



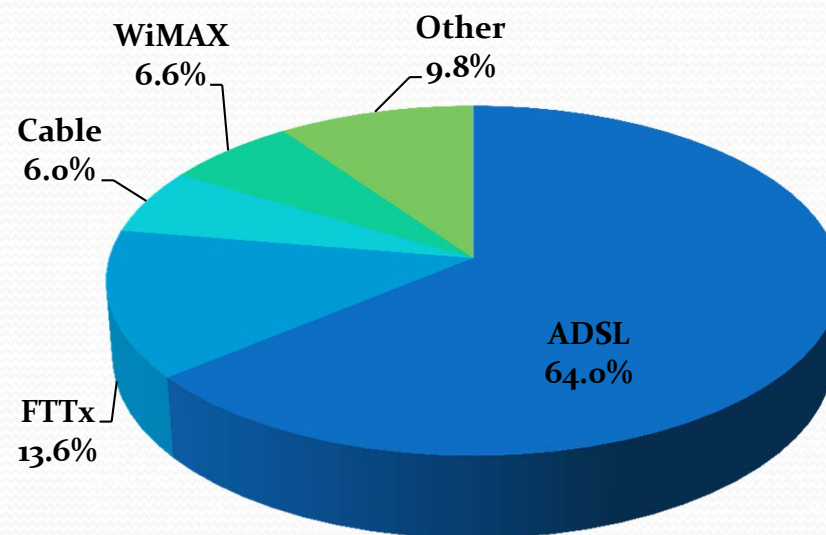
Agency for Electronic Communication and Postal Services

Situation in Broadband Market-Case Study of Montenegro

Ivona Marić
Regional Conference for Europe
28 - 29 September 2015
Budva, Montenegro

Situation in Broadband Market-Case Study of Montenegro

- Fixed broadband access
 - ADSL
 - Cable
 - FTTx
 - WiMAX
 - Other (WiFi, internet LL, MPLS, satellite...)

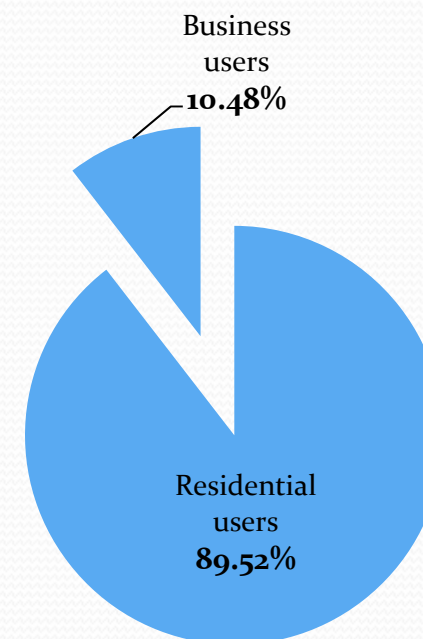
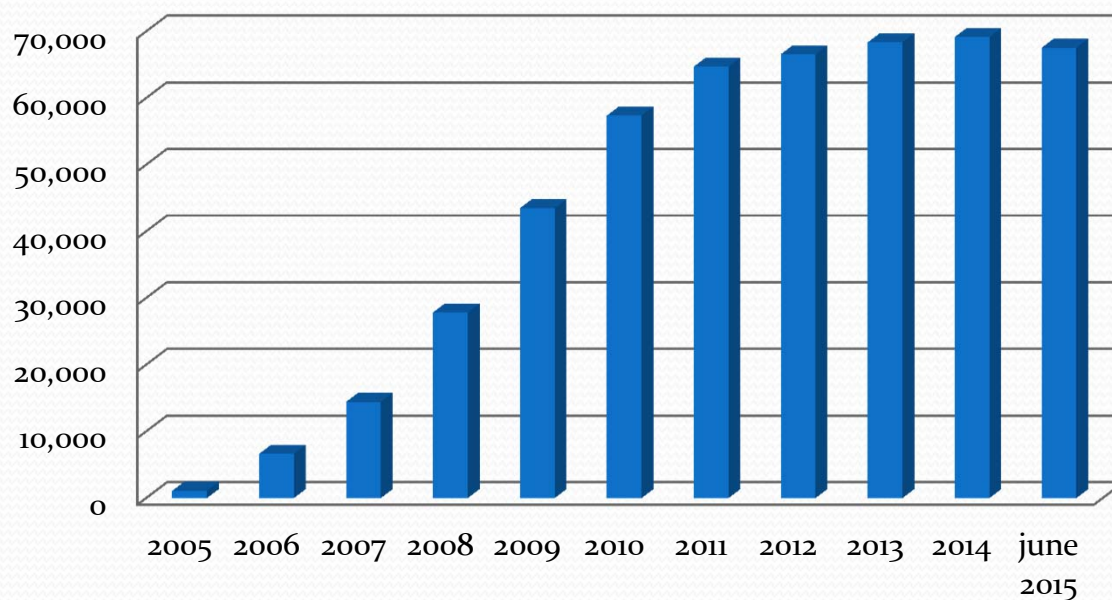


