DESI Report 2018

Telecoms chapter

Austria

Market developments

1. **Competitive environment**

The Austrian telecom market is showing increasing dynamics in 2017, as two mobile network operators are in the process of acquiring major fixed operators to develop more competitive bundled offers. These acquisitions inject further dynamics following the mobile merger in 2012 and the arrival of new MVNOs as a consequence of the merger remedy, as well as the acquisition of the incumbent A1 Telekom Austria by America Móvil. Mobile services continue to play a prominent role in the Austrian telecommunications market both for voice and broadband services. While the mobile operators are in the process of entering the fixed market, the incumbent A1 Telekom Austria maintains a strong position in all market segments.

In September 2017, the second mobile operator Three (Hutchison Three Austria) took over the fixed network operator Tele2. Tele2 was the largest unbundling operator and one of the largest fixed network operators in Austria. While Tele2 is predominantly active in the fixed segment (but also active as MVNO since 2015) and has a significant share in the fixed business market, Three has not yet provided fixed services on the retail market before the takeover.

Since December 2017, T-Mobile Austria is in the process of acquiring UPC Austria. This acquisition would enable T-Mobile to complement its recently agreed VULA product with its own physical component to match the bundle offers of the incumbent.

a. **Fixed market**

Coverage	AT-2016	AT-2017	EU-2017
Fixed broadband coverage (total)	99%	99%	97%
Fixed broadband coverage (rural)	94%	94%	92%
Fixed NGA coverage (total)	89%	90%	80%
Fixed NGA coverage (rural)	41%	45%	47%
Ultrafast coverage (total)	no data	66%	58%
4G coverage (average of operators)	89%	97%	91%

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

In 2017, 90% of all households were covered by a high-speed broadband next generation access (NGA) network, which is above the EU average of 80%. The rural coverage of high-speed fixed broadband grew from 41% in 2016 to 45% in 2017, but the growth is below the level and growth pace of the EU average (47%). 4G coverage (97%) and ultrafast coverage (66%) is above EU average (91% and 58% respectively).
Concerning NGA roll-out plans, A1 remains the key player in rolling out high-speed networks, but is also the major beneficiary of the Austrian broadband subsidy scheme. A1 continues to deploy mainly FTTC technologies relying on VDSL, G.fast and vectoring, while FTTH are deployed mainly in newly built areas. All major cable networks have upgraded to DOCSIS 3.0 and offer bandwidths up to 300 Mbit/s. FTTC/B/H investments by alternative

operators continued to remain limited in 2017, but further momentum is expected in the coming years when state aid subsidised projects will be realised.

Fixed broadband market shares	AT-2016	AT-2017	EU-2017
Incumbent market share in fixed broadband	58.1%	58.0%	40.3%
Technology market shares			
DSL	65.4%	64.2%	64.2%
Cable	32.0%	32.9%	19.4%
FTTH/B	1.3%	1.8%	12.9%
Other	1.2%	1.2%	3.6%

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

A1's total market share in fixed broadband remained essentially unchanged at 58%, which is still considerably higher than the EU average (40.3%), while cable subscriptions could only gain minimal ground (32.9% compared to 32.0%). In the cable market, the largest cable operator UPC was active in consolidating smaller cable operators in the past years, but is now in the process of being acquired by T-Mobile Austria. In certain regions, telecom operators are also facing increasing competition mainly from regional electricity or utility providers as well as from communities that are active in the broadband market and are beneficiaries of the National Broadband Scheme. These state aid funded fibre networks are often operated by wholesale-only operators. As their coverage and effects on the market were still geographically limited, their domestic market shares do not always reflect the actual positions at local level. There are a few wholesale only operators in Austria with still very low coverage and low and scattered market impact, as they are usually part of or a result of state aid funded local projects scattered around in Austria. Their coverage is likely to increase with the realisation of further state aid projects.

