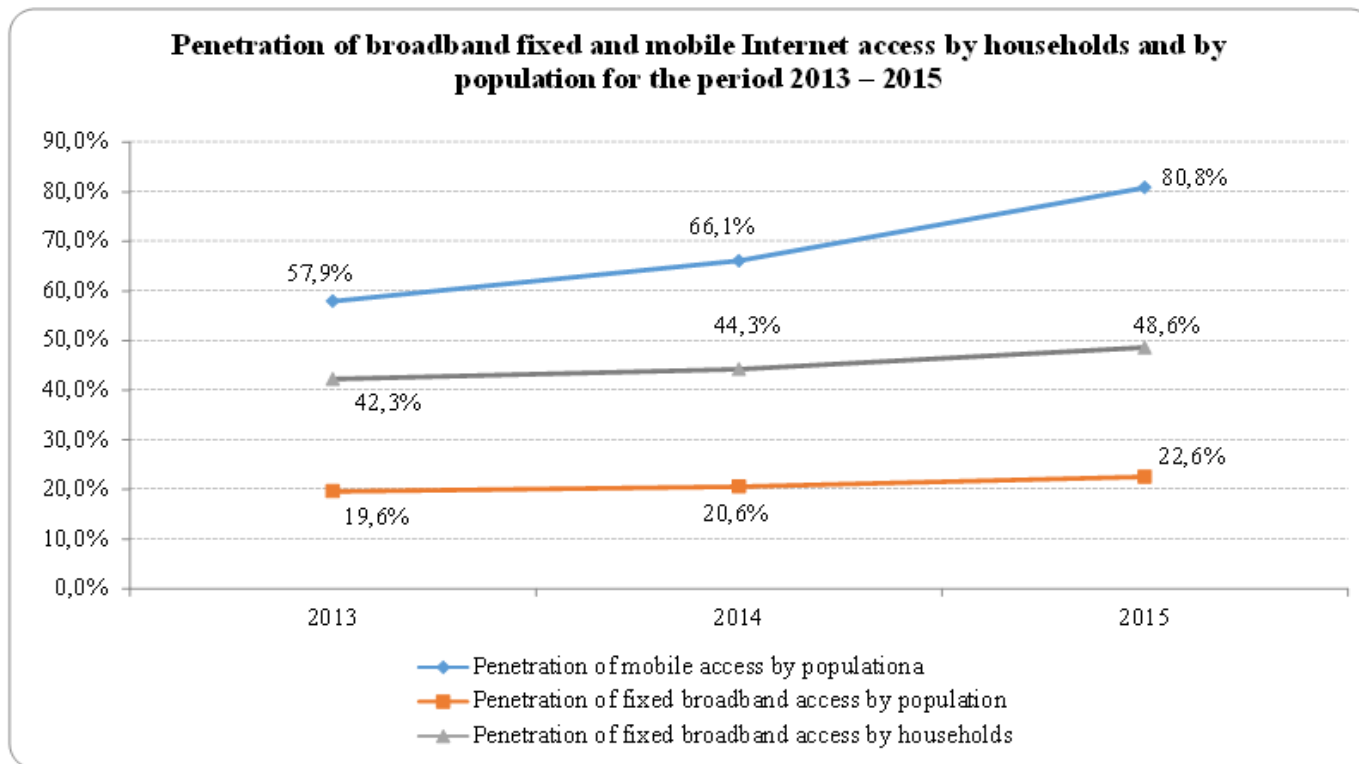
- BGN 2,505 billion - the volume of the electronic communications market for 2015;
- 45,2 % - the share of voice telephone services;
- 16,1% - the stand-alone data transfer and/or Internet access services;
- over 7 times - an increase of the number of the subscribers using Internet access via LTE technology registered for 2015.



General conditions of the market (2)

Penetration of mobile broadband services

Currently mobile Internet access provided via LTE technology is offered by all undertakings on the Bulgarian electronic communications market.



Source: Data submitted to CRC

Actions undertaken by CRC for ensuring the conditions for the development of 4G network – LTE (1)

Introduction of conditions for harmonized use of the radio frequency spectrum in the bands:

- 900 MHz;
- 1800 MHz;
- 1.5 GHz;
- 2 GHz;
- 2.6 GHz;
- 3.6 GHz.



Actions undertaken by CRC for ensuring the conditions for the development of 4G network – LTE (2)

- In 2014, two of the undertakings started offering commercial mobile services provided via LTE technology;
- In 2015 and 2016 successively launched LTE networks and the other three undertakings.



Actions undertaken by CRC for ensuring the conditions for the development of 4G network – LTE (3)

According to the data of the undertakings the insured coverage by population of the LTE networks (1800 MHz band) is as follows:

Undertaking	Coverage by population of the LTE networks
Mobiltel EAD	77 %
Bulgarian telecommunications company EAD	40 %
Telenor Bulgaria EAD	76 %
Max Telecom OOD	60 %
Bulsatcom EAD	55 %



Actions undertaken by CRC for ensuring the conditions for the development of 4G network – LTE (4)

- In 2016, CRC perform reallocation of spectrum in the 1800 MHz band and identify additional frequency resource from this band for all mobile undertakings.



Future development of LTE - 800 MHz and 700 MHz bands (1)

Features of the 800 MHz band

- Until 2016 – the entire band is used for national security purposes;
- Since October 2016 – 2x10 MHz are defined for terrestrial networks capable of providing electronic communications services.



Future development of LTE - 800 MHz and 700 MHz bands (2)

In order to implement the provisions of Decision 2010/267/EU on harmonized technical conditions of use of the 790-862 MHz band CRC has started:

- Amendments in the secondary legislation;
- Conduction of public consultations to establish the interest for the use of radio spectrum in the 800 MHz band.



Future development of LTE - 800 MHz and 700 MHz bands (3)

Features of the 700 MHz band

- Currently the band is used for DVB-T and for national security purposes;
- In connection with optimisation and replanning process of DVB-T networks in Europe, representatives of CRC participate in the South-East Digital Dividend Implementation Forum.



Future development of LTE - 800 MHz and 700 MHz bands (4)

Upcoming actions to be taken in regard to 700 MHz band:

- Taking a decision at the state level on the future use of the 700 MHz band;
- Adoption of a roadmap in which to be determined terms and conditions for defining 700 MHz band for wireless broadband networks.



Conditions ensured by CRC for sustainable and competitive environment for business development

- CRC regularly carries out public consultations;
- CRC organizes and conducts meetings with the undertakings providing electronic communications;
- CRC reduced the amount of fees for the assignment of radiofrequency spectrum in the bands 900 MHz, 1800 MHz, 2 GHz, 2.6 GHz and 3.6 GHz.



Conclusion

The main challenges in the work of CRC will continue to be:

- maintaining the conditions for effective competition;
- ensuring high quality of the provided services;
- development and implementation of transparent procedures for proportional apportioning and equitable provision of necessary frequency resource for market penetration of new technologies and services.



Thank you for your attention!

