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**REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND
THE COUNCIL**

on the review of the roaming market

{SWD(2019) 416 final}

1. INTRODUCTION

In October 2015, the European Parliament and the Council adopted Regulation (EU) 2015/2120¹, which mandated the end of retail roaming charges in the Union from 15 June 2017, subject to fair use policy and a sustainability derogation. These new roaming rules are widely known as "Roam-Like-At-Home" (RLAH).

For RLAH to be provided in a sustainable manner throughout the Union, the co-legislators have agreed to have in place the following measures:

- substantially reduced wholesale roaming price caps²;
- the possibility for operators to apply a fair use policy to prevent abusive or anomalous use of roaming services at domestic prices;
- an exceptional and temporary derogation system for operators to forestall any risk of domestic price increases.

In accordance with the mandate given by the co-legislators, the Commission adopted, on 15 December 2016, the Commission Implementing Regulation (EU) 2016/2286 laying down detailed rules on the application of fair use policy and on the methodology to be used for submitting and assessing a request for a sustainability derogation (hereinafter referred to as the 'Implementing Regulation (EU) 2016/2286')³.

The above set of rules has been applicable in the EU/EEA⁴ since 15 June 2017.

In line with its reporting obligations laid down by the co-legislators in the Roaming Regulation⁵, the Commission:

¹ 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) 531/2012 on roaming on public mobile communications networks within the Union.

² Introduced by Regulation (EU) 2017/920 of the European Parliament and of the Council of 17 May 2017 amending Regulation (EU) No 531/2012 as regards rules for wholesale roaming markets.

³ Commission Implementing Regulation (EU) 2016/2286 of 15 December 2016 laying down detailed rules on the application of fair use policy and on the methodology for assessing the sustainability of the abolition of retail roaming surcharges and on the application to be submitted by a roaming provider for the purposes of that assessment.

⁴ Decisions of the EEA Joint Committee No 173/2012 (available [here](#)), 92/2016 (available [here](#)) and 105/2017 (available [here](#)) respectively add Regulations 531/2012, 2015/2120 and 2017/920 to Annex XI to the EEA Agreement "Electronic communications, audiovisual services and information society".

⁵ In this report, Regulation (EU) 531/2012 as amended by Regulation (EU) 2015/2120 and Regulation (EU) 2017/920 is called the "Roaming Regulation".

- adopted on 12 December 2018 an interim Report to the European Parliament and the Council on the implementation of the RLAH rules over the first 18 months (hereinafter ‘the interim Report’)⁶;
- published on 28 June 2019 a Staff Working Document (SWD) on the findings of the review of the rules on fair use policy and the sustainability derogation laid down in the Implementing Regulation (EU) 2016/2286 (hereinafter ‘the SWD on fair use policy and the sustainability derogation’)⁷.

The interim Report concluded on the overall success of the RLAH reform over the first 18 months, showing in particular that the demand for mobile consumption while travelling in the EU/EEA had rapidly and massively increased since RLAH was introduced. The SWD on fair use policy and the sustainability derogation concluded that these retail safeguards, foreseen in the Roaming Regulation to avoid distortions on domestic markets, had so far worked adequately where needed.

As a follow up to the interim Report and the review of the fair use policy and sustainability derogation, the Roaming Regulation further mandates the Commission to submit, by 15 December 2019, a review report to the European Parliament and the Council to assess the functioning of the roaming market under the RLAH rules. This is the subject of this report. The detailed methodology and results of the analysis in support of this report can be found in the accompanying staff-working document⁸. The present report broadly confirms the findings presented in the Commission interim report and in the Commission SWD on fair use policy and the sustainability derogation: the RLAH reform has been successful and met its objective to unleash the so far untapped roaming consumption. The analysis shows that competition dynamics on the wholesale and retail roaming markets have not changed - and are not expected to change - to the extent that the roaming rules can be lifted in the coming years. Moreover, there are areas for improvement. The Commission should therefore take the necessary steps, including legislative measures, to ensure that Europeans continue to benefit from roaming without surcharges in the coming years and that wholesale markets are working well.

2. SCOPE OF THE ROAMING REGULATION AND MAIN PROVISIONS

Roaming in the meaning of the Roaming Regulation is a service that allows a customer of a Mobile (Virtual) Network Operator (M(V)NO) in one EU/EEA country to have access to mobile

⁶ Report on the implementation of Regulation (EU) 531/2012 of the European Parliament and of the Council of 13 June 2012 on roaming on public mobile communications networks within the Union, as amended by Regulation (EU) 2015/2120 and Regulation (EU) 2017/920, COM(2018) 822 final, available [here](#).