New entrants' DSL subscriptions by type of access (VDSL excluded)	AT-2016	AT-2017	EU-2017
Own network	-	-	0.5%
Full LLU	75.2%	72.0%	72.8%
Shared Access	0.0%	0.0%	4.1%
Bitstream	21.7%	24.6%	14.7%
Resale	3.1%	3.5%	7.8%

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

Unbundling operators are less likely to invest in FTTC/B mainly due to low economies of scale. Operators in underserved areas that invest in fibre also rely on public funds (state aid scheme). Since May 2017, a revised virtual unbundling (VULA) offer is available to alternative operators that is also provided with regional handover points (in addition to local handover at the MDF-level).

A1 is obliged to offer VULA with local and regional handover on its copper and NGA-network. The prices (gaps between retail and wholesale prices of flagship products) have been set based on an economic replicability test, and wholesale and retail prices are differentiated by bandwidth.

The take-up of VULA has proved to be low so far (~17 000 lines in mid-2017). Nevertheless, in July 2017, the prices were reduced and A1 concluded a contract with the mobile operator T-Mobile Austria on VULA services. These terms include several other improvements and they are now part of the reference offer.

With regard to the technologies used, mobile broadband is considered as substitute in the residential segment, as bandwidths in the 4G network can be comparable or higher than those in the fixed network and mobile network operators are marketing flat rate mobile tariffs for stationary use at home with wireless modems. Accordingly, mobile broadband regained market shares in 2016 and 2017 after a few years of decline, and mobile broadband is considered an important driver of competition in the residential segment.

Fixed broadband prices	AT-2016	AT-2017	EU-2017
Fixed broadband price index [values between 0-100]	91	90	87

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

b. Mobile market

Mobile market	AT-2016	AT-2017	EU-2017
Market share of market leader	39%	38%	35%
Market share of second largest operator	29%	34%	28%
Number of MNOs	3	3	-
Number of MVNOs	14	16	-
Market share of MVNO (SIM cards)	5%	-	-

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

Mobile services constitute the key driver of competition in the Austrian telecommunication market more than ever before. In 2017, the two challenger operators were actively engaged in acquisitions of fixed operators, and one of them concluded a VULA agreement with the incumbent in 2017. There is a clear evidence of mobile substitution in (both voice and broadband markets); and this has also been recognised in market analyses, (notably in residential and non-residential voice minutes, voice access for residential users as well as residential (fixed and mobile) broadband markets). Concerning OTT substitution, in June 2017, RTR conducted a survey concluding that social media platforms are replacing now voice minutes to a larger extent than OTT Voice over Internet services.

As a result of merger remedies (a requirement attached to the approval of the 2012 merger to accept up to 16 MVNOs), there is a flourishing MVNO segment in Austria. In late 2014, UPC entered the market (using the upfront MVNO conditions), and since then the regulated MVNO offer produced competitive wholesale counteroffers from the other two Austrian mobile network operators on a commercial basis. Among these new MVNOs, Ventocom acts as a mobile virtual enabler that provides technical platforms for branded products (mainly Hofer Telekom, but also other brands) using T-Mobile Austria's commercial offer and network.

Mobile broadband prices [EUR/PPP]	AT-2016	AT-2017	EU-2017
Least expensive offer for handset (1 GB + 300 calls basket)	€14	€11	€24
Least expensive offer for tablet and laptop (5 GB basket)	€9	€10	€17

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

Austria showed a further increase in 4G coverage in 2017 (to 97% from 89%) that continues to outpace the EU average (of 91%). All three MNOs have deployed a nationwide LTE network and mobile broadband prices are clearly below the EU average (in the case of the handset offer, less than half of the EU average). In 2017, there have been no spectrum trading, spectrum sharing, or licensed shared access agreements in Austria.

