

Development of NGA networks in Montenegro

Development of regulatory framework for
Digital Future

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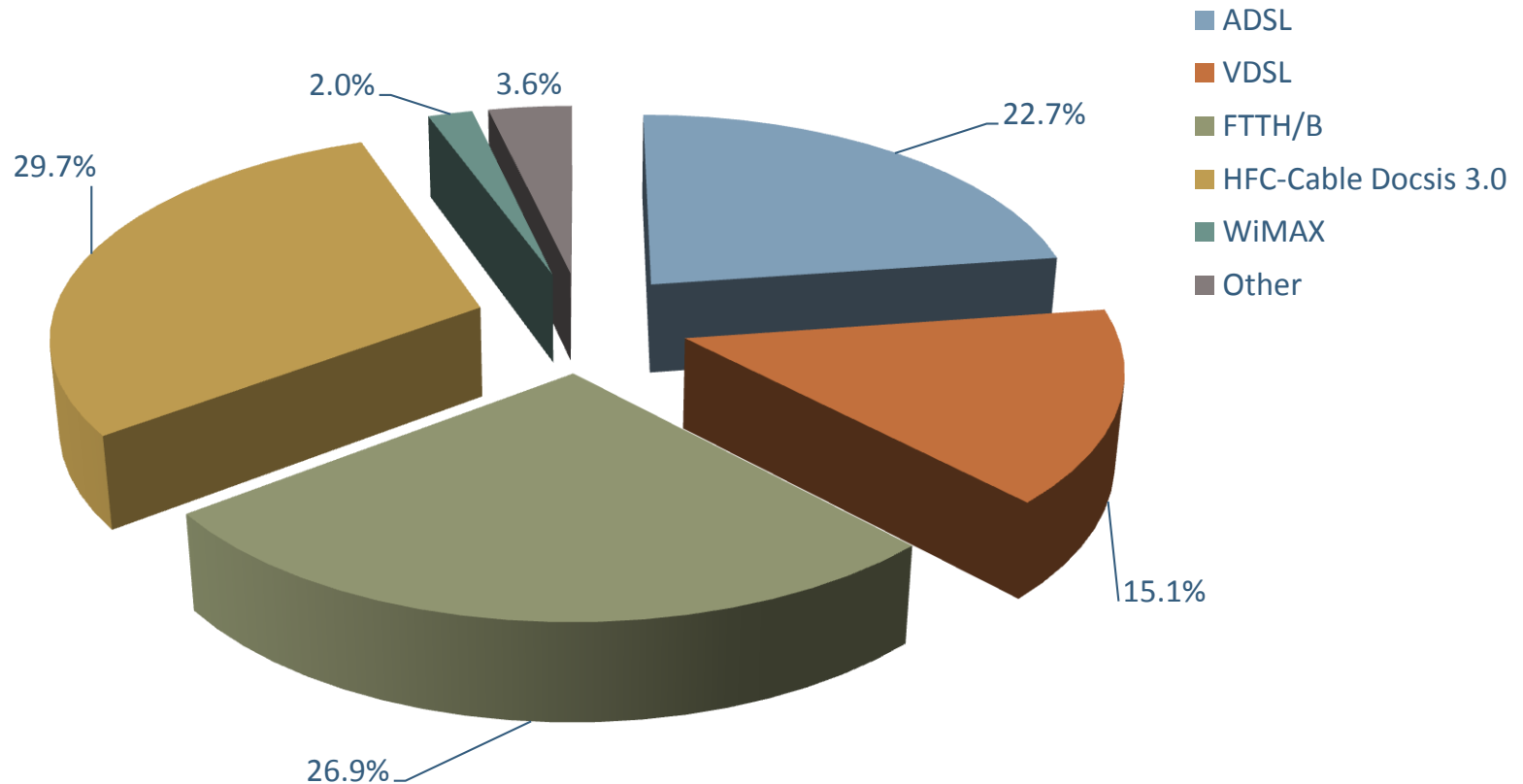
Agenda

- ISP
- Fixed broadband Internet access
- Mobile broadband Internet access
- Agency's activities for development of NGA
- Goals
- Future plans

Internet Service Providers

- Commercially active - 11 ISPs
- The biggest ISP - Crnogorski Telekom (incumbent)
- Consolidation of market (mergers/acquisitions)
- Bundled offers (Most of subscribers are using some form of bundled offers)
 - ▣ Double play
 - ▣ Triple play
 - ▣ Quadruple play