⁷ Commission Staff Working Document on the findings of the review of the rules on roaming fair use policy and the sustainability derogation laid down in the Commission Implementing Regulation (EU) 2016/2286 of 15 December 2016, SWD(2019) 288 final, available [here](#).

⁸ Commission Staff Working Document on the findings of the review of the functioning of the roaming market, SWD(2019) 416 final,

services (voice, SMS or data) from an MNO in another EU/EEA country⁹. The mobile operator ensures that its customers remain connected to a mobile network when travelling abroad while using the same mobile handset (or possibly laptop or tablet in case of data roaming) and the same phone number. The mobile operator that wants to offer roaming services to its customers ("retail roaming services") in another country has to buy them from an MNO located in the visited country ("wholesale roaming services"). To this end, commercial wholesale roaming agreements between mobile operators have to be concluded. In practice, when a customer places a call or uses mobile data while roaming abroad, that service is provided by a mobile operator in the visited country. The roaming customer's home operator has to pay the visited operator for that service. This is called wholesale roaming charges. The level of those charges is capped by the Roaming Regulation and annually decreasing for data (see below in this section).

Since 15 June 2017, mobile operators have not been allowed to levy any charges in addition to the domestic price for the provision of (retail) roaming services (voice, SMS and data) to their customers when they periodically travel in the EU/EEA. In order to prevent abusive or anomalous use of roaming services - such as permanent roaming - at domestic prices that may have detrimental effects on the domestic markets, mobile operators may apply a fair use policy.

Fair use policy aims in particular at ensuring that roaming at domestic price is used only when periodically travelling in the EU/EEA. For this purpose, an operator may ask its customers for a proof of residence in, or stable link with, the EU/EEA country where it provides services and issues the SIM card to be used at domestic price when travelling abroad. An operator may also check that the SIM card is used more in its home Member State than abroad. If such a fair use policy is applied and, during a time window of at least four months, the customer has roaming consumption prevailing over domestic consumption or presence in other Member States of the Union prevailing over domestic presence, the operator has to alert the customer to verify whether there is any abusive or anomalous use of roaming services at domestic prices. After a period of at least 14 days from the date of the alert, the operator may apply small roaming surcharges linked to the wholesale price caps if the customer continues to consume mobile services abroad.

In addition, in order to allow for the continuous development of the best data offers on domestic markets (e.g. unlimited data), an operator may apply a volume safeguard on roaming data consumed at domestic prices¹⁰. Beyond that volume, the operator may apply a small roaming

⁹ A roaming service can be provided domestically (national roaming), i.e. a mobile operator uses the network of another operator to provide mobile services to its customers domestically. However, national roaming is not within the scope of the Roaming Regulation. The latter only regulates international roaming in the EU/EEA, i.e. roaming on a foreign network within the EU/EEA.

¹⁰ Implementing Regulation (EU) 2016/2286 provides that such a volume limit on roaming data must be equal to or greater than twice the retail price of the mobile bundle divided by the wholesale roaming price cap. This means that the user can consume the double (or more) of the data volume that their operator can buy (with the price paid by the user) at wholesale level to the visited operator, if the latter charges at the level of the cap.

surcharge not exceeding the wholesale roaming price cap on data¹¹ (see in more detail below in this section).

In any event, even in excess of fair use policy, the sum of the domestic price plus the small roaming surcharge applicable may not exceed the roaming fees in place in the first quarter 2016 (prior to the transitional period that led to RLAH in June 2017)¹².

In exceptional and specific circumstances, in order to avoid a domestic price increase, an operator may obtain from its national regulatory authority (NRA) a so-called sustainability derogation. For this purpose, the operator must demonstrate that the provision of roaming services without the application of a surcharge would not be sustainable with its current domestic charging model¹³. In that case, the NRA may authorise the operator to apply a small roaming surcharge for one year. In order to prolong such an authorisation the operator must renew its application yearly.

At wholesale level, the price caps were substantially reduced in 2017 by the Roaming Regulation¹⁴, in particular for data, for which the price caps are programmed to further decline every year until 2022, in order to ensure that market players can benefit from wholesale rates that allow for the provision of roaming services to their customers without levying any charge on top of the domestic price. The wholesale roaming price caps also ensure that wholesale costs are fully recovered by the operator providing the wholesale roaming service.