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□ ADSL

- ❖ 64% of internet users are ADSL users
- ❖ Service availability - 99.88% of fixed connections of Crnogorski Telekom

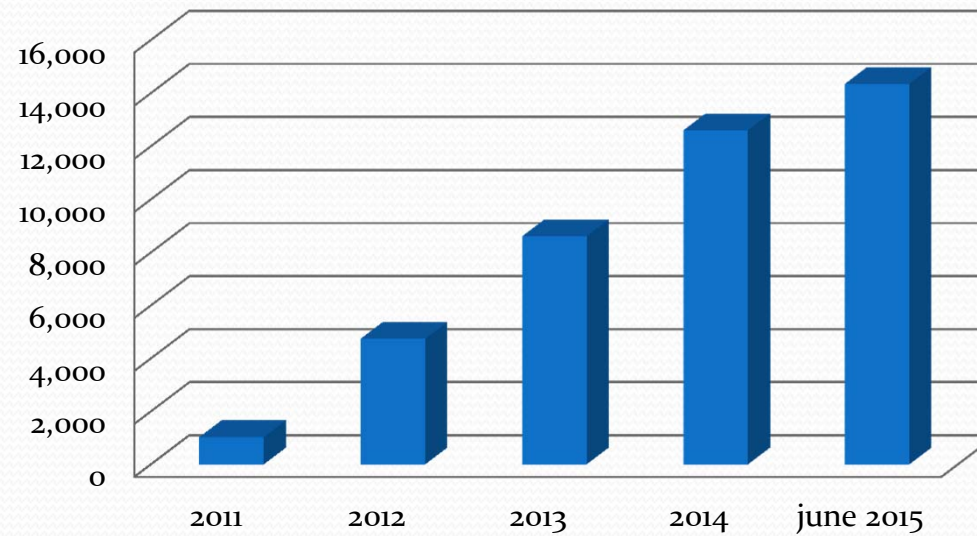
Trends of ADSL users



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- Access networks with fiber-optic cables (FTTx)
 - Installed ~ 50,000
 - In operation ~ 15,000 internet connestions