Regulatory developments

2. Supporting measures for deployment and investments in high speed networks

a. Spectrum

Austria assigned 69.43% of the harmonised spectrum for wireless broadband, which is in line with the EU average of 69%. There were no spectrum awards in 2017 for WBB and no rights of use for radio spectrum have been amended or renewed. Since the publication of the revised frequency utilisation ordinance in December 2016, which also implemented the 2013 Commission Implementing Decision[1] on harmonisation of the radio spectrum for use by short-range devices, no specific issues with the implementation of Commission technical harmonisation Decisions are being reported. RTR has conducted a consultation on future spectrum awards in March 2016 (together with the Ministry of Transport Innovation and Technology (BMVIT)). In December 2016, it has published a Spectrum Release Plan for the award of the bands 700 MHz, 1.5 GHz, 2 GHz, 2.3 GHz and 3.4-3.8 GHz.

The development of the Austrian 5G strategy was launched already in February 2017, with the objective to commence the roll-out of 5G networks by 2018, leading to coverage of all regional capitals by 2020. This strategy was ultimately not adopted by the federal government due to elections. Nevertheless, 5G remained in the focus of the Chapter on Innovation and Digital of the New Government's Programme 2017-2022, but the concrete measures are not yet outlined. In parallel, the NRA already launched a series of public consultations in 2017 and early 2018[2], with a view to conduct a spectrum award procedure in 2018 for 5G usage in the 3.4-3.8 MHz band.

b. National and EU investments in broadband

The key challenge for broadband roll-out in Austria is the country's mountainous topography, which greatly increases the cost of deployment. 'Breitbandstrategie 2020', Austria's National Broadband Plan (NBP), is generally in line with the Digital Agenda for Europe targets and supersedes them in some aspects. The Austrian government's aim is to achieve 70% ultra-fast broadband coverage (defined as 100 Mbps downstream) by 2018, coupled with 99% ultra-fast broadband coverage for all Austrian households by 2020. In addition, there are regional broadband plans that supplement the NBP. The previous government programme 'Digital Roadmap Austria', published in January 2017, increased Austria's national targets of availability and take-up of high-speed broadband beyond nation-wide coverage of 100Mbps by 2020 to provide high-speed connections for all schools and SMEs and 75% of the citizens till 2020. It also vested the government with the task to develop a comprehensive 5G roll-out strategy and recognises the importance of 5G for the digital economy. The new government programme (2017-2022) sets out new objectives, such as the provision of Gigabit connections nationwide by 2025, and establishing Austria as a 5G pilot country by 2021, and having nation-wide mobile 5G coverage by 2025. Detailed deliverables include the increasing consideration of the Gigabit network roll out, the possibility of subsidisation of connections of

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[1] Commission Implementing Decision 2013/752/EU of 11 December 2013, amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices, and repealing Decision 2005/928/EC, OJ L 334, 13.12.2013, p. 17.
[2] In February 2018, RTR launched a consultation on conditions for the award of the 3410-3800 MHz frequency band.

up to 100Mbit, and a commitment to invest future spectrum revenues exclusively in the roll-out of digital infrastructure.

The infrastructure funding programmes in the master plan of the current subsidy scheme's four programmes cover four main areas: Access, Backhaul, Ducts and Connect. The Area programme (Access) aims at the expansion of the geographical coverage of high-performance broadband networks, and the Backhaul programme is focused on connection of existing stand-alone solutions to efficient data highways. The Ducting programme covers the laying of ducting during construction work for non-discriminatory use for broadband networks, while the Connect programme aims at significantly reducing the costs of establishing fibre optic connections for SMEs and schools.. The funds mainly derive from the proceeds of the 2012 spectrum auction often cited as "the broadband billion". The four branches are organised into several calls, for Ducts, the 4th call is currently being organised. By the end of 2017, 145 recipients have received funding commitments for 520 projects totalling 330 million Euros. Almost 680.000 residences in over 1.100 municipalities will be supplied with ultra-fast broadband internet in the near future. This is about 36 percent of all previously underserved residences (< 30 Mbit/s).

