NATIONAL COMMISSION FOR THE STATE REGULATION OF COMMUNICATIONS AND INFORMATIZATION (NCCIR)

Broadband development in Ukraine

Market overview and key initiatives

Victor Mazur
Member of NCCIR

BARCELONA
July 2015

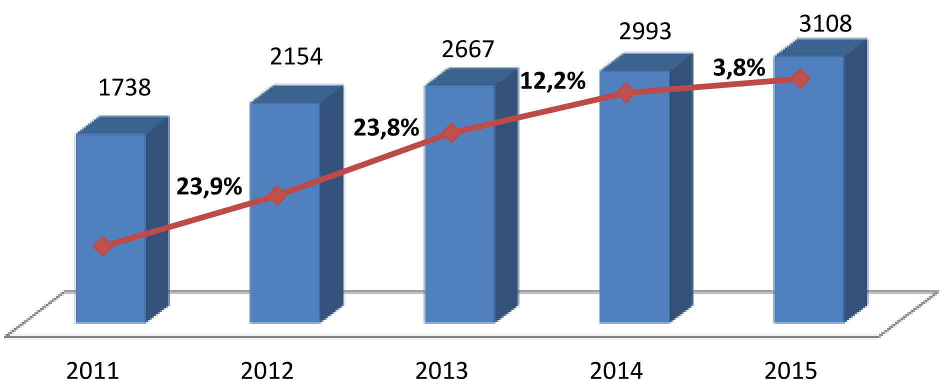
CONTENT

1 Broadband market overview

Structure of broadband market

- The major drivers force of fixed BB network roll-out in the rural area is the medium-sized business (MSB)
- 97% of all registered operators and providers are MSB

The dynamics of growing number of telecom providers in 2011-2015 (1Q-2Q)



Comments

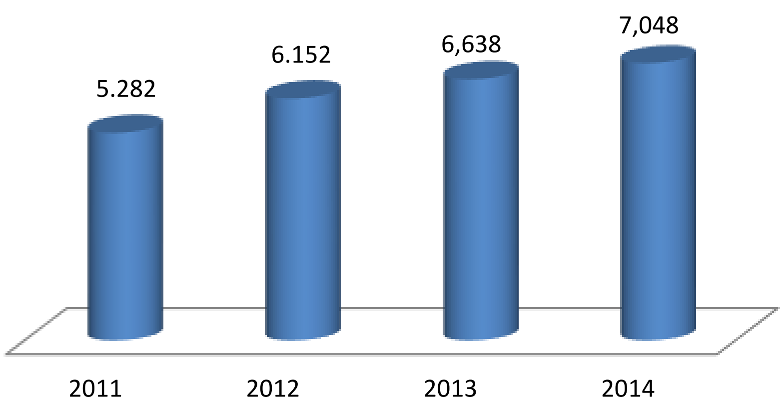
For the last four year (since 2011 to 2014) number of telecom providers increased to **72,2%**
(incl. 1Q-2Q of 2015 – **78,8%**)

Source: NCCIR

Fixed broadband and Internet subscribers

- Number of households were 17,5 mln in the Q4 of 2014, over 7 mln of which were private subscribers

The dynamics of growing number of fixed broadband subscribers in 2011-2014, mln



Source: IKS-Consulting

Comments

For the last four year number of Internet subscribers increased to **33%**

Internet subscribers

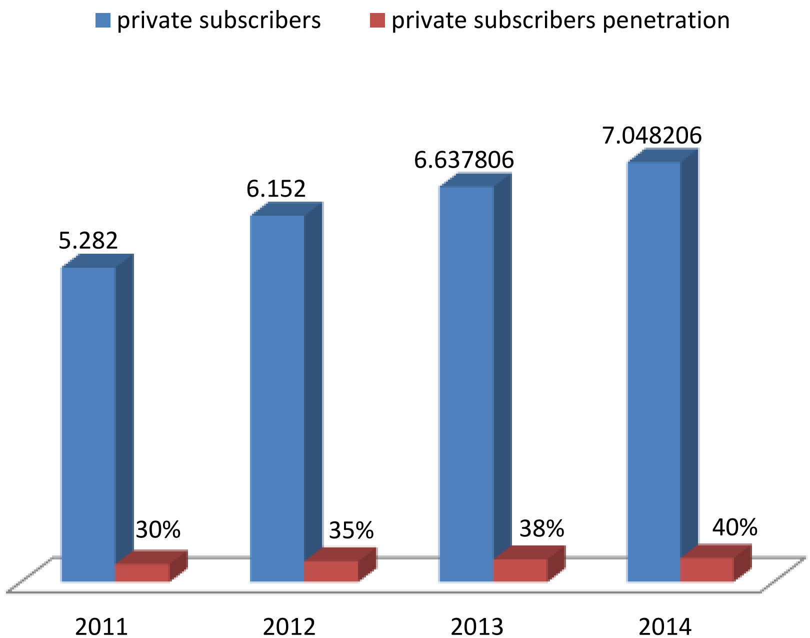
- Revenues from providing Internet access, mln UAH
- Including Broadband access