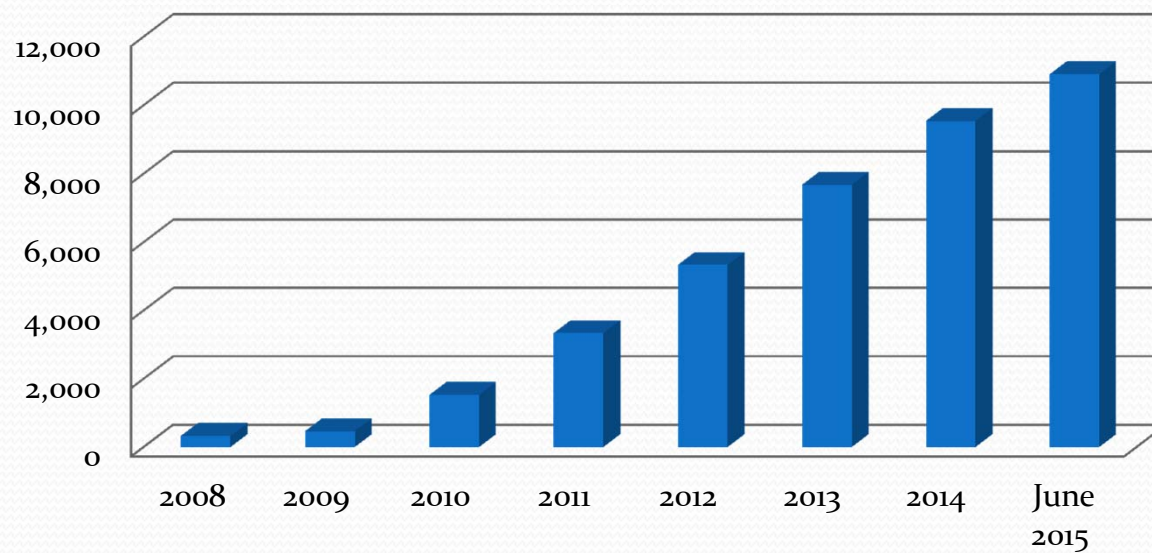
Trends of FTTx users



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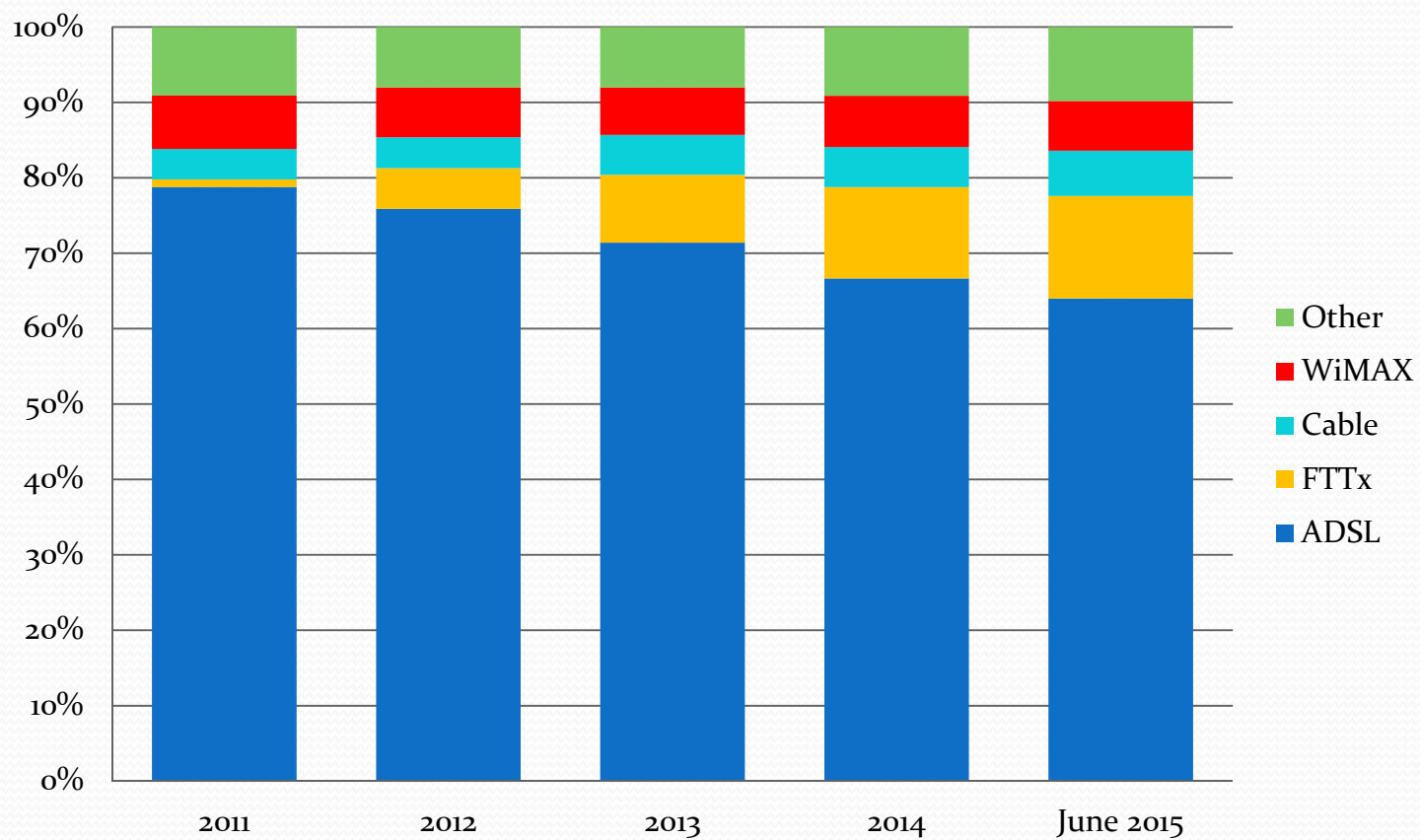
□ Cable distribution systems

Trends of Cable users



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Shares of technologies in the total number of connections