Despite the fact that the programmes are advancing well, some stakeholders expressed concerns over the excessively strong position of the incumbent among the successful bidders of the calls, bearing a risk of counterbalancing regulatory efforts to induce competition.

c. Implementation of the Broadband Cost Reduction Directive

The Commission opened infringement proceedings against Austria for failure to notify transposition measures for the Directive[3]. By the end of 2016, Austria adopted the federal laws to transpose the Directive, including the amendment of the relevant telecoms acts, such as the 2003 Telecommunications Act, the CommAustria Act, the Federal Radio and Telecommunications (Broadcasting Devices) Act, and the Postal Market Act. Nevertheless, the complete transposition, including all the regional laws transposing the requirements of Article 8 on in-building infrastructure, was only adopted and notified in October 2017[4]. According to the laws transposing the Directive, RTR acts both as Single Information Point (SIP) and Dispute Settlement Body (DSB).

3. Regulatory function

The Austrian Regulatory Authority for Broadcasting and Telecommunications (RTR) acts as the operational arm for both the Austrian Communications Authority (KommAustria), responsible for the regulation of the broadcasting sector, and for the Telecommunications Control Commission (TKK), which regulates the telecommunications markets. The TKK members and their alternates have been reappointed in November 2017 for a five year term. Both KommAustria, a permanent body and the TKK have a constitutional guarantee of independence. The current head of the NRA is the Managing Director of RTR Telecoms, he commenced his term in February 2014, and holds the chair of BEREC in 2018.

The markets included in the 2014 Commission Recommendation on relevant product and service markets (2014/710/EU) are all subject to at least partial regulation in Austria, along

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[3] 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).
[4] The corresponding infringement procedure was closed in January 2018.

with one legacy market from the 2007 recommendation (access to PSTN for residential and non-residential customers) and one from the 2003 recommendation (Broadcasting Transmission).

In 2017, RTR notified Market analysis decisions concerning the wholesale local and central access markets, that have been adopted in July 2017, while the market analysis decisions on fixed call origination (leading to deregulation) and retail access to the PSTN (partly deregulated) have been adopted in May 2017. In October 2017, KommAustria notified a draft decision with regard to wholesale markets for broadcasting transmission services, which were partially deregulated. The broadcasting regulator proposed to continue regulating the market for analogue terrestrial radio broadcasting, given that the market situation is largely unchanged since the regulator last assessed the market in 2013. The Commission services expressed concerns that KommAustria excluded radio transmission services of the main operator (ORS) to its parent company, the national broadcaster (ORF). In the Commission's view, this might lead to a better treatment of ORF by ORS compared to its competitors and thus to discrimination. It was also held that as the majority owner of ORF, the latter could influence ORS's decisions concerning infrastructure developments. Also, as the majority owner of its supplier, ORF can influence the ORS's decisions concerning infrastructure developments. Furthermore, the Commission noted, that ORF could also be subject to different price conditions than competing radio broadcasters. In the light of the above, The Commission opened a Phase II investigation under Articles 7 and 7a of the Framework Directive. The investigation was concluded by a Veto decision. KommAustria ultimately withdrew the draft measure which lead to a Veto Decision by the Commission. Currently, KommAustria is conducting a proceeding with a view to amend the vetoed decision in the light of the Commission's concern.

Since the review of rules governing numbering management in October 2017, personal services can be offered under mobile numbers and mobile numbers can be used for M2M-services. These numbers now have to be 14 digits long (including the country code) in order to increase the amount of available numbering resources.

4. Consumer Matters

According to data provided by the NRA, nearly 2 000 dispute resolution procedures were initiated with the RTR's conciliation body (which does not represent a major departure from the last two years' figures). Contractual issues, such as notice periods and third-party billing, remained prominent.

a. Roaming

Following the introduction of Roam Like at Home[5] (RLAH) in June 2017, Austrian subscribers consumed 1.6 times more calls made and 4.9 times more data roaming services when travelling in the EU in summer 2017 compared to summer 2016[6]. Concerning sanctions, if the Austrian regulator finds that a breach of the Regulation has occurred, it can initiate a proceeding, and has the power to require the immediate cessation of such a breach in

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[5] 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.
[6] 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.