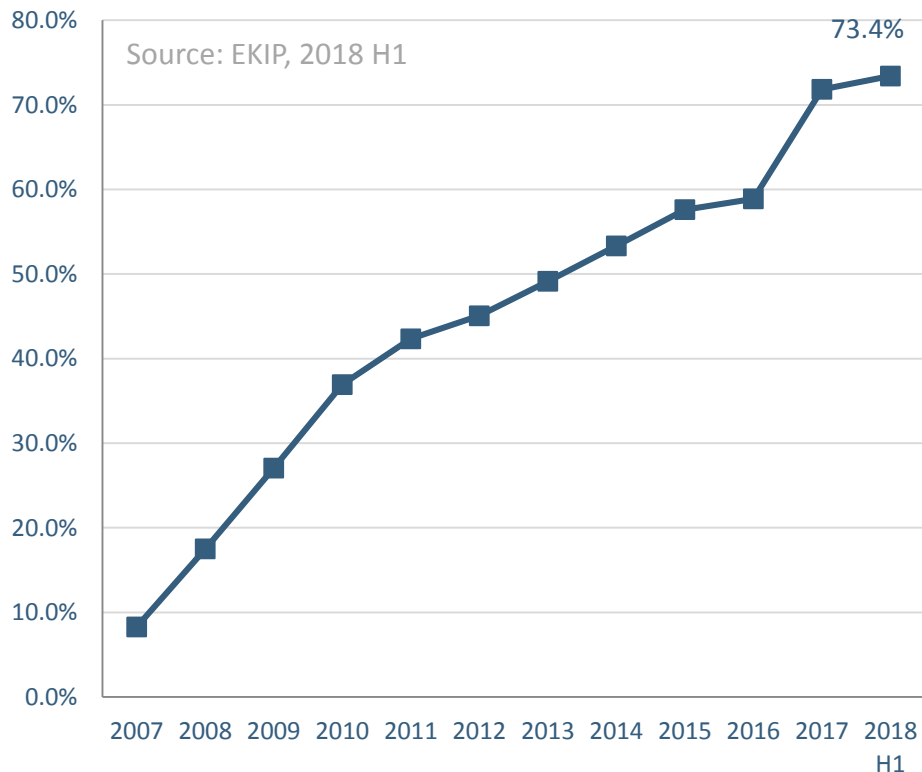
Share of different broadband technologies in total fixed Internet access subscribers



