EU Digital Progress Report - 2017

Telecoms chapter

SLOVAKIA

1. Competitive environment

Coverage	SK-2015	SK-2016	EU-2016
Fixed broadband coverage (total)	86%	88%	98%
Fixed broadband coverage (rural)	83%	91%	93%
Fixed NGA coverage (total)	67%	75%	76%
Fixed NGA coverage (rural)	24%	38%	40%
4G coverage (average of operators)	n/a	80%	84%

Source: Broadband Coverage Study (IHS and Point Topic). Data as of October 2015 and October 2016

Fixed Broadband Market

There seems to be further improvement on total fixed broadband coverage and next-generation access (NGA) coverage. Rural NGA coverage improved significantly over 2016 with 38% of the rural population being covered with NGA compared to 24% in 2015. This is close to the EU average of 40%[1]. 4G coverage is at 80% (versus 84% at EU level).

New entrants' DSL subscriptions by type of access (VDSL excluded)	SK-2015	SK-2016	EU-2016
Own network	0%	0%	0.7%
Full LLU	0.3%	0.3%	75.3%
Shared access	-	-	4.1%
Bitstream	99.7%	99.6%	13.4%
Resale	-	-	6.6%

Source: Communications Committee. Data as of July 2015 and July 2016.

Fixed broadband market shares	SK-2015	SK-2016	EU-2016
Incumbent market share in fixed broadband	34.7%	34.2%	40.7%
Technology market shares			
DSL	38.8%	37.1%	66.8%
Cable	12.6%	12.9%	19.1%
FTTH/B	26.2%	26.9%	10.7%
Other	22.4%	23.1%	3.4%

Source: Communications Committee. Data as of July 2015 and July 2016.

Charges of Local Loop Unbundling (monthly average total cost in €)	SK-2015	SK-2016	EU-2016
Full LLU	5.4	5.4	9.2
Shared Access	2.5	2.5	2.4

Source: Communications Committee. Data as of July 2015 and July 2016.

As regards fixed-to-mobile substitution there was a decrease in the total traffic over fixed network compared to 2015. Fixed traffic share made up 8% of total traffic during the first half of 2016. The remaining 92% goes through mobile networks. Mobile network coverage in the Slovak Republic is close to 100%.

[1] As of October 2016.

One operator offers a retail fixed connection product to provide a public telephone service via its own mobile network. Customers who use this product are offered SIM cards for fixed use; i.e. with restricted mobility.

Regarding the market shares of different technologies, DSL technology still prevails with almost 40%, although this is decreasing. In second place is fibre-to-the-x (FTTx) technology, which is gaining importance at the expense of DSL and to an extent Wi-Fi/ fixed wireless access (FWA) technologies. Cable technology is still stable in fourth position. The most obvious and expected trend on the Slovak broadband market is the decrease of DSL, with FTTx increasing as a result. The dominant category as regards speed is =2 Mbps and 'up to' 10 Mbps for download speeds. The vast majority of DSL subscriptions are provided within this speed category, followed by Wi-Fi technology. DSL technology is also being provided in the =10 Mbps category, reaching speeds of up to 30 Mbps, mainly due to the deployment of VDSL technology. FTTx and cable technologies dominate in speed categories with download speeds of more than 30 Mbps.

Subscription numbers in Slovakia have increased over time for both incumbent and alternative operators. Nevertheless, the incumbent's (Slovak Telekom) market share has been declining. This means that the overall broadband market is growing in size, with alternative operators gaining a higher share of new subscriptions.

Many broadband service providers are trying to attract customers through bundled offers. Triple-play deals made of (a) voice, (b) broadband and (c) TV are the most widespread combinations of services in Slovakia, followed by double-play: (a) TV and (b) broadband. Subscription to both sets of services increased within the reporting period.

There are three predominant technologies in the retail market: xDSL with more than 40% market share; FTTx with more than 30% market share; and cable TV with more than 10% market share.

The predominant FTTx technology is fibre-to-the-business (FTTB) with a share of over 55% and fibre-to-the-home (FTTH) with a share of over 40%.

