DESI Report 2018

Telecoms chapter

LUXEMBOURG

Market developments

1. Competitive environment

Revenues of the incumbent (POST) are increasing while revenues of alternative operators are decreasing. Competition is stronger in mobile than in fixed services. The fixed market is more dominated by the incumbent which is 100% state owned and relatively small in size compared to other European telecoms operators. According to operators, the price level for fixed services is rather high compared to France and Belgium. The price level for mobile services is lower than in Germany and Belgium.

a. Fixed Markets

Coverage	LU-2016	LU-2017	EU-2017
Fixed broadband coverage (total)	>99.5%	>99.5%	97%
Fixed broadband coverage (rural)	>99.5%	>99.5%	92%
Fixed NGA coverage (total)	94%	95%	80%
Fixed NGA coverage (rural)	94%	95%	47%
Ultrafast coverage (total)	no data	87%	58%
4G coverage (average of operators)	95%	98%	91%

Source: Broadband Coverage Study (IHS and Point Topic for Data as of October 2016 and October 2017.

Fixed broadband market shares	LU-2016	LU-2017	EU-2017
Incumbent market share in fixed broadband	66.4%	66.1%	40.3%
Technology market shares			
DSL	70.0%	65.9%	64.2%
Cable	11.1%	10.8%	19.4%
FTTH/B	18.6%	22.6%	12.9%
Other	0.4%	0.7%	3.6%

Source: Communications Committee. Data as of July 2016 and July 2017.

New entrants' DSL subscriptions by type of access (VDSL excluded)	LU-2016	LU-2017	EU-2017
Own network	-	-	0.5%
Full LLU	73.0%	74.4%	72.8%
Shared Access	-	-	4.1%
Bitstream	1.2%	25.6%[1]	14.7%
Resale	25.8%	-	7.8%

Source: Communications Committee. Data as of July 2016 and July 2017.

While the total coverage[2] of fixed broadband networks remains at >99.5% of households[3], slightly above the EU average (97% total, 92% rural), fast broadband networks capable of

[1] Figures for bitstream and Resale combined in 2017

[2] including fixed, mobile and satellite networks

[3] Uptake of fixed broadband services stands at 96%, the EU average is 74%. 49% of all subscription are for fast broadband versus 40% one year ago. These figures refer to subscription for 30 Mbps and include fixed and mobile broadband.

providing at least 30 Mbps (next generation access (NGA)) are available to 95% of homes in both rural and urban areas. This is significantly above the EU average (80% total, 47% rural). As fibre roll-out continues, fibre-to-the-premises (FTTP) coverage stands at above 60% now. Residential customers increasingly buy products with download speeds of 100Mbps or more. The 'Institut Luxembourgeois de Régulation' (ILR) expects that this will soon become the standard for residential fixed broadband access in Luxembourg[4] and considers that this evolution is due to providers offering almost exclusively products of 30 Mbps download and due to demand for higher data transport speeds and volumes from customers. The fixed broadband price index in the digital economy and society Index (DESI)[5] fell by one index point in 2017, i.e. it decreased from 89 to 88[6].

Fixed broadband prices	LU-2016	LU-2017	EU-2017
Fixed broadband price index [values between 0-100]	89	88	87

Source: Commission Services based on Fixed Broadband Prices in Europe (Empirica). Digital Economy and Society Index 2018.

POST intends to pursue a more "opportunity-driven" approach for the remaining fibre rollout areas and only roll out if there are synergies with other infrastructure providers. This results i.a. from the fact that communes in Luxembourg typically would not allow for ten years to re-open the streets once a major infrastructure rollout has taken place. POST's competitors are concerned about the lack of predictability for further FTTH rollout and absence of an update of the government broadband policy strategy. Luxembourg may not meet its national 2020 target of one Gbit/second broadband capacity available for all households.

b. Mobile market

Mobile market	LU-2016	LU-2017	EU-2017
Market share of market leader	50%	47%	35%
Market share of second largest operator	35%	35%	28%
Number of MNOs	3	3	not available
Number of MVNOs	3	4	not available
Market share of MVNO (SIM cards)	not available	not available	not available

Source: Communications Committee. Data as of October 2016 and October 2017.