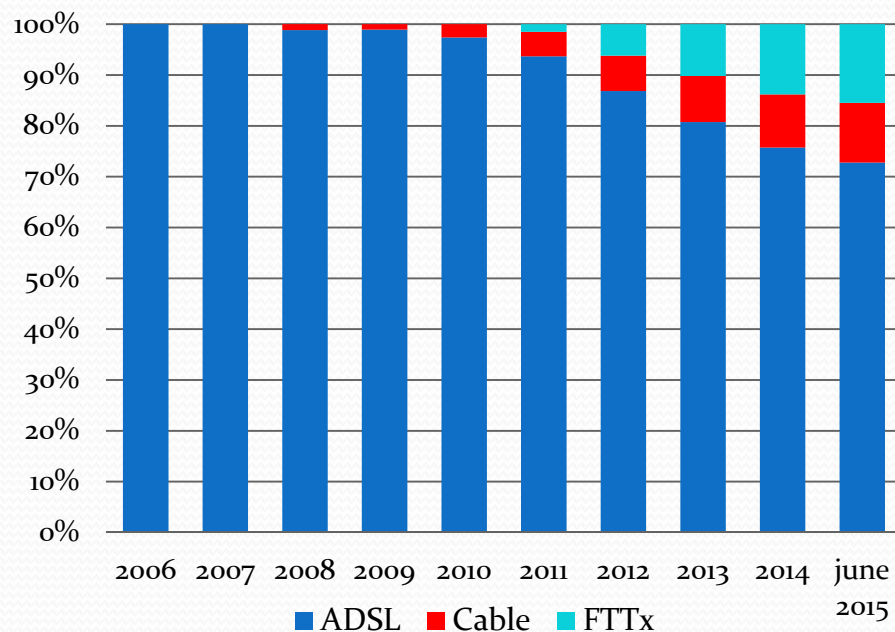


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Primary Internet access at a fixed location is provided via fixed technologies (ADSL, FTTx, Cable ...)

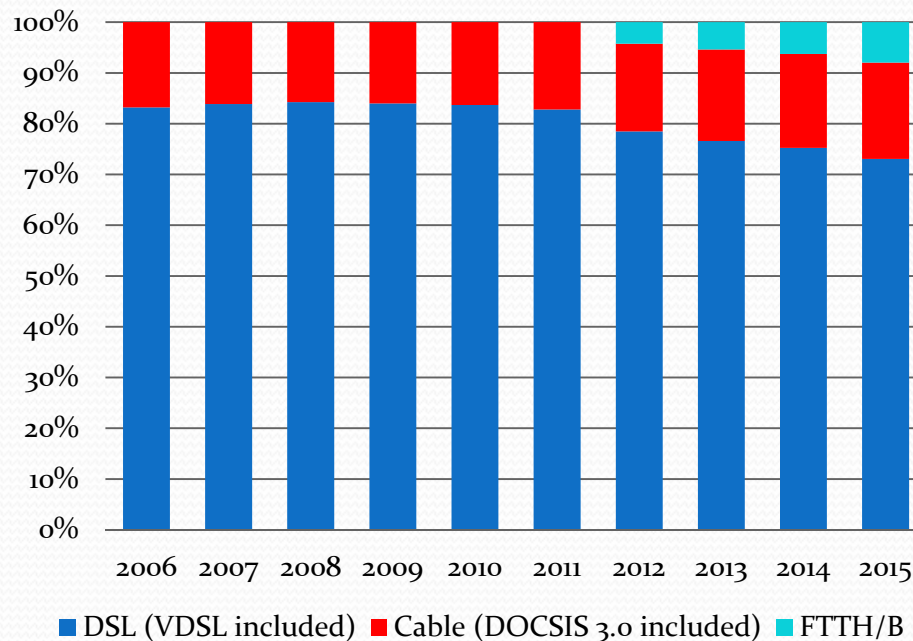
- FTTx have had rapid growth

Fixed broadband subscriptions-technology market ,
January 2006 - June 2015
Montenegro



Fixed broadband subscriptions - technology market shares at EU
level, January 2006 - January 2015