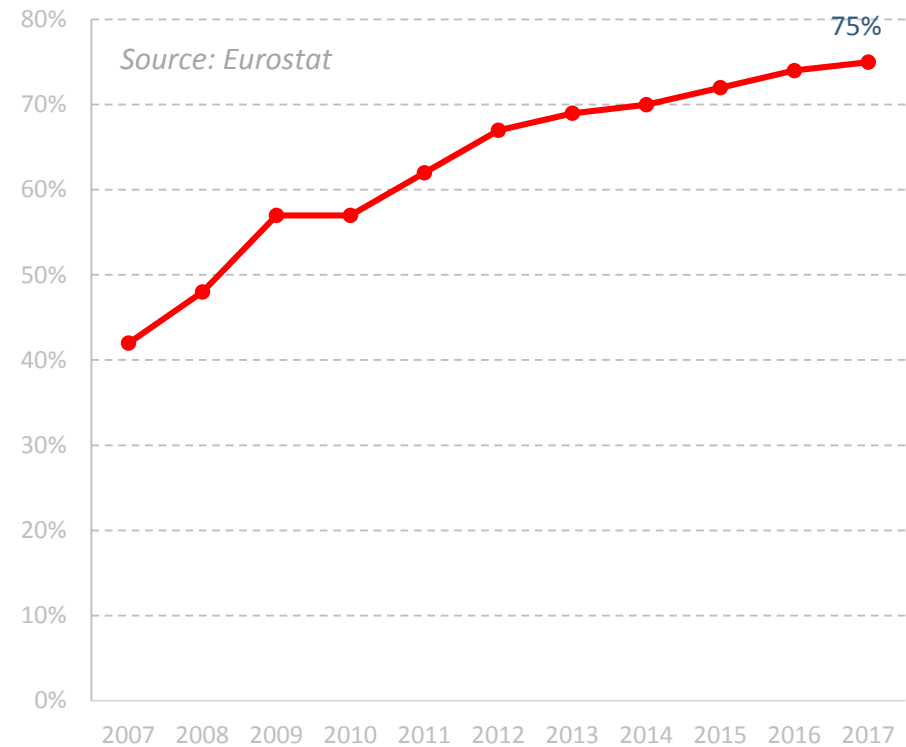
Source: EKIP, 2018-H1

Household penetration of fixed broadband Internet access

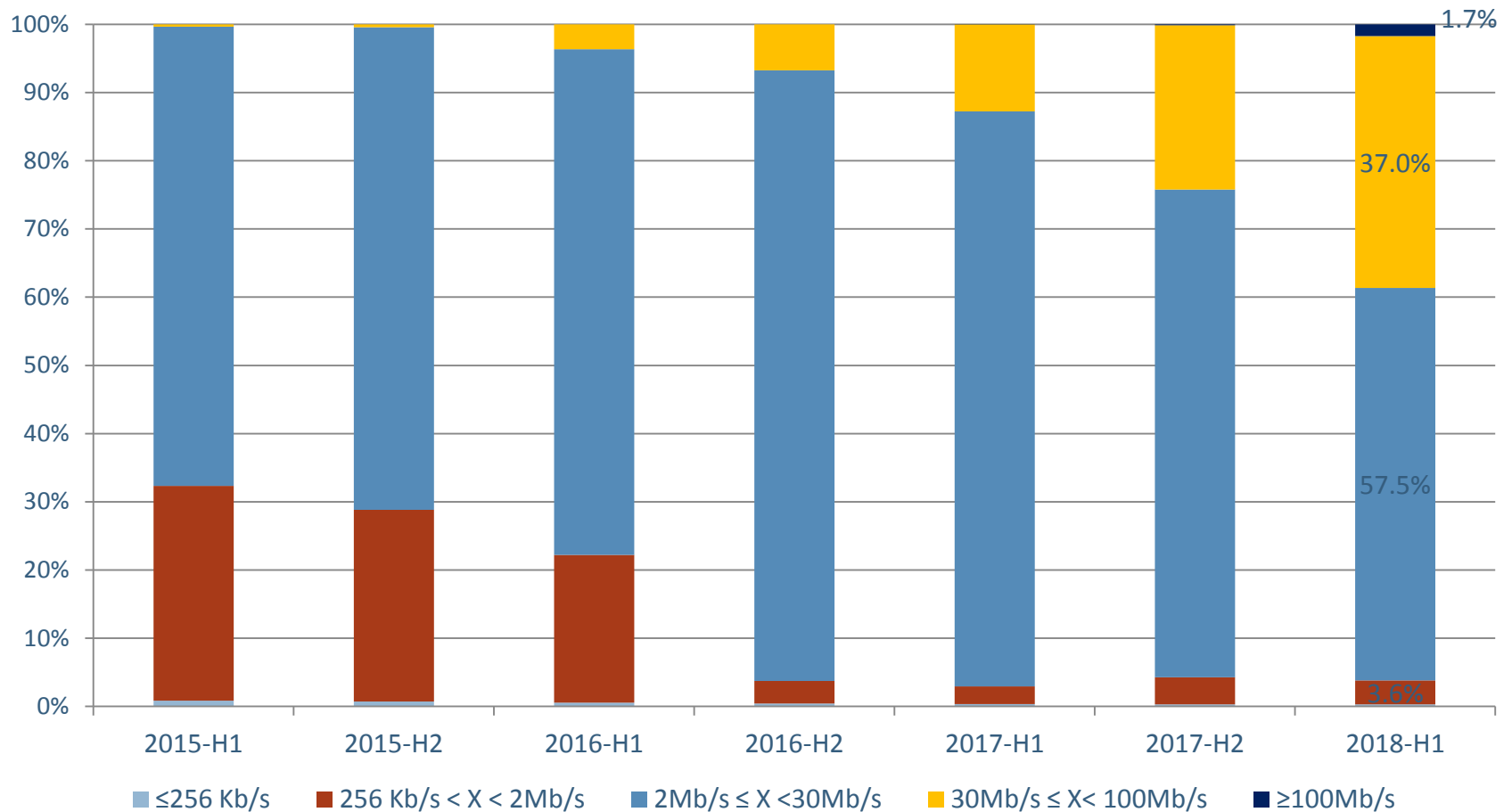
Households with a fixed broadband subscription in Montenegro, 2007 – 2018-H1