For the first time, the number of mobile subscriptions has decreased (897 000 SIM cards, including M2M SIM cards in 2016 compared to 906 000 SIM cards in 2015[7]). This is mainly due to the fact that there is no longer the possibility of anonymous use of SIM cards. Rules and systems for registration of prepaid subscribers are substantially different in Luxembourg and in Belgium. According to some players in Luxembourg, it would be good if there would be a harmonised rule as Asian player are willing to buy domestic SIM cards e.g. for tourists or employees working in Europe and in the United Kingdom or the Netherlands registration would not be necessary. According to them, this leads to distortion of competition as players

[4] See https://assets.ilr.lu/telecom/Documents/ILRLU-1461723625-643.pdf

[5] See https://ec.europa.eu/digital-single-market/en/news/digital-economy-and-society-index-desi-2017 [to be updated with 2018 link]

[6] The fixed broadband Price index weights the cheapest retail offers from: standalone, double play (BB + TV, BB + fixed telephony) and triple play (BB+TV+fixed telephony) and three speeds categories - 12-30Mbps, 30-100 Mbps and +100Mbps-. This indicator presents values from 0 to 100 (which should not be read as prices) and the higher the values, the better the country performs in terms of price.

[7] These are the latest available figures

in Luxembourg and Belgium cannot be active on this market. At the same time there had been an increase in postpaid cards (+7.5%) and a sharp increase in M2M cards (+50.8%). In terms of number of subscriptions, the market share of POST stands at 43.7%. The uptake of mobile broadband services increased in 2017. It stands at 126 subscriptions per 100 people, compared to 116 one year ago and an EU average in 2017 of 90 subscriptions per 100 people. As regards 4G, Luxembourg has a coverage rate of 98 %, significantly above the EU average of 91%.

One operator (Join) offers one SIM card with two numbers, one in BE, one in LU. For such offers agreement from the regulator in the host country (BE) is necessary. In addition, service providers need a host MNO (in BE) willing to accept. In technical terms it is necessary that foreign IMSIs are recognised as national IMSIs. Similar deals with DE, NL and FR could not be established mainly as there was no interest from MNOs in these countries, but also because of regulatory hurdles.

As Luxembourg has a small, open economy, many cross-border providers are active in both the country itself and its neighbours.

There is a high consumer demand for bundled services, which are offered by all providers. For several years now the volume of mobile minutes has been larger than that of fixed minutes, while the number of fixed subscriptions has remained stable. Nevertheless, fixed telephony is included 'free of charge' in most subscriber packages. However, many services are no longer available as stand-alone services.

All major operators include TV access services in their bundles, as these are important for increasing revenue. Luxembourg has a very international population, and supplying specific content is very difficult, as providers can only deliver low volumes, with little domestic content being supplied.

Mobile broadband prices	LU-2016	LU-2017	EU-2017
Least expensive offer for handset (1 GB + 300 calls basket)	€19	€21	€24
Least expensive offer for tablet and laptop (5 GB basket)	€13	€13	€17

Source: Mobile Broadband Price Study (Van Dijk). Prices expressed in EUR/PPP, VAT included. Data as of February 2016 and February 2017.

Mobile broadband prices as set out in the table above for handset offers have increased significantly within one year; they are below the EU average. The prices for tablet and laptop offers have remained stable; they are below the EU average.

Regulatory developments

2. Measures supporting deployment and investment in high-speed networks

a. Spectrum

In Luxembourg, 50.46% of the spectrum harmonised at EU level for wireless broadband has been assigned. In absolute terms this accounts for 550 MHz. This is due to a lack of demand and immediate interest from operators. The harmonised spectrum has however been made available and it can be assigned to operators once they express a need.

Four companies (POST, Orange, Tango and MTX Connect) have been assigned spectrum in the 2 GHz band. The 700 MHz spectrum is not used in Luxembourg and will be made available by the end of 2018/beginning 2019, when its use for broadcasting in neighbouring EU countries (France, Germany and Belgium) comes to an end. The 800 MHz spectrum is in use, while operation in the 2.6 GHz just started. For the 3.4 to 3.8 GHz and 1.5 GHz (1452-1492 MHz) bands, previous consultations, initiated in 2015 and 2016 respectively, had found that there was no need for immediate use. Further public consultations on these two bands are expected to be launched in the near future[8]. If an operator was to express interest there would be scope to launch a new consultation at any time.