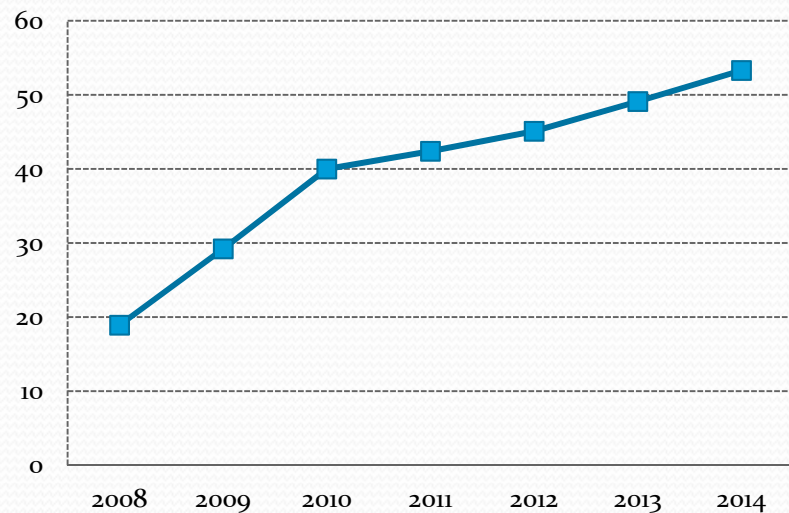
Source: Communications Committee



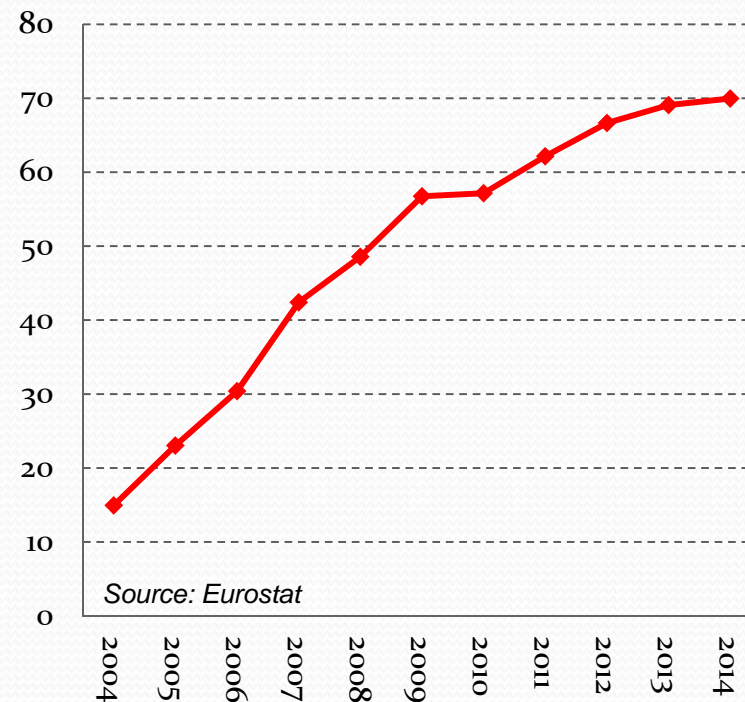
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- Penetration of fixed broadband access in Montenegro and the EU

Households in Montenegro having a (fixed) broadband subscription, 2008 - 2014



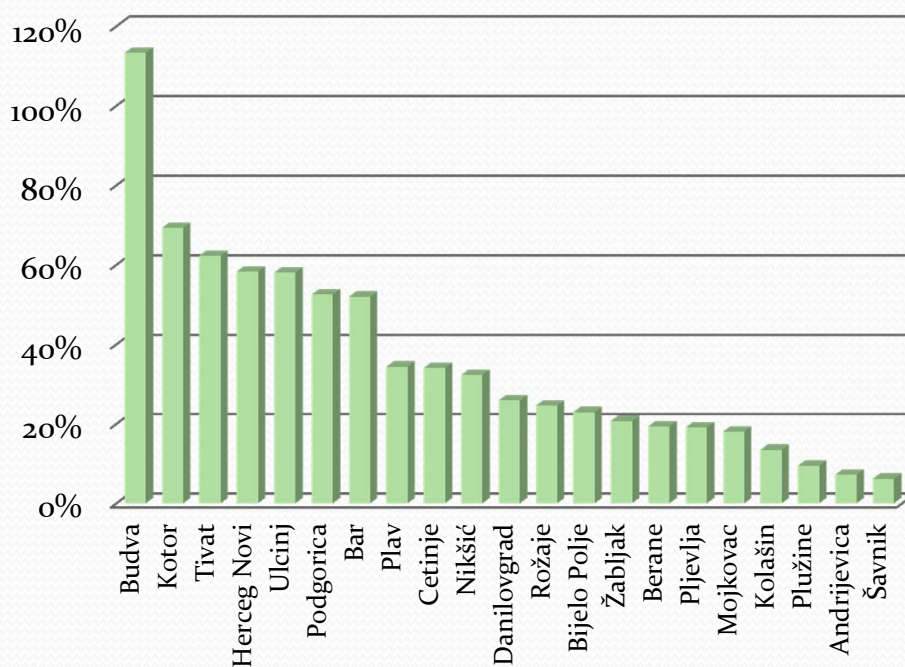
Households in EU having a (fixed) broadband subscription, 2004 - 2014



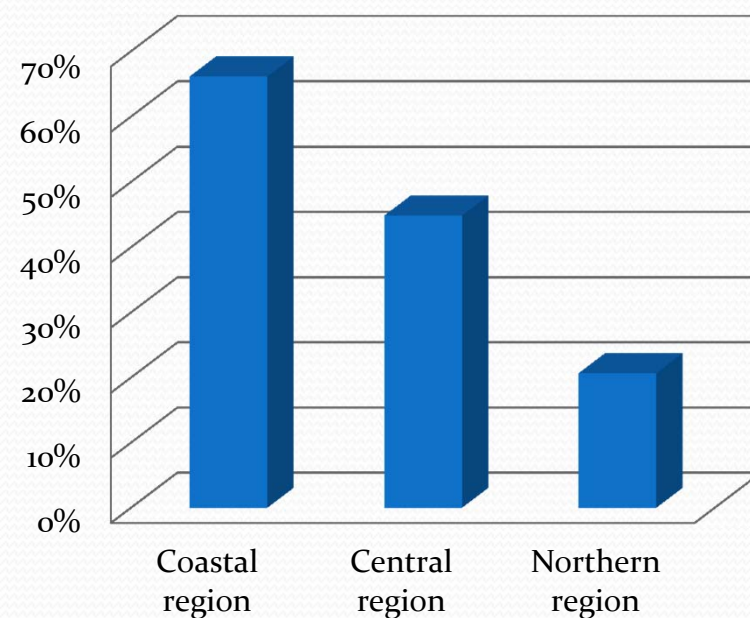
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- Penetration of fixed broadband access
 - different penetration in municipalities and regions