Being established by a Regulation, the roaming rules are directly applicable in all EU Member States and also apply in the EEA countries¹⁵. The Roaming Regulation entrusts NRAs with the task of monitoring, supervising and enforcing the roaming rules in Member States. In order to ensure a consistent approach of all NRAs, the Body of European Regulators in Electronic Communications (BEREC) issued Retail Roaming Guidelines¹⁶ in March 2017 and Wholesale

¹¹ Exceeding a data volume safeguard can only lead to the imposing of roaming surcharges on data roaming retail services (see BEREC Retail Roaming Guidelines, BoR (17) 56, point 70).

¹² For calls received, the maximum retail roaming surcharge applicable in excess of fair use policy is defined as the weighted average Mobile Termination Rate across Member States and is therefore revised downwards annually by the Commission. It is equal to 0.0085 EUR/min in 2019.

¹³ Implementing Regulation (EU) 2016/2286 provides that the NRA may consider that the operator's domestic charging model might not be sustainable without a roaming surcharge in case the operator's *negative* roaming retail net margin (without roaming surcharge) is equivalent to 3% or more of its mobile services margin.

¹⁴ In 2019, the following wholesale roaming price caps are applicable: 0.032 € /minute for calls made, 0.01 €/sms, 4.5 €/GB. From 1 January 2020, the new cap for data will be 3.5 €/GB. It will then decrease to 3 €/GB in 2021 and 2.5 €/GB in 2022. In comparison, those caps were 0.05 €/minute, 0.02 €/sms and 50 €/GB until 15 June 2017.

¹⁵ Norway, Iceland, Liechtenstein. The roaming rules have been incorporated in the EEA Agreement since 15 June 2017, i.e. the same day as their entry into force in the EU.

¹⁶ BEREC Guidelines on Regulation (EU) No 531/2012, as amended by Regulation (EU) 2015/2120 and by Regulation (EU) 2017/920 (Retail Roaming Guidelines), BoR(17)56, available [here](#).

Roaming Guidelines¹⁷ in June 2017, prepared in close collaboration with the Commission and after consulting stakeholders. While not binding in themselves, BEREC Guidelines support the NRAs in the monitoring, supervision and enforcement of the new roaming rules in practice. BEREC Guidelines also serve as detailed guidance for mobile operators on how to implement the new roaming rules in their various offers.

The Roaming Regulation expires on 30 June 2022.

3. FUNCTIONING OF THE ROAMING MARKET

The accompanying staff-working document provides a detailed analysis of the functioning of the retail and wholesale roaming markets in the EU/EEA since the entry into force of the ‘roam-like-at-home’ rules on 15 June 2017¹⁸. The analysis is based on data collected from mobile operators and NRAs as well as inputs from external studies and BEREC. It takes into account BEREC’s Opinion on the functioning of the roaming market published on 19 June 2019 (hereinafter “BEREC Opinion”)¹⁹, as well as BEREC’s Supplementary analysis on wholesale roaming costs published on 20 September 2019²⁰.

a. Compliance with the rules

In December 2018, the interim Report noted that overall compliance of mobile operators with the new roaming rules had been observed from their entry into force on 15 June 2017. General compliance has continued in 2019. Where a breach of the rules was detected in a Member State, the NRA swiftly solved the issue with the operator concerned, often before starting any formal proceedings or in the course of such proceedings.

Where new implementation questions arose in relation to new types of offers that were not specifically addressed in the BEREC Guidelines, NRAs have coordinated their approach in collaboration with the Commission via the dedicated BEREC International Roaming Expert Working Group. The most prominent implementation question handled by the group has been how to treat new zero-rated data services²¹ under RLAH. The interpretation of the roaming rules agreed in the group and followed by NRAs²² in such cases was challenged by two operators before two different courts in Germany. The national courts confirmed the interpretation

¹⁷ BEREC Guidelines on Regulation (EU) No 531/2012, as amended by Regulation (EU) 2015/2120 and by Regulation (EU) 2017/920 (Wholesale Roaming Guidelines), BoR(17)114, available [here](#).

¹⁸ All facts and figures used in this section are to be found in the accompanying staff-working document.

¹⁹ BEREC Opinion on the functioning of the roaming market as input to EC evaluation, BoR(19)101, available [here](#) (hereinafter ‘BEREC Opinion’).

²⁰ BEREC Supplementary analysis on wholesale roaming costs, BoR(19)168, 20 September 2019, available [here](#).