According to the Slovak National Regulatory Authority, RÚ, the incumbent operator has announced a massive roll-out plan for the next 3 years. This includes investment in FTTH, FTTB and VDSL technology, covering 85-95% of households. The biggest competitor to the incumbent operator intends to double its NGA coverage in the near future. The NGA market segment is more competitive than the DSL segment. The market is highly fragmented in Slovakia, with tens of local NGA service providers and several nationwide telecommunications companies (telcos).

The lowest fixed broadband price, with speeds of 12-30 Mbps or over, is €15.36, compared to €21.33 at EU level.[2] FTTB is provided mainly by local alternative operators trying to compete with the largest nationwide operators. Decreasing broadband prices show there is strong competition between providers in urban areas of Slovakia.

[2] Source: Fixed broadband prices in Europe in 2016 (Empirica). Prices expressed in EUR/PPP, VAT included. Data as of autumn 2016.

Mobile market

Mobile market	SK-2015	SK-2016	EU-2016
Market share of market leader	43%	37%	34%
Market share of second largest operator	31%	33%	28%
Number of MNOs	4	4	-
Number of MVNOs	2	1	-
Market share of MVNO (SIM cards)	-	-	-

Source: Communications Committee. Data as of October 2015 and October 2016.

There are four mobile operators in Slovakia: the incumbent (Slovak Telekom), Orange Slovensko, O2 Slovakia and the fourth, most recent mobile market entrant SWAN Mobile (whose brand name is 4ka). SWAN signed up more than 250,000 customers in its first year of operation (2016). Slovak Telekom, Orange Slovensko, and O2 Slovakia, under their licencing conditions, have to provide the fourth market entrant SWAN with wholesale national roaming However, no deals have been signed so far. Negotiations on this between Slovak Telekom and SWAN appear to be relatively advanced, with the two sides agreeing on the technical aspects of a deal, but not yet on prices. O2 Slovakia also provides its retail services through wholesale national roaming from Slovak Telekom without any major problems being reported.

Mobile broadband prices	SK-2015	SK-2016	EU-2016
Least expensive offer for handset (1 GB + 300 calls basket)	50	44	30
Least expensive offer for tablet and laptop (5 GB basket)	25	28	18

Source: Mobile Broadband Price Study (Van Dijk). Prices expressed in EUR/PPP, VAT included. Data as of February 2015 and February 2016.

New services available via mobile include money withdrawals from cash machines, payment services, payment of public traffic charges (such as congestion charges) or for car parking via text message.

According to RÚ, the number of standard mobile subscriptions increased during the reporting period, while the most rapid growth occurred in the add-on data packages category. Stand-alone broadband subscriptions remained stable.

2. Supporting deployment and investment in high speed networks

a. Spectrum

Harmonised band	MHz spectrum assigned[3]	% of the harmonised band assigned
700 MHz	-	0%
800 MHz	60	100%
900 MHz	61.6	88%
1500 MHz	-	0%

[3] Including guard bands.

1800 MHz	132.4	88%
2000 MHz paired	120	100%
2600 MHz	190	100%
3400-3600 MHz	200	100%
3600-3800 MHz	120	60%

Slovakia has already assigned 884 MHz (81.1%)[4] out of the total amount of 1090 MHz of harmonised spectrum available for wireless broadband (including the 700 MHz band).

RÚ completed the assignment of the 3.5 GHz frequency band (3.4-3.6 GHz) in 2016. Frequency licences were assigned through electronic auction to three operators for the whole country (O2 Slovakia, SWAN and Slovanet). These run until August 2025.

However, the assignment procedure for the 3.7 GHz frequency band (3.6-3.8 GHz) is still ongoing. RÚ has started the assignment process for the remaining frequencies in this band concerning two segments: the 3600-3640 MHz and the 3760-3800 MHz bands. Licences for these frequencies are granted locally at district level. The first tenders were published in August 2016 and November 2016; calls continue to be published and new licences to be issued for use of the 3.7 GHz (3.6-3.8 GHz) band throughout Slovakia. The assignment procedure is expected to be finished in 2017. The planned use of frequencies assigned in 3.4-3.8 GHz band is for fixed wireless broadband access.

b. EU and national investments in broadband

Implementing Slovakia's national broadband plans has been challenging. In particular the *'Atlas for passive infrastructure'*, which aimed to map fixed and mobile telecom infrastructure, was suspended by the Ministry in charge in August 2016 due to a lack of detailed prior analysis and impact assessments. Building a backhaul network (mostly fibre) in what are called 'white areas' (i.e. areas not covered by broadband) at speeds corresponding to EU targets of at least 30Mbs per second, has become a priority as it is considered of strategic importance for broadband roll-out in the country. The cost would exceed €100 million.