Households in Montenegro having a fixed broadband subscription by municipalities



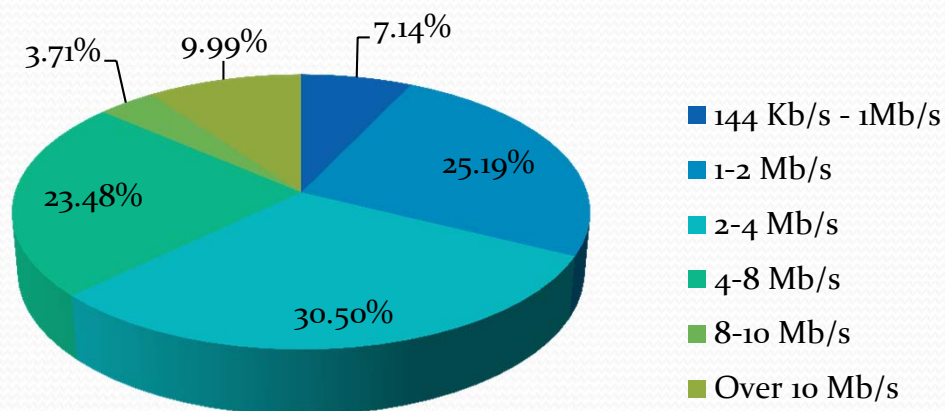
Households in Montenegro having a fixed broadband subscription by region



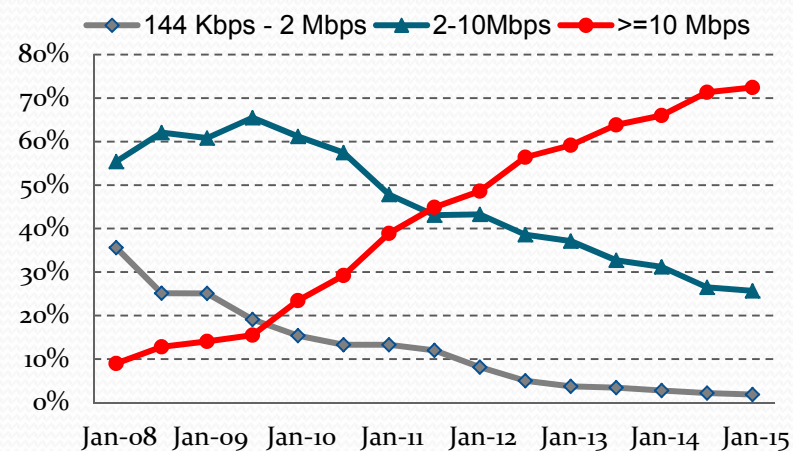
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- Number of fixed broadband users per access speed
 - most users use the 2-4 Mb/s package ~ (30,50%)
 - still a small number of users for >10Mb/s packages ~ 10%
- EU: 2% use packages whose speed is less than 2Mb/s
over 70% of users use packages of at least 10Mb/s