²¹ Zero-rated data services are not counted against the data allowance of the subscription. Consuming such services therefore does not reduce the volume of data available to the user in a given billing period. In most cases, zero-rated services are unlimited.

²² See decisions by the NRAs [BNetzA](#) (Germany) and [ANACOM](#) (Portugal). A short summary of this interpretation is provided in the SWD on fair use policy and the sustainability derogation (p 12).

followed by the NRA²³. The Commission supports the proposal made by BEREC in its Opinion on the roaming market to update its Retail Roaming Guidelines as regards zero-rated data services, as far as they comply with the Regulation 2015/2120, accordingly.

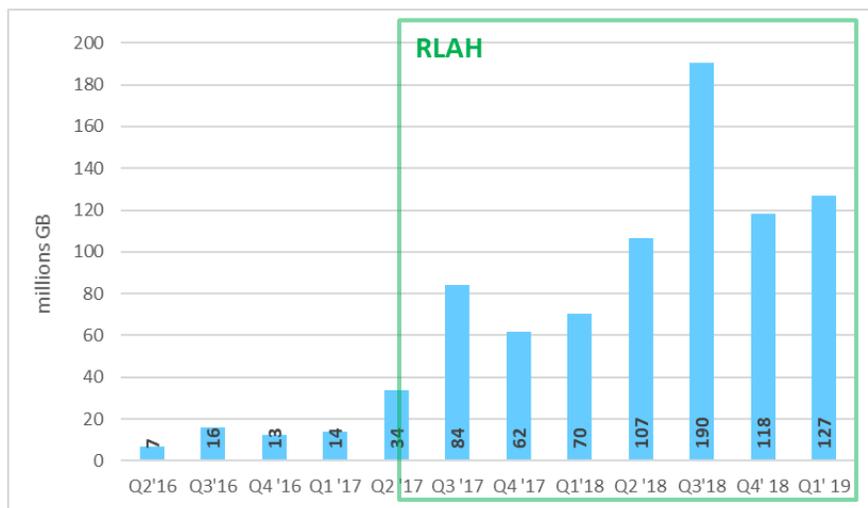
b. Retail roaming market

The increase in roaming consumption has been rapid and massive

While successive Roaming Regulations since 2007 had brought tangible benefits to consumers in the form of price reductions for voice, SMS and data roaming services, many Europeans continued to avoid, or curtail, usage of their mobile phones and data services when travelling outside of their home Member State in order to avoid incurring mobile roaming charges. The RLAH rules have finally allowed to radically change that situation and to unleash the untapped demand for mobile consumption among travellers in the EU.

The end of roaming fees resulted in a rapid and massive increase in roaming consumption in the EU/EEA after 15 June 2017 (Figure 1). In summer 2018 (Q3'18), the use of roaming data in the EU/EEA was 12 times higher than in the last summer before RLAH (Q3'16). The volume of roaming phone calls was 3 times higher. In the first quarter of 2019 (last data available) the increase compared to the same period before RLAH (Q1'17) was by a factor 9 for data and 2.2 for voice. In summer 2018, travellers used on average 440 MB of roaming data per month, compared to 60 MB in summer 2016²⁴.

Figure 1: EEA retail roaming data traffic, Q2 2016 – Q1 2019 (millions of GB)



²³ The Verwaltungsgericht Köln on 20 November 2018 (see the judgement [here](#)) and Landgericht Düsseldorf on 19 June 2019 (see the judgement [here](#))

²⁴ The increase in total roaming data volumes in the EEA results from larger average consumption by roaming customers but also from more travelers switching on data roaming.

Source: Based on 23rd International Roaming BEREC Benchmark Data Report BoR(19)90, October 2018-March 2019

The overall domestic tariff structure remains largely unchanged

As noted by BEREC in its Opinion on the roaming market, operators report having maintained the overall availability of their tariff plans under RLAH²⁵. According to BEREC, no significant changes occurred to the overall structure of the domestic tariff plans. Tariff plans which have been removed are mainly legacy tariff plans, as happens on a regular basis. Altogether, RLAH is considered to have had almost no impact on the availability of the domestic offers.

The observation made in the interim Report that the use of domestic-only tariff plans²⁶ remains limited and mostly in the pre-paid segment of the market serving local communication needs remains valid. In Q1 2019, under 5% of all subscribers in the EU/EEA used a domestic-only tariff plan²⁷, a stable share over time.