accordance with Article 16(5) and (6) of the Regulation. In Austria, the Telecommunications Control Commission (TKK) is vested with the powers defined by these provisions. Operators that infringe the Regulation are subject to an administrative penalty of up to €58 000. In such cases, the NRA first warns the operators that it might initiate a proceeding if they fail to comply with the Regulation by a given deadline. According to the NRA, there have been a few cases where operators did not comply with the Roaming Regulation, but most of the cases could be solved before initiating a formal proceeding. In other cases TKK initiated a proceeding in line with the Roaming Regulation. Some of the proceedings could be closed without a formal decision if the operators concerned cease their infringements within the timeframe given by the TKK. The main issues were infringements against Art 6a Roaming Regulation, where roaming providers have charged additional surcharges for retail roaming services in addition to the domestic retail roaming prices.

MVNOs expressed concerns about roaming wholesale charges and their negative effects on their business models paired with a dramatic increase in roaming consumption. TKK granted a sustainability derogation in two cases, and refused it in one case.

b. Net Neutrality

Regarding net neutrality[7], the Austrian Telecommunications Act contains a general provision on penalties applicable *inter alia* to infringements of RTR ordinances and formal decisions based on law. The regulatory authority first issues a formal decision addressing the infringement of net neutrality provisions, and subsequently, if the undertaking does not follow the decision, a penalty of up to 58 000€ shall be applicable. If there is a repeated infringement, the minimum fine should be 10 000€

In addition, if the regulatory authority establishes that an undertaking has gained economic advantage due to an unlawful act in violation of the respective regulation, the regulatory authority may apply to the Cartel Court to fix an amount to be absorbed. That amount shall depend on the extent of the economic advantage and may be set by the Cartel Court to be up to 10% of the undertaking's turnover of the preceding year.

Finally, a draft amendment of the Telecommunications Act, which enacts net-neutrality specific penalties, is pending at the level of the Parliament. The proposal, however, suffered delays given the elections.

In 2017, RTR launched a wide range of investigations, covering port blockings, the sole availability of private IP addresses, zero-rating offers, video on demand (VoD) as a specialized service, modification/re-routing of traffic and the cutting off of IP connections. In December 2017 TKK took two decisions with regard to net neutrality: TKK prohibited the use of certain traffic management measures in the data stream of end users (so-called "traffic shaping") in A1s product "Free Stream". Moreover TKK decided, that A1 is not allowed any more to prioritize video in their "A1 TV" product (not live IP-TV) in the case of data transmission via Internet access. A1 was granted a period of three years for this technical changeover. Furthermore, A1 was forbidden to disconnect its customers' IP connections every 24 hours (separation in the future only after 31 calendar days) and to demand additional

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[7] 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).

payment for the receipt of a dynamic public IP address by its mobile subscribers. In this respect, already paid fees have to be refunded.

c. 112

The rules governing caller location accuracy and reliability criteria for the European emergency number 112 were not amended in 2017. One Public Safety Answering Point (PSAP), responsible for ambulance and fire brigade in the province of Lower Austria, deployed an AML server (for handset-based caller location) for the whole area of Austria, including also other PSAPs that already implemented the technical interface.

d. Universal Service

In August 2016, the designation of A1 Telekom Austria concerning telephony services (including functional internet connection) and subscriber directory for all operators was removed by decision of the Ministry, thus the scope of the Universal Service Obligation[8] (USO) is reduced to public payphones.

5. Conclusion

Despite regulatory efforts and a relatively high purchasing power, the take-up of fixed high-speed broadband remained low compared to the EU average. Public policy initiatives to stimulate demand may therefore play an important role in further improving connectivity in Austria.

In addition, the new Austrian federal government needs to keep the pace for developing its 5G strategy, as also indicated in the new government programme. The programme sets out ambitious objectives, such as the provision of Gigabit connections nationwide by 2025, establishing Austria as a 5G pilot country by 2021, and mobile nation-wide 5G coverage by 2025. In parallel, the NRA already launched a series of public consultations in 2017 with a view to launch spectrum award procedures for 5G usage in 2018.

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[8] 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).