Households with a fixed broadband subscription at EU level (% of households), 2007 - 2017



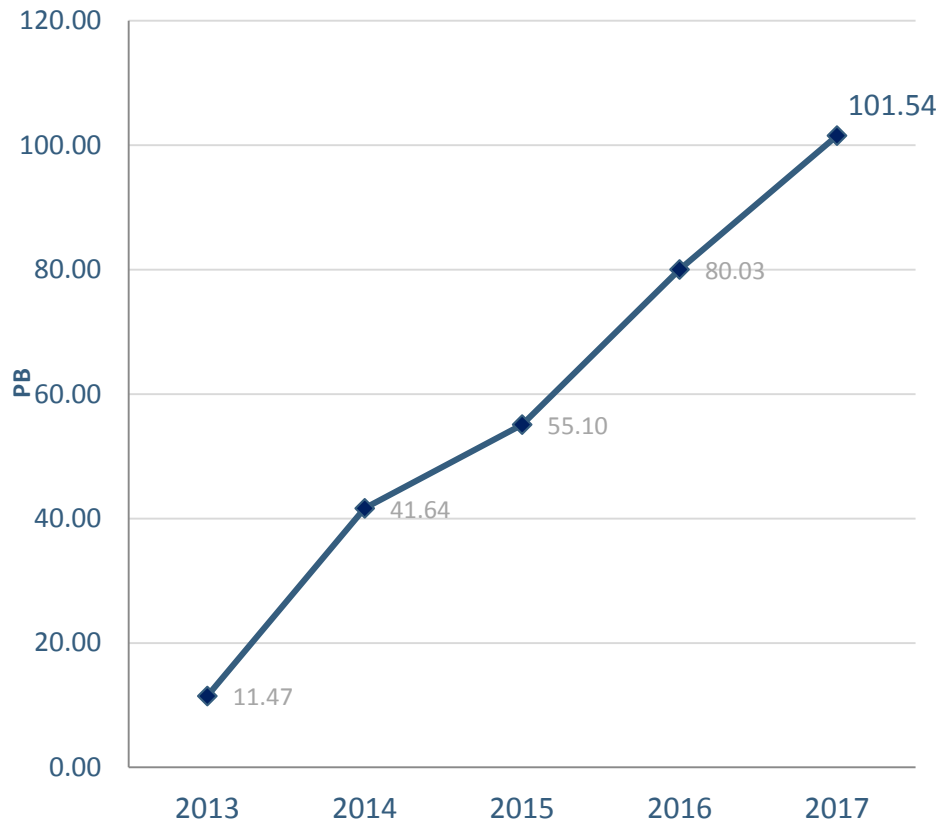
Internet access connection speeds for fixed broadband