Quality of service

The quality of mobile services, and in particular the data speed, provided to travellers abroad is an essential parameter of the roaming experience. While there is no particular evidence that roaming users get lower data speed than local users²⁸, BEREC's Opinion notes the lack of transparency of a number of operators as regards the data speed provided to their customers while they roam abroad. Such data speed does not depend entirely on the home operator; it largely depends on the quality of service provided by the visited network. However, as 4G technology is now covering almost all of the Union's territory, 4G can normally be expected to be provided while roaming.

The Commission shares BEREC's view that operators may not deliberately provide lower data speed to their customers while roaming than at home. The Commission considers the quality of service as an integral part of the product whose price is regulated. By paying a certain price, the user has access to a given mobile service domestically. The Roaming Regulation requires that the user have access to the same service abroad in the EU/EEA for the same price, as long as such service can be delivered on the visited network.

The Commission will consider introducing the relevant clarifications in the Roaming Regulation, as well as transparency obligations on the quality of service while roaming. The Commission also supports BEREC's proposal to further monitor the quality of roaming services.

²⁵ Joint Commission/BEREC survey of mobile operators, March 2019

²⁶ Tariff plans that provide mobile services only in the country of purchase of that offer.

²⁷ 23rd International Roaming BEREC Benchmark Data Report BoR(19)90. Member States with the highest proportion of domestic-only subscribers (more than 10%) are Romania, Estonia, Latvia and Bulgaria.

²⁸ According to the joint Commission/BEREC survey of March 2019, the number of complaints regarding roaming has not increased in most Member States following the introduction of RLAH and end-users' dissatisfaction with the quality of services while roaming ranks low among the consumer complaints received by NRAs.

Overall, MVNOs seem to maintain their position on the market

In most of the countries for which sufficient data is available, MVNOs have broadly maintained or slightly increased their domestic market share (in subscriber numbers). One also observes an overall stability of the average retail revenue per user of the few MVNOs that have provided the necessary data over time. However, representing the situation of MVNOs throughout the EU remains a challenge due to the small sample of MVNOs that have consistently provided relevant data over time.

Fair use policy is useful to address individual abuses

As shown in the SWD on fair use policy and the sustainability derogation, the vast majority of operators have applied a fair use policy (95% of MNOs and 78% of MVNOs) in order to prevent abusive or anomalous use of roaming services at domestic prices. The volume limit on open data bundles²⁹ is the most implemented fair use policy measure by operators (84% of mobile operators offering such bundles use it). The almost unanimous use of this safeguard may indicate that it has indeed contributed to the continued availability of the most competitive data bundles on domestic markets.

However, because fair use policy rules cover the needs of virtually all roaming users, the proportion of customers who actually exceed the limits of any fair use policy remains very limited: only 0.6% of the subscribers of MNOs having implemented the 4-month control mechanism have received an alert and only half of these have been subjected to the small roaming surcharge after the alert. In total, only 4% (resp. 5%) of the total roaming voice (resp. data) traffic in the EU/EEA was subject to a small roaming surcharge in excess of fair use policy in Q1 2019³⁰. In practice therefore, only an extremely small minority of the most intensive roaming users are affected in practice by the application of a fair use policy, while the overwhelming majority of users do not need to worry about it.

The derogation mechanism is acting as an effective safeguard against possible distortions on the few domestic markets where such a risk had been identified

Mobile operators that have demonstrated that they are not able to recover their actual and projected costs of providing regulated roaming services without increasing their domestic prices in order to provide RLAH have been granted a sustainability derogation by their NRA. This happened in cases that were expected, i.e. a few MVNOs in some Member States and MNOs in very low-data-price Member States with high roaming imbalances and/or low revenue per user (Estonia, Lithuania, Poland, Finland). The derogations granted are strictly in order to permit the operators in question to recover their costs of providing roaming services to their customers and avoid any domestic price increase. The sustainability mechanism has therefore been applied as

²⁹ See footnote 10

³⁰ 23rd International Roaming BEREK Benchmark Data Report BoR(19)90

intended by the co-legislators and adequately worked where needed as a safeguard to avoid distortions, in particular increases in prices, on domestic markets. In Q1 2019, only 1.3% (resp. 3.1%) of the total EU/EEA retail roaming data (resp. voice) traffic was subject to a surcharge due to the derogation³¹.