RÚ and the Slovak National Agency for Network and Electronic Services (NASES) play active roles in mapping white areas (methodology, forms), in line with the broadband guidelines' recommendation, alongside the Office of the Slovak Deputy Prime Minister for Investment and Informatisation, which has the leading role.

The implementation of a State aid scheme approved by the Commission for deploying broadband connection in white areas in Slovakia SA.33151 (2011/N) was postponed due to a long process of public procurement. The duration of the scheme expired at the end of 2015. A new public consultation on white areas was launched in 2016 with the final list expected to be presented in 2017[5]. Such a list would serve as a basis for building backhaul networks.

[4] This percentage slightly differs from the one used in the EDPR country profile following feedback from the authorities concerned and reflected in the above table.
[5] Following the public consultation, the Ministry is fine-tuning a list of roughly 200 white areas.

The business model for deploying broadband is designed as a DBO model (design-build-operate, by a public company), following best practices from other countries (e.g. Lithuania, Poland). The model, which includes the use of dark fibre wholesale products, was approved by EU's JASPERS Group, with whom the Slovak authorities consulted with on the feasibility study.

In addition, Slovakia plans to support broadband deployment through a demand-oriented project that supports building last-mile connection in places where the market fails. The financing model for building last-mile networks has not yet been decided.

c. State of transposition of the Broadband Cost Reduction Directive

The transposition deadline expired on 1 January 2016. By 30 November 2015 Slovakia had only partially transposed the Broadband Cost Reduction Directive 2014/61/EU (BB CRD), with the only exception of provisions related to the establishment and operation of the Single Information Point (SIP), therefore infringement proceedings were opened in March 2016. According to the Slovak authorities, a legislative proposal to complete the transposition of those pending provisions of Directive 2014/61/EU which are still pending, should be discussed and subsequently adopted by the Slovak National Council during 2017.

3. Regulatory function

The business market is considered to be strongly competitive in Slovakia. Given the low, not difficult to overcome barriers of entry, telcos are able to compete with the incumbent operator with their own fibre or wireless access infrastructure in licenced bands. The market for wholesale high-quality access provided at a fixed location (market 4) is therefore considered to be competitive and has no *ex-ante* obligations.

After having carried out the three-criteria tests on former market 1 (fixed retail access market) and former market 2[6] (wholesale fixed call origination market) RÚ took these markets off their list of relevant markets.

The decision was taken to cancel Slovak Telekom's status as an undertaking with significant market power (SMP). This included the withdrawal of all the regulatory obligations imposed on Slovak Telekom concerning the market for wholesale high-quality access provided at a fixed location in Slovakia (market 4, formerly market 6). Having consulted the European Commission, the Slovak authorities are currently preparing SMP decisions concerning Slovak Telekom on markets 3a and 3b.

RÚ requested that the European Commission extend the review period concerning the analyses of markets 3a, 3b and 4. This consultation has now finished. On 18 November 2016, RÚ submitted to the European Commission the market analyses on markets 1 and 2 for consultation. There are currently no markets outside the Recommendation on Relevant Markets that are subject to review.

[6] Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services:
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:344:0065:0069:en:PDF

The Commission's Recommendation on Termination Rates (both mobile termination rates, MTR and fixed termination rates, FTR) have been set in price decisions and are based on the pure BU-LRIC ('bottom up long-run incremental cost') model. As a result of the Commission's Recommendation on NGA networks, RÚ imposed an obligation of access to fibre networks on markets 3a and 3b.

RÚ aims to follow the Commission's Recommendation on non-discrimination and costing methodologies. According to RÚ, the share of DSL-BSA based providers increased rapidly over the last 3 years. There has been extensive investment in fibre in urban and sub-urban areas, with strong competition between providers. Broadband prices went down, while the quality of download/upload speeds in line with other parameters keep improving. The incumbent operator was forced to deploy new DSL technologies as well as fibre in some areas. In the second half of 2016 the incumbent operator announced a nationwide increase in download speeds for all active customers, without additional charges.