Source: State Statistics Committee 01.01.2015

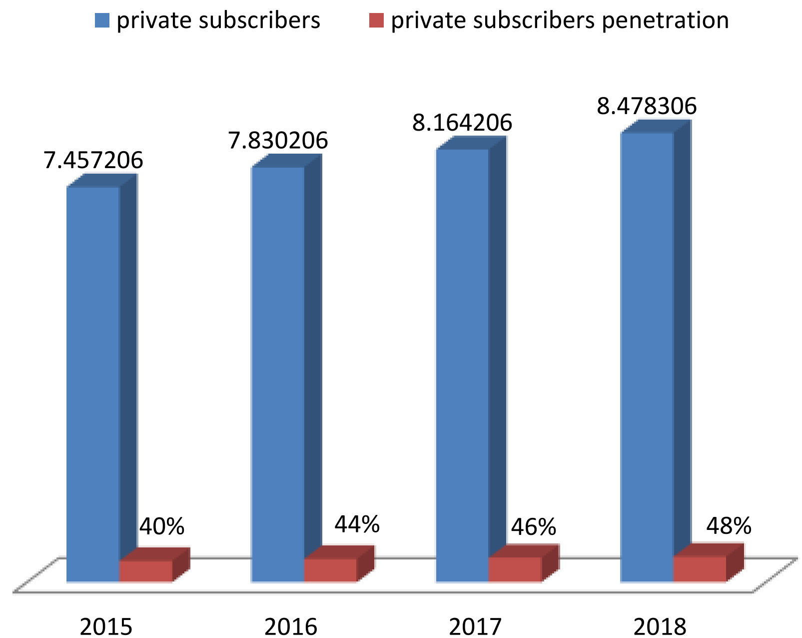
Broadband penetration

- Internet penetration in rural area was 17% in the Q4 of 2014

Broadband penetration into cooperate and private segment, %, 2011-2014



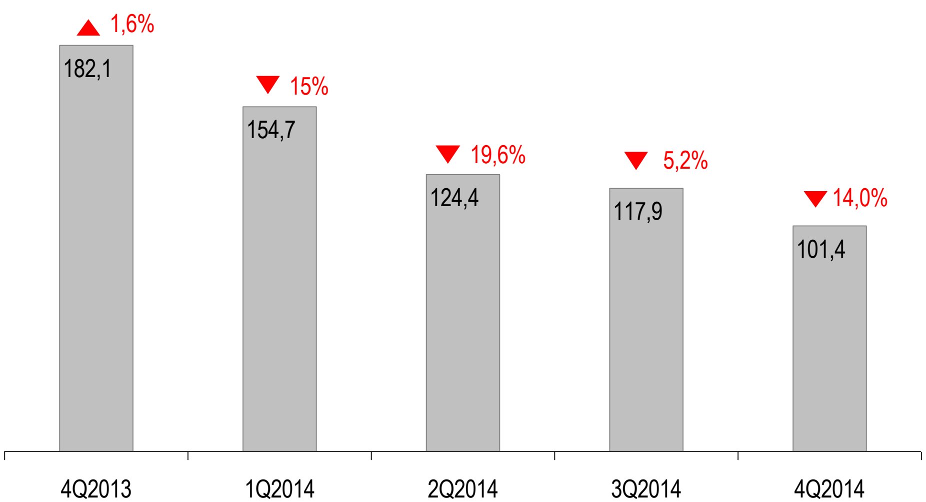
Broadband penetration into coopeare and private segment, %, 2015-2018F



Source: IKS-Consulting

Economic situation in the broadband market

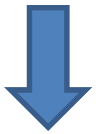
Revenues from providing broadband services and Internet access, mln US$, 4Q 2013- 4Q2014



Source: State Statistics Committee, National Bank of Ukraine, IKS-Consulting, companies data