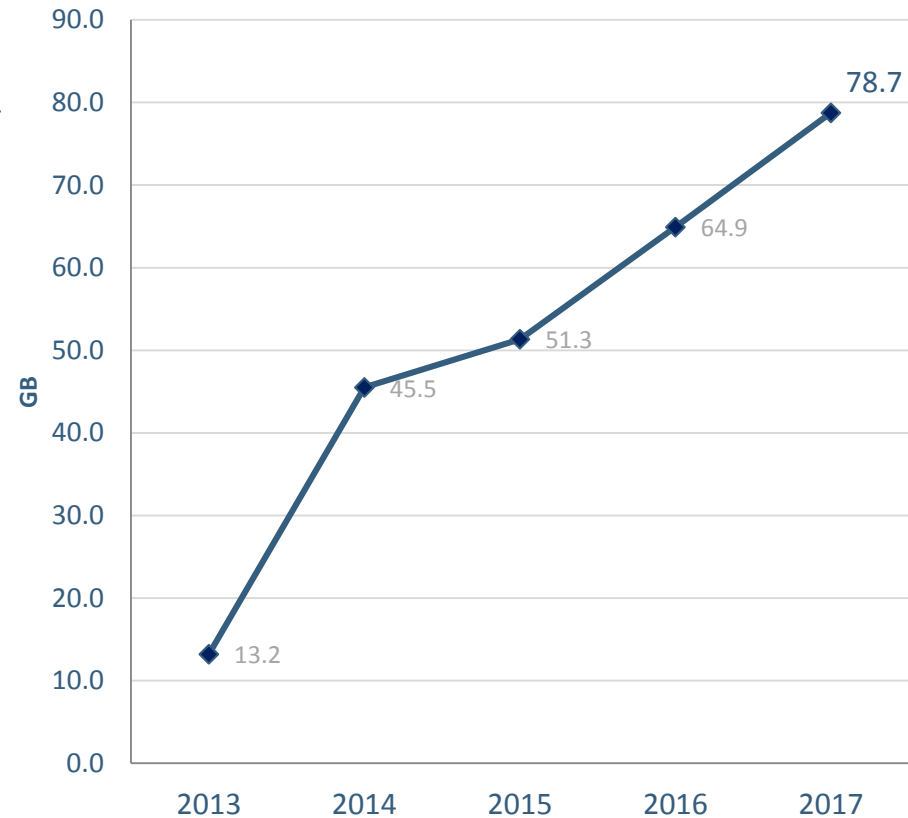
Source: EKIP, 2018 H1

Internet traffic in fixed networks

Internet traffic in fixed networks

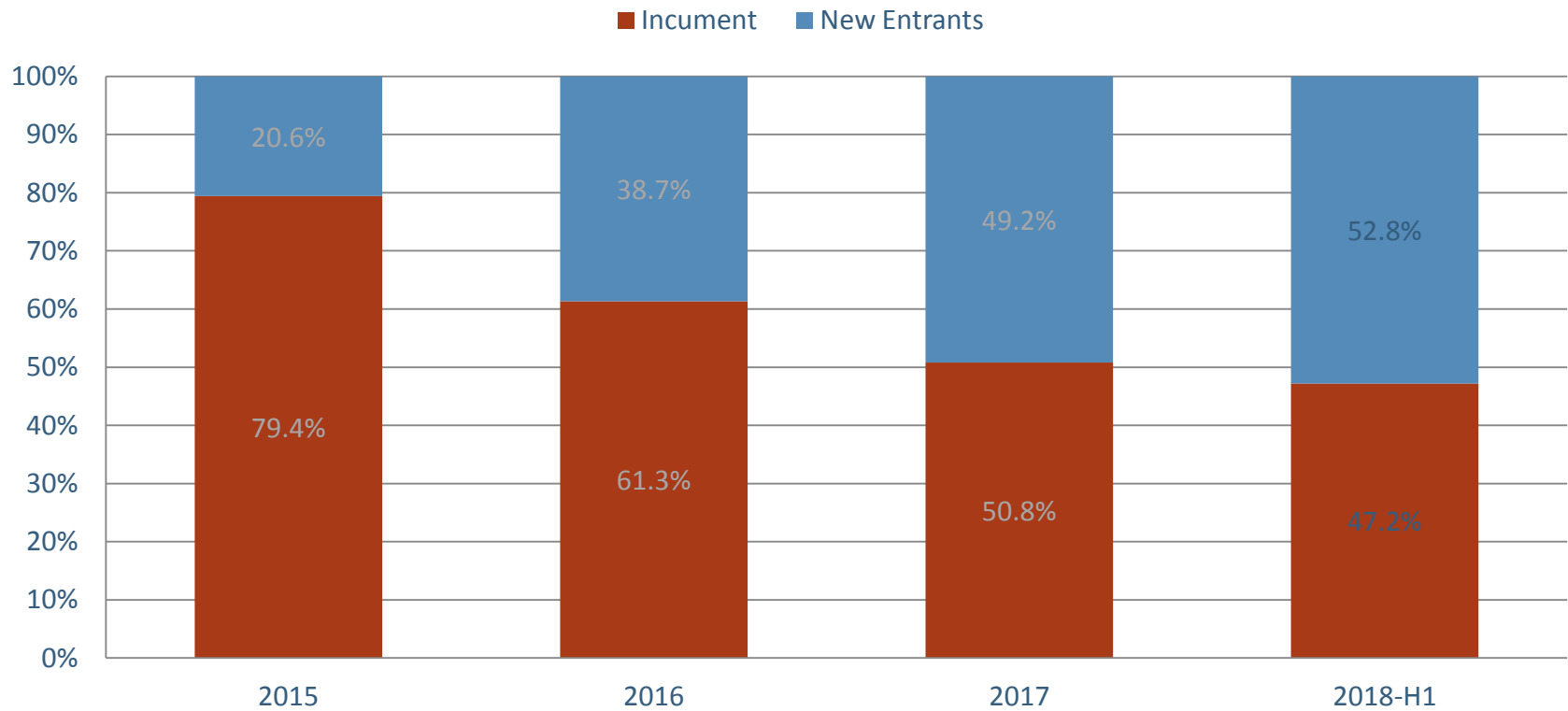


Monthly internet traffic in fixed networks per subscriber



Competition in fixed broadband Internet access

Fixed Internet access broadband subscriptions - operator market shares

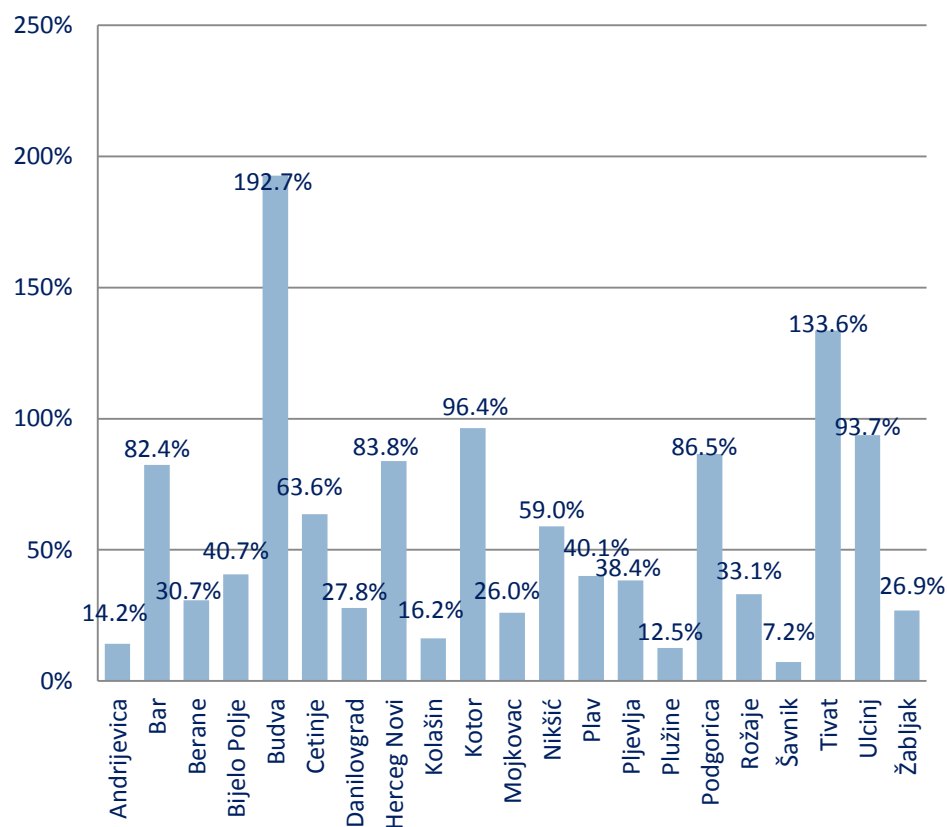


Competition in fixed broadband Internet access - geographic distribution

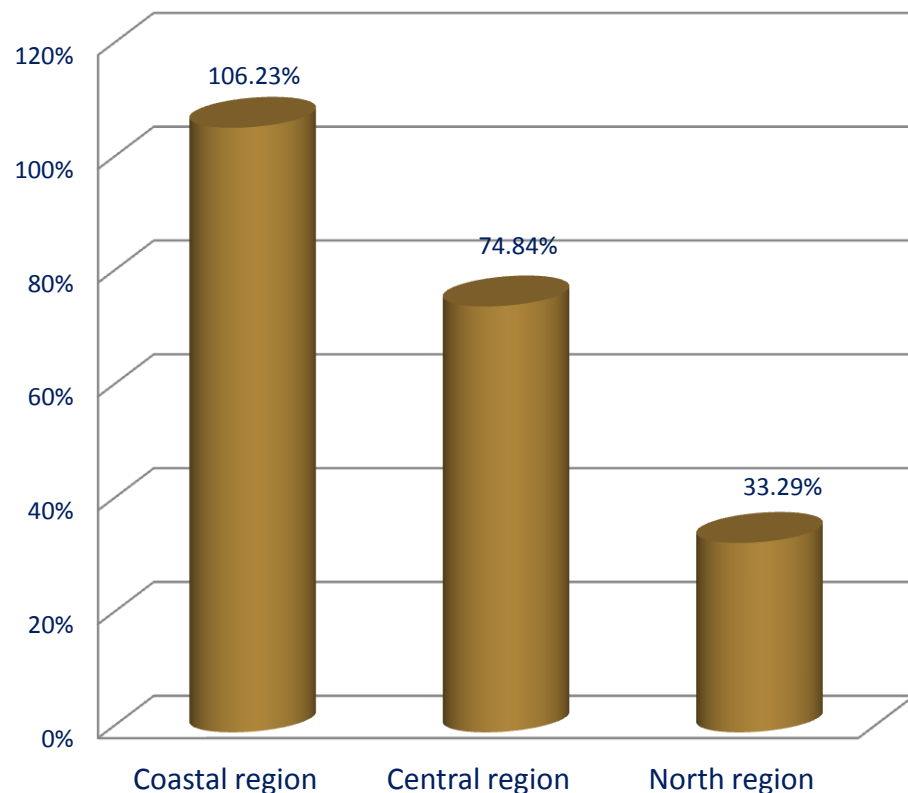
- 5 municipalities – 1 operator (3,3% population)
 - ▣ Plav, Plužine, Šavnik, Žabljak, Gusinje
- 3 municipalities – 2 operators (5% population)
 - ▣ Andrijevica, Danilovgrad, Kolašin
- 15 municipalities - ≥ 3 operators (91,7% population)

Household penetration of fixed broadband Internet access – geographic distribution

Household penetration of fixed broadband access – municipality level



Household penetration of fixed broadband access – regional level



Comparison with EU data

Montenegro

- NGA coverage - 68.2%
- NGA – 71.7 % of all fixed broadband subscriptions
- FTTH/B coverage – 53.9%
- FTTH/B – 26.9 % of broadband subscriptions;
- 29.5% Households with a fast broadband access (at least 30 Mb/s)
- 1.3% Households with an ultrafast broadband (at least 100 Mb/s)

Source: EKIP, 2018-H1

EU

- NGA Coverage - 80%
- NGA – 48 % of all EU fixed broadband subscriptions
- FTTH/B Coverage – 27 %
- FTTH/B - 13 % of EU broadband subscriptions.
- 33 % Households with a fast broadband access (at least 30 Mb/s)
- 15 % Households with an ultrafast broadband (at least 100 Mb/s)