Regarding developments in regulated MTRs, in August 2013 RÚ issued the price decision based on the pure BU-LRIC model. The calculated price is still valid. No glide path or asymmetry was set by RÚ. After the final round of consultation on market 2, RÚ was planning to issue a new price decision based on the BU-LRIC PURE model. Long-term evolution (LTE) technology has been incorporated into the new model, which will be used for the price calculation. The data collection was completed by the end of 2016 and based on that the final price decision is expected to be issued in the second half of 2017.

4. Consumer issues

Number portability

Number portability		SK-2015	SK-2016
Fixed	Number of transactions [1]	82,986	71,090
	Transactions as a % of total numbers [1]	3.0%	3.0%
	Maximum wholesale price [2]	10	10
	Maximum time under regulation (number of working days) [2]	4	4
Mobile	Number of transactions [1]	156,410	162,943
	Transactions as a % of total numbers [1]	3.0%	3.0%
	Maximum wholesale price [2]	2	2
	Maximum time under regulation (number of working days) [2]	4	4

[1] Source: Communications Committee. Data as of January to September 2015 and January to September 2016
[2] Source: Communications Committee. Data as of October 2015 and October 2016.

Transparency

RÚ has created a web search engine and comparison website. Consumers can compare offers from individual companies providing broadband including additional services. Such comparison tools are available on: http://porovnavacinternetu.sk. In 2016, RÚ added a price comparison tool to the website. Users can find prices on fixed broadband access, in particular according to address, price, type of connection, transmission speed, data limit and bundle type.

Roaming

In Slovakia in the first quarter of 2016, the average retail Eurotariff price for roaming was €0.095 per minute for outgoing calls (lower than the EEA average of €0.112 per minute) and €0.034 per minute for incoming calls (higher than the EEA average €0.026 per minute). Alternative tariffs were more expensive for outgoing calls (€0.144 per minute versus €0.138 per minute in the EEA), but cheaper for incoming calls (€0.023 per minute versus 0.046 per minute in the EEA). The average retail Eurotariff for text messages was €0.032 per text (much cheaper than the EEA average of €0.047 per text). As regards data, the price was €0.038 per Mb (much cheaper than the EEA average of €0.047 per Mb).[7] RÚ shall impose on an undertaking that has not fulfilled or has violated any of the obligations under the EU roaming rules, a penalty from €200 up to 5% of the turnover of the undertaking for the previous accounting period.

Net neutrality

As regards Regulation (EU) 2015/2120, the Ministry of Transport and Construction of the Slovak Republic submitted an amendment to Act No 351/2011 Coll. on electronic communications as amended, which was adopted by the Slovak National Council on 29 November 2016 (under Act No. 353/2016 Coll.). According to those rules, RÚ shall impose on an undertaking which has not fulfilled or which has violated any of the obligations under the EU net neutrality rules, a penalty from €200 up to 5% of the turnover of the undertaking for the previous accounting period. [8]

112 and access for disabled end-users to emergency services

Decree no. 91/2013 of the Ministry of Interior of the Slovak Republic, which entered into force on 1 July 2013, lays down details on the provision of caller and on localisation data. There is no new legislation in place on caller location accuracy and reliability criteria. The Ministry of Interior is analysing possibilities to bring new legislation into the area of 'advanced mobile location' that could significantly increase the accuracy of caller location using a smartphone with an Android operating system.

Implementing measures to ensure equivalent access to emergency services for disabled end-users remains a challenge in Slovakia. The Commission has been looking into how Slovakia is implementing Article 26(4) of the Universal Service Directive regarding access for disabled people.

5. Conclusions

While FTTH/B is significantly above the EU average, there still seems to be room for improvement regarding broadband and NGA coverage in Slovakia. Measures transposing the BB CRD, and effectively implementing the *'Atlas of the passive infrastructure'* project could help in this regard. In this context, Slovakia needs to use available EU funds more efficiently.

[7] International Roaming BEREC Benchmark Data Report October 2015 - March 2016, BoR (16) 160.

[8] Furthermore, it appears that RÚ has requested to incorporate procedural rules especially concerning measures that may be taken according to Article 4(3) and Article 5(1) of the Regulation (EU) 2015/2120.