As to 5G, operators and also ILR pointed to the significant challenges as regards investment in network infrastructure. ILR and BIPT have launched a joint study on spectrum sharing for 5G[9]. The study concluded[10] that the current scepticism of operators with regard to spectrum sharing in 2G, 3G and 4G could potentially be overcome in the area of 5G, leading operators to call for extending the possibilities provided by the current legislative framework. Several technical options for spectrum sharing are analysed.

b. EU and National investments in broadband

Luxembourg is well on track to achieve the broadband targets at EU level. While Luxembourg is sticking to its aim of having everyone connected by the end of 2020 with coverage of 1Gbit/sec, the country relies mainly on a market-driven broadband roll-out based on competition among operators. Accordingly, there are no plans to use public financing.

No broadband projects are being financed under the Connecting Europe Facility and the Juncker plan. Nor are there any allocations from the European Structural and Investment Fund to broadband, according to operational programmes[11].

c. Implementation of the Broadband Cost Reduction Directive

As regards completeness of transposition, infringement proceedings were closed against Luxembourg in October 2017, as the country had not notified to the Commission the full transposition of the Broadband Cost Reduction Directive[12] (BB CRD), due by 1 January 2016. The law implementing the Cost Reduction Directive has been published on 4 April 2017. As to conformity of transposition further information from market players would be required whether legal provisions and administrative practice in Luxembourg would be considered sufficient to ensure that permits for civil works are granted or refused within four months from the date of the receipt of a complete permit request, while taking into account that Luxembourg may provide that, exceptionally, in duly justified cases, that deadline may be extended.

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[8] A recently adopted EC Implementation Decision for L-Band extension bands (1427-1452MHz/1492-1518MHz) requests Member States to launch the public consultation before October 2018. A public consultation on C-Band can be expected to follow after L-Band consultation.

[9] The 700 MHz, the 3.6 GHz and the 26 GHz bands. See the RSPG Second Opinion on 5G networks, adopted on 30 January 2018.

[10] See https://assets.ilr.lu/frequences/Documents/ILRLU-1723895916-261.pdf

[11] See http://ec.europa.eu/regional_policy/en/atlas/programmes .

[12] Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks (OJ L 155, 23.5.2014, p. 1).

3. Regulatory function

Luxembourg complies with the 2014 Recommendation on Relevant Markets. It has regulations concerning all the markets listed in the 2014 Recommendation.

For both fixed and mobile termination rates, Luxembourg uses pure bottom-up long-run incremental cost (BU — LRIC) cost models for fixing maximum price ceilings.

The Recommendation on non-discrimination and costing methodologies has been fully taken into account in the latest market analyses. These were carried out on markets 4/2007 (wholesale (physical) network infrastructure access (including fully unbundled access) at a fixed location)[13] and 5/2007 (wholesale broadband access[14]) as described in the 2007 Recommendation on relevant markets. This included the 'equivalence of input' principle, the key performance indicators, and the technical and economic replicability tests. The ILR has also published the key performance indicators (KPIs) on these markets.[15]

The ILR has issued decisions on the market definition and the price level for mobile termination (mobile termination rates, market 02/2014).

Currently the ILR is running the analyses under the 2014 Recommendation on relevant markets. It has launched qualitative and quantitative questionnaires on markets 3a/2014 (wholesale local access) and 3b/2014 (wholesale central access), in particular in order to collect data to update it cost model for the fixed network.

The ILR has, after public consultation, adapted the minimum technical and operational requirements for IP interconnection.

4. Consumer matters

a. Roaming

The rules on sanctions have been notified in May/June 2017. The ILR is empowered to fine operators that fail to comply with the Roaming Regulation under the general sanction scheme of the Luxembourg Electronic Communications Code (Article 83 of the Loi du 27 février 2011 sur les réseaux et les services de communications électroniques') by an amendment (Projet de loi 7052 'portant modification de la loi du 27 février 2011 sur les réseaux et les services de communications électroniques'). The maximum amount of fines for failures to comply with the Roaming Regulation would be also one million Euros. Under Article 83 of the Loi du 27 février 2011 the ILR has already the competence to impose sanctions for violations related to the regulatory framework for electronic communications networks and services of up to one million Euros.