Comments

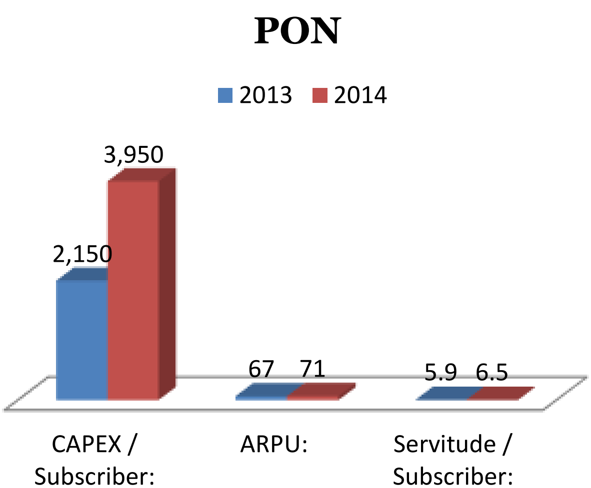
Ukraine's real GDP fell by 6.8% in 2014 and for 1Q 2015 – by 15%.
Consumer price index rose by 45.8% and average wages fell by 24.6% (March 2014 - March 2015).



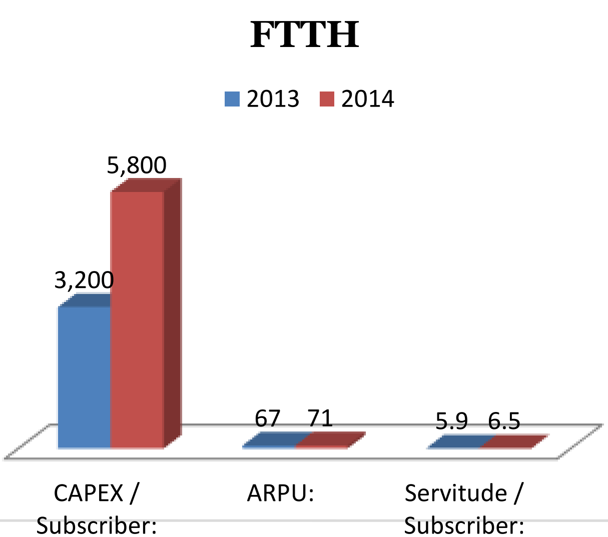
Low level of purchasing power of the population

Source: State Statistics Committee

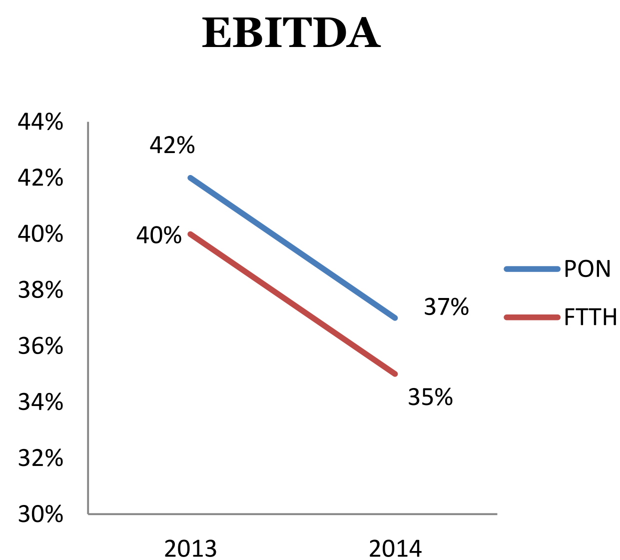
CAPEX costs and EBITDA



Equipment:
- OLT (max 256 subscribers)
- ONU
- fiber optic cable (4-12f)
- fiber optic patching cord
- optic box
- box for active equipment

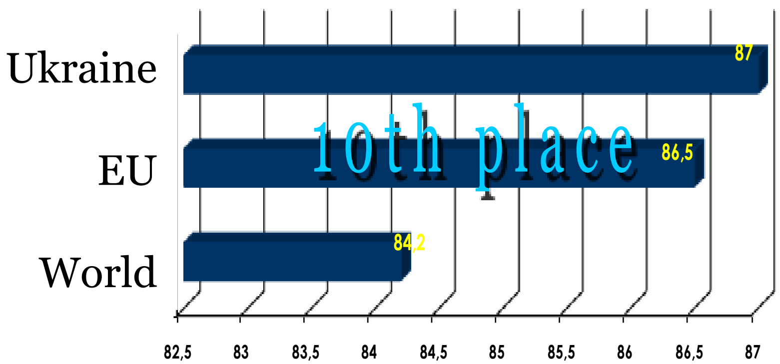


Equipment:
- switch (max 24 subscribers)
- SFP (24)
- media converter
- fiber optic cable (48f)
- fiber optic patching cord
- optic box
- box for active equipment