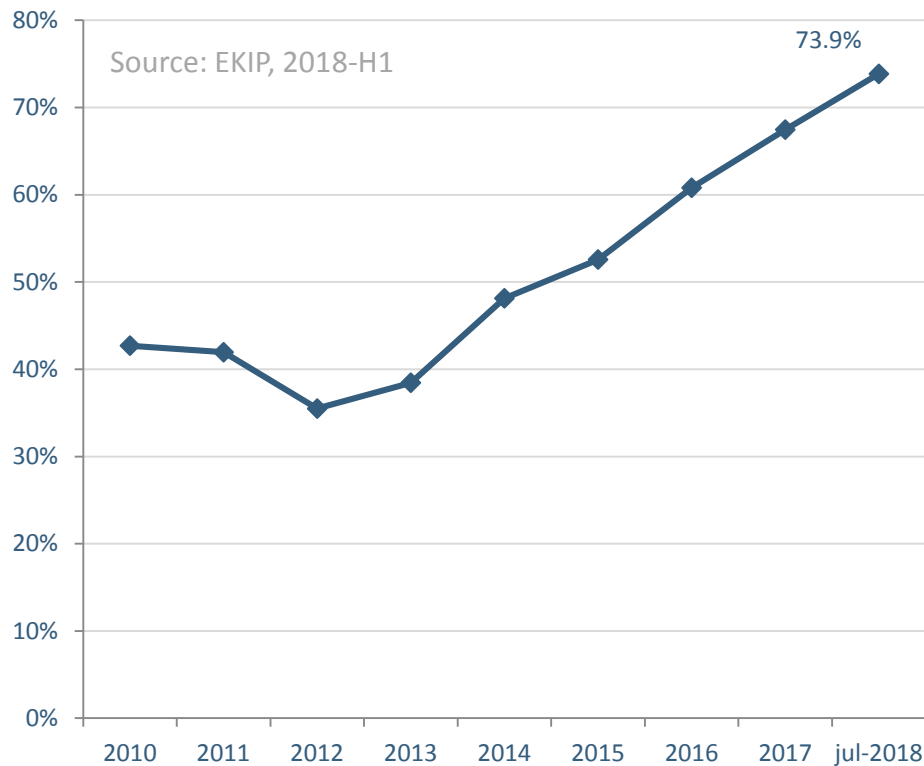
Source: DESI Report 2018 – Connectivity

4G mobile coverage

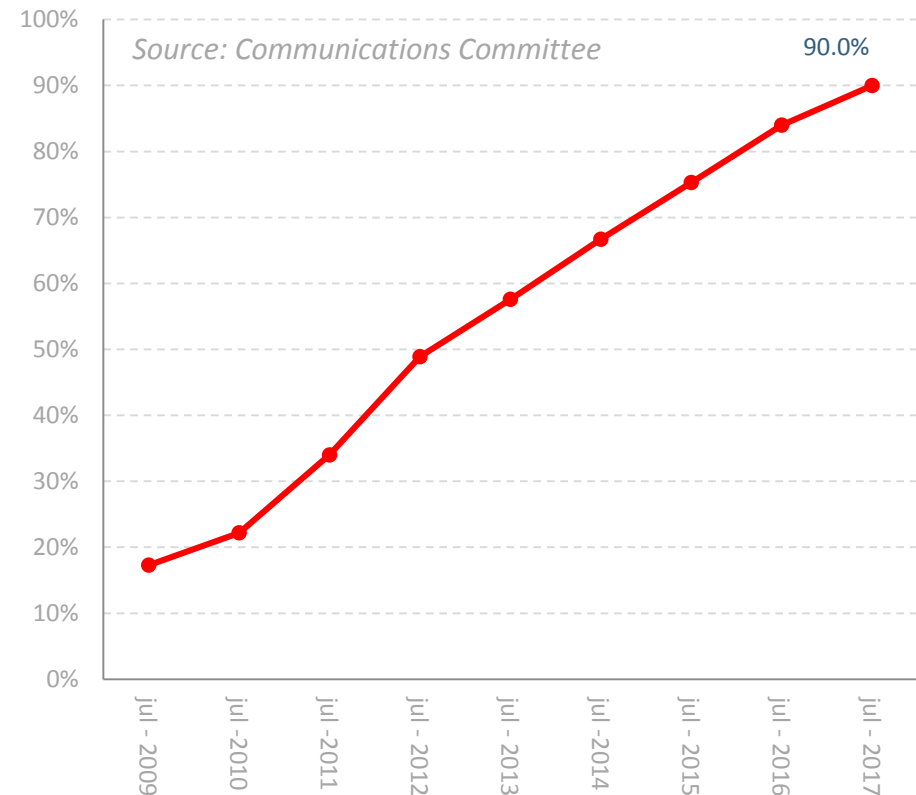
- All mobile operators implemented LTE and LTE Advanced technology (2CA & 3CA)
- 2018. – H1 > 97% populated area is covered with 4G network by two operators (-120dBm)
- Max download access speed depends of implemented technology, and reaching 375Mb/s