[13] A price cap calculated with the ILR BU-LRIC models for the copper unbundling (copper anchor) and the price for fibre unbundling has to be set by the incumbent according to an economic replicability test.
[14] This market comprises non-physical or virtual network access including 'bit-stream' access at a fixed location.
[15] Already back in 2015, ILR had adopted the implementing measures for the regulatory remedies imposed in the markets mentioned above, notifying the BU LRIC+ cost calculation method for services provided over the copper network and derived price caps to be imposed for access to civil engineering, local loop unbundling and sub-loop unbundling, and for access to the public telephone network at a fixed location.

ILR monitoring work regarding the implementation of Roam Like at Home[16] (RLAH) significantly increased in 2017. There were intense discussions with operators on compliance. National-only offers without roaming have emerged which did not exist previously. Metered offers almost disappeared. Monitoring contractual issues has been a significant burden for ILR. Fair use policy (FUP) measures have not been implemented to a large extent. Operators have not asked for derogations from RLAH. The derogation process is considered to be too heavy and therefore may not match the needs of operators in LU. Operators had a very long transition period; changes were and could be anticipated. Nevertheless the impact on operators was significant as approximately 20% of turnover of mobile operators was related to roaming services in the past. According to ILR the implementation of the lower mobile termination rates (MTRs) in conjunction with RLAH was also a major burden as operators' were affected already negatively by MTR regulation.

Following the introduction of RLAH in June 2017, subscribers in Luxembourg consumed 1.4 times more voice and 5.7 times more data roaming services when travelling in the EU in summer 2017 compared to summer 2016.[17]

b. Net neutrality

On net neutrality there were no ongoing investigations by the ILR. The ILR has published a report on its activities.[18] The ILR has focussed on awareness raising with notified operators and has established the requirement for a measurement tool and launched the public procurement procedure for such a tool which is considered to be important for users to ensure their rights with respect to net neutrality are respected.

The amendment (Loi 7052 'portant modification de la loi du 27 février 2011 sur les réseaux et les services de communications électroniques')[19] gives ILR the competence to impose penalties provided for in Regulation (EU) 2015/2120[20] (on open internet access); the maximum amount of fines is one million Euros.

c. 112

In Luxembourg, where 112 is not the single emergency number, more than 50% of the emergency calls were initiated by dialling 112. SMS as an alternative means of access to the 113 emergency number is available in Luxembourg. This is of particular importance for disabled end-users. It is possible to make EU roaming calls to 112, and the caller's location is made available in such cases. 96% of people in Luxembourg know 112 is the national emergency number, while 80% know it also applies elsewhere in the EU.

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[16] Regulation (EU) No 531/2012 of the European Parliament and of the Council of 13 June 2012 on roaming on public mobile communications networks within the Union (OJ L 172, 30.6.2012, p. 10), as amended by Regulation (EU) 2015/2120 and Regulation (EU) 2017/920.

[17] Figures compare Q3/2017 with Q3/2016 retail roaming volumes according to the BEREC International Roaming Benchmark Report, April 2017-September 2017, published on 14 March 2018

[18] See https://assets.ilr.lu/telecom/Documents/ILRLU-1461723625-616.pdf

[19] This is the same law (Loi 7052) referred to in the previous section on roaming.

[20] Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access and amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services and Regulation (EU) No 531/2012 on roaming on public mobile communications networks within the Union (OJ L 310, 26.11.2015, p. 1).

d. Universal service

Luxembourg currently has no universal service obligations[21] in place, as connectivity services are provided on a voluntary basis by the incumbent operator, POST Luxembourg.

5. Conclusion

While Luxembourg is well on track to achieve the broadband targets at EU-level, the likelihood that the more ambitious targets defined by national policy will not be achieved is increasing. While continuing the current market-driven approach it could nevertheless be considered how future policy could encourage more predictability of further FTTH rollout which would be relevant both for fixed ultrafast broadband coverage and for 5G.

Operators and also ILR are aware of the significant challenges as regards investment in 5G network infrastructure. A recent study concludes that operators might call for extending the possibilities for spectrum sharing for 5G provided by the current legislative framework.

The impact of the introduction of Roam Like At Home on operators was significant due to the high proportion of turnover related to roaming services in Luxembourg. The derogation process is considered to be too burdensome to implement and therefore not matching the needs of mainly small operators active in Luxembourg.

[21] Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users' rights relating to electronic communications networks and services (OJ L 108, 24.4.2002, p. 51).