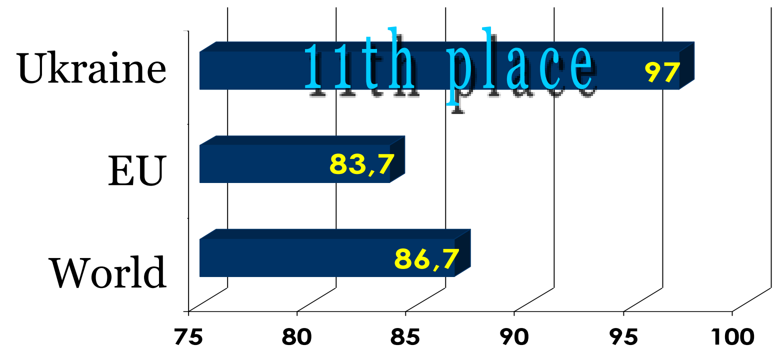


Ukraine's place in the world rankings of quality indicators for the Internet

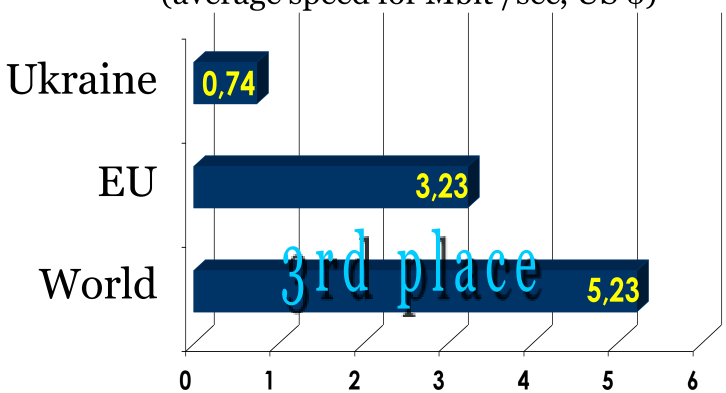
Quality indicator
(quality indicator for communications)



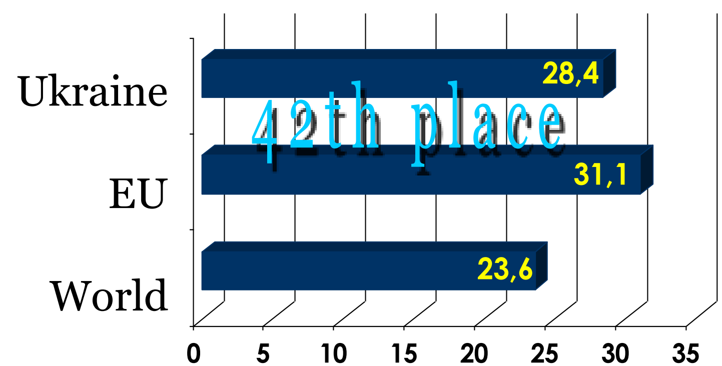
Indicator of “Overall Internet speed”



Quality indicator
(average speed for Mbit /sec, US $)



Speed indicator of download
(average network bandwidth, Mbit/sec)



Source: The Global Standard
in Internet Metrics

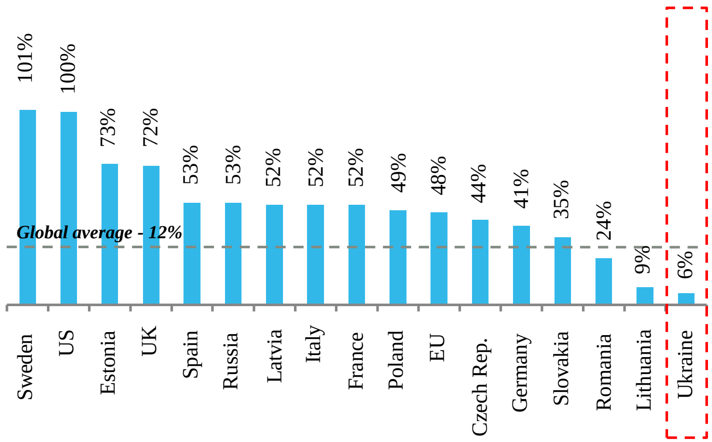
2 Mobile broadband services

Ukraine has already implemented 3G (1/2)

Ukraine is the 6th largest mobile market in the Europe of 62.5 mln subscribers.

One of the lowest ARPU in the CEE suggests sheer revenue growth potential as the competition between existing players improves.