Penetration of mobile broadband Internet access

Mobile broadband penetration in Montenegro,
2010- July 2018

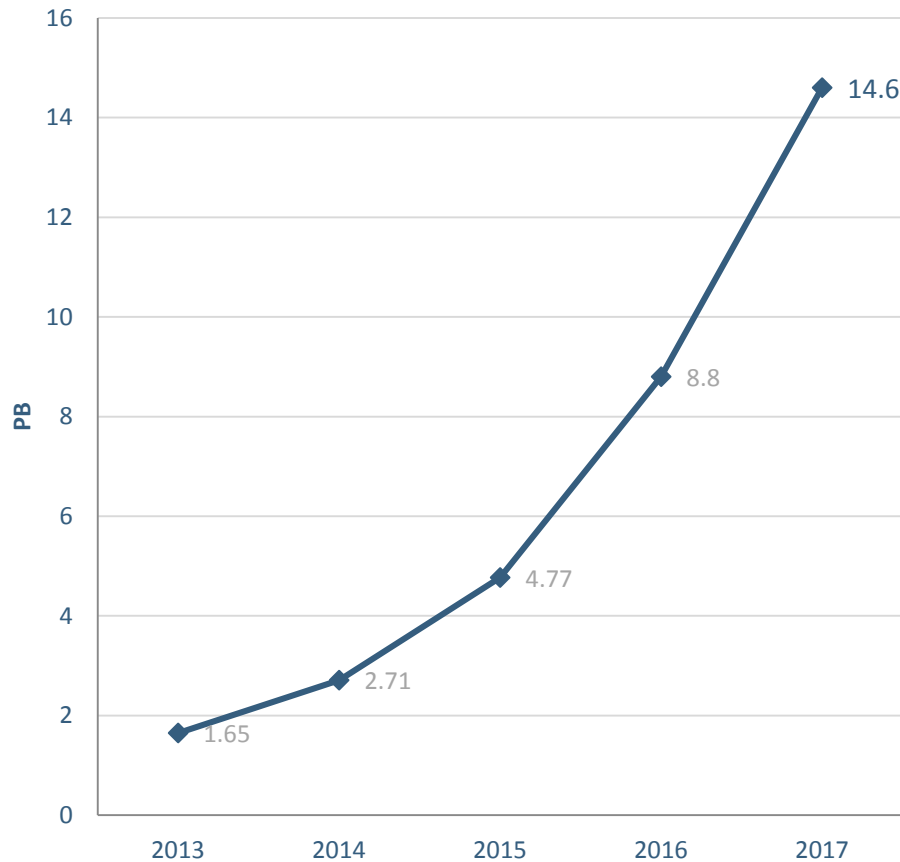


Mobile broadband penetration at EU level, July 2009 –
July 2017

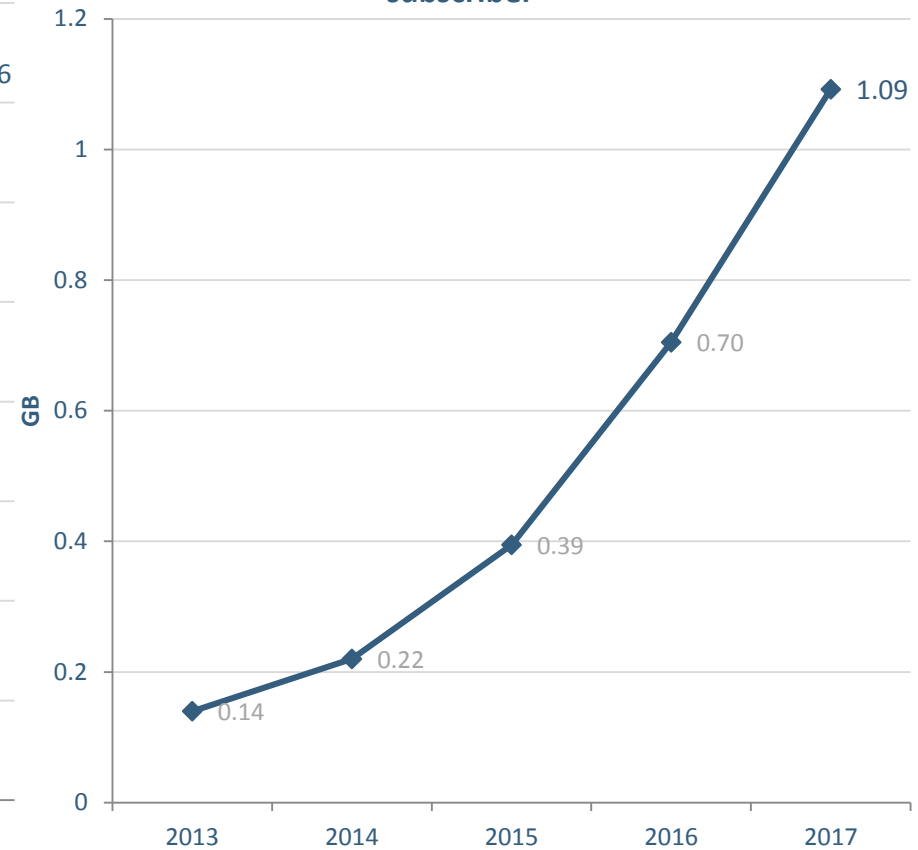


Internet traffic in mobile networks

Internet traffic in mobile networks



Monthly internet traffic in mobile networks per subscriber



Source: EKIPI, 2017

Agency's activities for development of NGA

- Shared use of electronic communications infrastructure (regulatory control of condition for use)
- Conditions for building electronic communications networks and infrastructures (Rulebooks and Recommendations on spatial planning documents)
- Establishing MIXP
- Mapping of electronic communications infrastructure
- Monitor of QoS for Internet access service
- Strengthening competition

Goals from Strategy for development of Information society 2020

Indicator	Data for 2016	2018 –H1	Goals for 2018	Goals for 2020
NGA coverage % of HH with NGA coverage NGA (30 Mb/s)	26,5%	68,2%	60%	100%
HH penetration of fixed BB connections % of HH using fixed BB access (2 Mb/s)	53,3%	73,4%	80%	100%
Share of fast broadband access connections % of fast BB fixed Internet access connections (30 Mb/s) In total number of fixed BB connections	3,6%	40,2%	30%	70%
HH penetration of ultrafast broadband connections % of HH using ultrafast broadband fixed access (100 Mb/s)	0%	1,3%	20%	50%

Future plans

- Strategy for development of information society 2020.
 - ▣ Coverage of broadband access 2Mb/s - 100% population 2018.
 - ▣ Coverage of fast broadband access >30Mb/s - 100% population 2020.
 - ▣ 50% of households should be subscribed to ultrafast broadband access >100Mb/s - 2020.
- Mapping of broadband access
- Ministry of economy plan to prepare draft Law on measures to reduce the cost of deploying high-speed electronic communications networks - Directive 2014/61/EU

Thank you!

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