The number of Internet users in Montenegro by access speed



Fixed broadband subscriptions by headline speed at EU level,

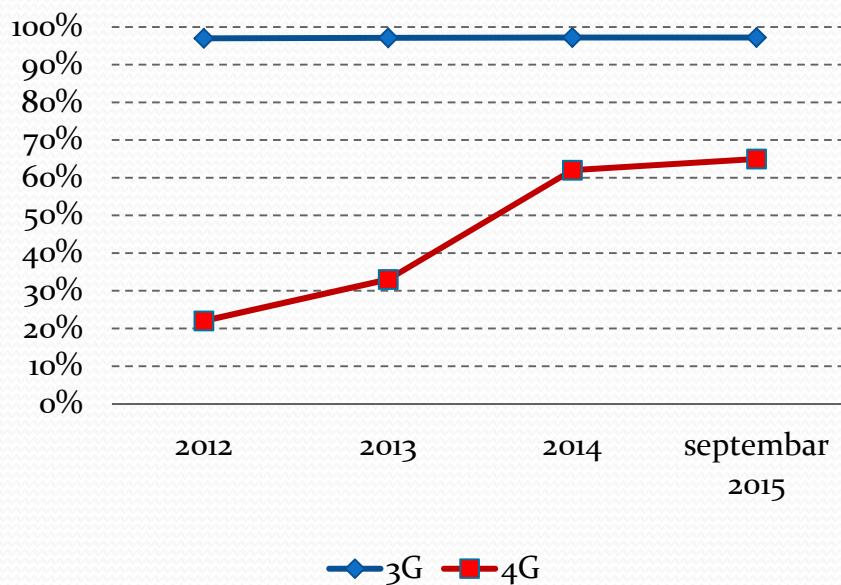


Source: Communications

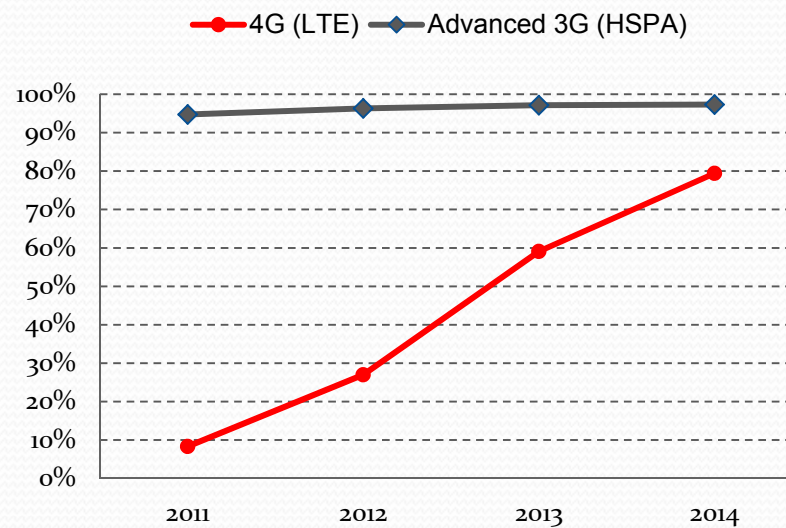
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- Mobile broadband access - coverage by 3G/4G signal

Mobile broadband coverage in Montenegro



Mobile broadband coverage in the EU, 2011-2014



Source: IHS, VVA and Point Topic

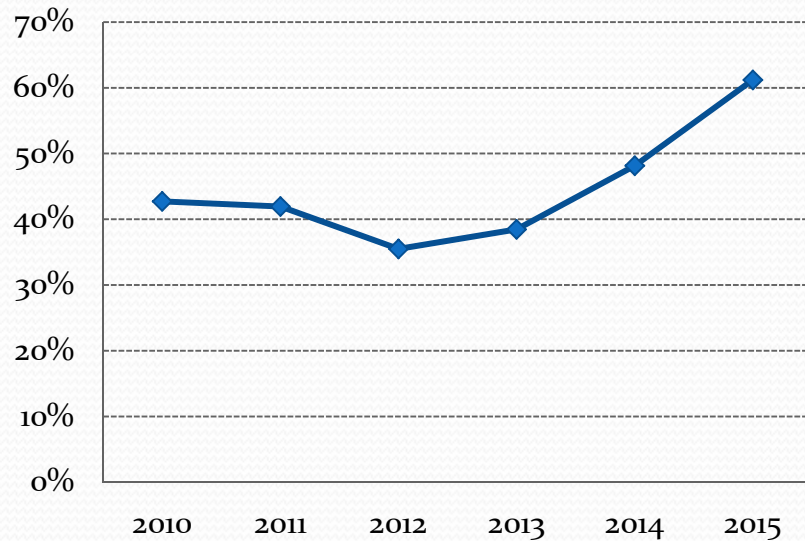
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Penetration of mobile broadband access

○ Montenegro:

61 active mobile broadband SIM cards per 100 people in Montenegro

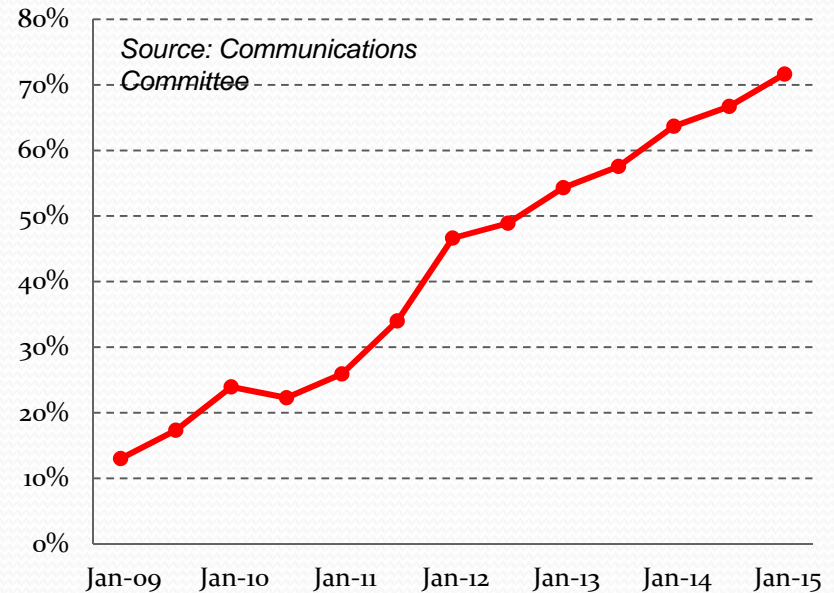
Mobile broadband penetration at Montenegro