Mobile broadband penetration(1) by country (2014), %



Comments

Ukraine substantially lags behind global trend of switching from 2G to 3G/4G technology networks.

In February 2015 three largest mobile operators (MTS Ukraine, Kyivstar, Life;) has obtained 3G licenses via auction held by NCCIR.

Two operators: Life:) and Kyivstar has already started to provide the 3G services.

- As of 2014, smartphone penetration in Ukraine reached ca. 19% or less than 1/3 of that in the EU:
  – Lack of strong 3G nationwide operator keeps mobile broadband even lower – at 6%
- Presently vast majority of smartphones are 3G devices with growing proportion of LTE-enabled handsets expected in the coming years
- Mass product consumer model domination (voice traffic at the lowest possible cost) due to the lack of new technologies has left Ukraine far behind a way more developed European telecom market
- Successful 3G licenses auction held by NCCIR has paved the way for prompt 3G implementation

Ukraine has already implemented 3G (2/2)

EXPECTED RESULT

Competitive auction method with starting price of UAH 2.7 b

Winners are obliged to finance spectrum conversion of UAH 1.6 b

Winners are obliged to provide mobile services:
during 18 months - on the territory of all regional centers; during 2-6 years on the territory of all regional centers and all settlements with a population of more than 10 000 people (from the date of license issuance)

ARPU improvement stemming from new product offering to the existing subscribers base

Market competition enforcement – competitive advantage provided to the first license holder (3Mob) vanishes due to new entrants

3 Regulatory landscape and initiatives

Current NCCIR initiatives (1/2)

Initiative	1 Project of the Law on Electronic Communications	2 Project of the Law on Access to objects of construction, transport and electricity	3 Frequencies re-farming and 4G-licensing
Overview and Expected result	• Free market entry: - Legal entity registration by notification -Licensing limited to restricted recourse only -Simplification of licensing procedure • Open access to telecommunication infrastructure • Marker competition facilitation by means of SMP obligations and measures • Ex-ante regulation: - Legal infringements classification according to EU standards - Introduction of economic and administrative sanctions - Presumption of innocence for market player	• Optimization and a significant reduction in capital costs for the development (upgrading) of telecommunications networks by operators • Raise investment in the development of telecommunication networks and make the terms of its mastering significantly shorter • Accelerating the new services introduction on the telecommunications networks and improving the quality of existing ones. • Increasing of consumer access to telecommunications services, increasing the number and quality of such services • Creating a unified payment terms for access to objects of construction, transport and electricity	• Existing frequencies allocation scheme is planned to be re-farmed in order to free up spectrum for 4G (LTE) technology • We have negotiated with consulting companies on 4G project implementation • We engaged operators in transparent preparatory process • Pricing shift to data, free calls and messaging • Further ARPU increase resulting from growth in traffic • Strong investment stimulus **Heavy Mobile BB - LTE**
NCCIR timeline	• Expected that the Law will come into force on 01 January 2016	• Expected that the Law will come into force on November 2015 • Law will provide the creation of Local Loop Unbundling (ULL) market	• Discussion on frequencies re-farming actual 4G-licencing will be finished expected by 2017 and the tender will be started

Source: NCCIR

Current NCCIR initiatives (2/2)

Adopted regulatory acts

- **Rules for the offering into use to telecommunication cable ducts**
- **Procedure for regulating of tariffs for the offering into use to telecommunication cable ducts of telecommunications operators**
- **Cap rates for the offering into use to telecommunication cable ducts of telecommunications operators**

Comments

NCCIR carries the active international cooperation and participates in different events as well. The main focus on the attracting investments in ICT sphere in general and in the Broadband development in particular and study the best EU experience in the ICT development.

For the last 6 months NCCIR participated in the London Investment Summit and was co-organizer of the Ukrainian Telecoms Forum, which hold in Kyiv in May. Both events brought together not only representatives of market players and all present and potential stakeholders in the Ukrainian telecoms sector, but potential investors as well.

Currently, the Constitutional reform is developing in Ukraine. It will provide departure from the rigid centralization, delegate more rights to the regions and the expansion of their powers. Implementation of Constitutional reform will lead to an increase in local budgets and thus promote PPP (Private Public Partnership) and increase funding issues of development of telecommunications networks to access the Internet.

NATIONAL COMMISSION FOR THE STATE REGULATION OF COMMUNICATIONS AND INFORMATIZATION

- Thank you for your attention!
    - Gracias por su atención!
        - Merci pour votre attention!

Victor Mazur
v.mazur@nkrzi.gov.ua

BARCELONA
July 2015