○ EU:

72 active mobile broadband SIM cards per 100 people in EU

Mobile broadband penetration at EU level, January 2009 - January 2015



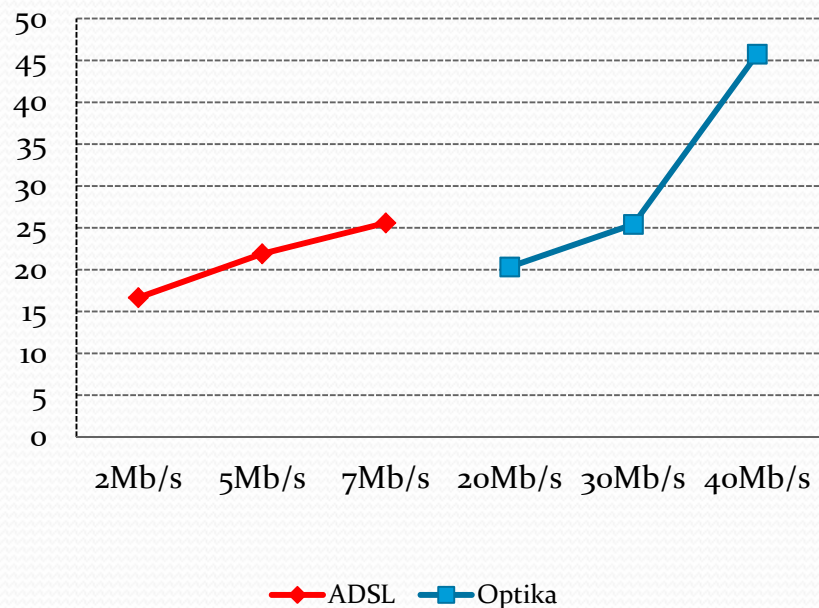
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Prices

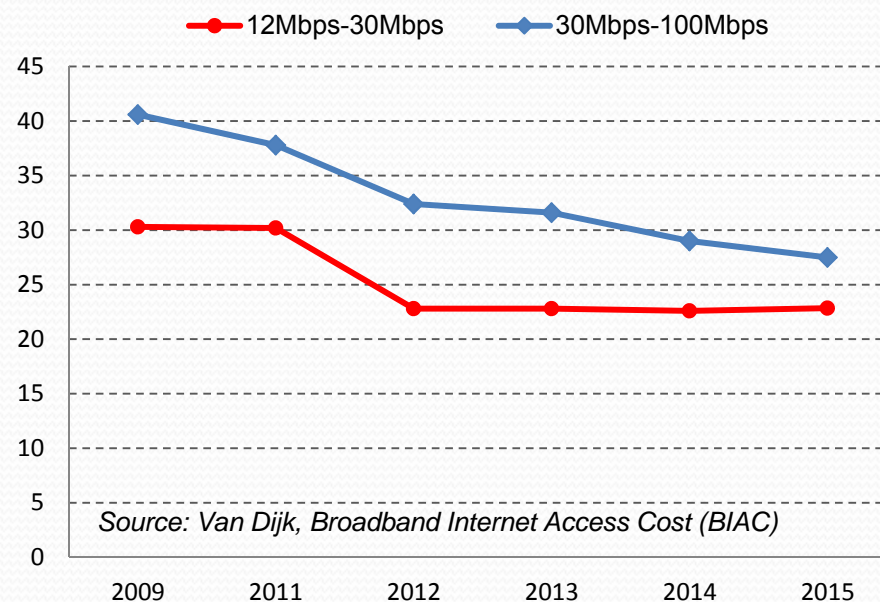
By order of the Agency Crnogorski Telekom decreased ADSL prices in December 2014 by an average of 35.78%

- Fl@t 2Mb/s = 16.66€ Optika 20=20.33€
- Fl@t 5Mb/s = 21.90€ Optika 30=25.42€
- Fl@t 7Mb/s = 25.59€ Optika 40=45.76€

Prices of Internet package of Crnogorski Telekom



Broadband retail prices (EUR PPP) – Standalone offers, 2009-2015



Source: Van Dijk, Broadband Internet Access Cost (BIAC)



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Measures to improve broadband access:

- Spatial planning documents contain recommendations for the construction of optical access networks
- Changing the construction of installations in residential and commercial buildings
- Transition to IMS
- Enhancing joint use of electronic communications infrastructure
- Enabling the use of the necessary radio-frequency spectrum
- Monitoring the quality of Internet access services
- Further reducing the price of broadband Internet access through enhancing competition
- Regulatory price control of SMP operators (Crnogorski Telekom) in the retail market of Internet access



Thank you!