Furthermore, as expected the number of derogations has been decreasing over time with the regulated decline in maximum wholesale roaming prices: in June 2019, none of the 3 MNOs in Estonia asked for renewal of the derogation; 1 out of 3 MNOs in Lithuania did not renew its application either, and only 3 MVNOs renewed their applications in France compared to 11 in 2017. In its Opinion on the roaming market, BEREC notes that the derogation mechanism concerns a small and shrinking part of the market and that NRAs expect the number of derogations to further decrease in the coming years.

Finally, as noted in the SWD on fair use policy and the sustainability derogation, operators that have been granted the derogation have been using it with parsimony: many of them still offer large volumes of roaming services without surcharges to their subscribers in order to remain competitive on their domestic market. Where they apply the allowed roaming surcharge, the latter is drastically reduced compared to before 15 June 2017 (by more than 90% for data), so that the concerned customers do substantially benefit from a massive decrease in roaming prices even in such cases.

Roaming prices in non-EU/EEA countries have continued to decline on average

Retail roaming prices of EU/EEA mobile operators in non-EU/EEA countries have continued to decline. Between Q1 2017 and Q1 2019, rates for data roaming services in non-EU/EEA countries fell by 8% while rates for voice services fell by more than 30%³². The sharp declining trend for data roaming prices in non-EU/EEA countries has therefore continued after the introduction of RLAH. Overall therefore, the abolition of intra-EU/EEA roaming charges has not come at the price of higher roaming prices in the rest of the world³³.

Consumer satisfaction is high

The interim Report noted that the RLAH reform was widely recognised and appreciated by Europeans. One year after the introduction of RLAH, a Eurobarometer survey showed that 81% of travellers were aware that roaming charges had ended in the EU/EEA and 69% of all Europeans thought that they, or someone they know, benefit or will benefit. The feedback received by the Commission from consumer associations since June 2017 is overall very positive.

³¹ 23rd International Roaming BEREC Benchmark Data Report BoR(19)90

³² Ibid.

³³ This overall evolution is an average. It does not exclude punctual increases in roaming prices in some non-EU/EEA countries in some tariff plans in some Member States. This may be the case in particular for less visited non-EU/EEA destination countries.

c. Wholesale roaming market

The observations made in the interim Report one year ago are confirmed. The impact of the large increases in roaming demand highlighted in section 3.b above vary markedly between operators depending on the traffic flows of the given operator's customer base. Based on its traffic flows, an operator can be classified as outbounder or inbounder. An outbounder operator has a customer base which consumes more mobile services abroad (i.e. on the networks of partner operators in other EU countries), than those consumed by the partner operators' customer base on its own network. Conversely, an inbounder operator has a customer base that consumes less mobile services abroad than those consumed by the partner operators' customer base on its own network. Due to tourist flows, typically, operators in Northern European countries are net outbounders of roaming traffic, whereas operators in Southern European countries are typically inbounders of roaming traffic, although there are some exceptions.

In this context, the level of the wholesale roaming price caps is an essential component of the Roaming Regulation. The dual objective of the caps is to enable all, or virtually all, operators in the Union to provide RLAH while at the same time ensuring cost recovery at wholesale level throughout the Union.

Regulation has triggered considerable reductions in wholesale prices that have benefited net outbounder operators

The sharp decline in wholesale roaming prices observed in the interim Report has further continued, in particular for data services. The average wholesale roaming price for data went down to €1.78 /GB in Q1 2019, compared to €8.22 /GB in Q1 2017. For voice, the average wholesale roaming price was €1.97 cents/min in Q1 2019, compared to €2.90 cents/min in Q1 2017³⁴.

The decline in wholesale roaming prices was determined mainly by two factors. First, new (and, for data, annually decreasing) maximum wholesale roaming prices laid down in the Roaming Regulation in 2017 have acted as much lower ceilings on prices³⁵, triggering competitive market dynamics between operators offering wholesale roaming access below those ceilings. Second, the introduction of RLAH has resulted in significant increases in roaming volumes, thereby fuelling further competition in wholesale roaming prices below the ceilings. Substantially lower wholesale roaming prices have greatly mitigated any potential impact from the introduction of RLAH on outbounder operators.

Net inbounder operators have benefited from increased roaming demand

³⁴ 23rd International Roaming BEREC Benchmark Data Report BoR(19)90, October 2019

³⁵ The wholesale roaming price cap for voice was reduced from 5 cents/min in 2016 to 3.2 cents/min as of 15 June 2017. For data it was reduced from 50 EUR/GB in 2016 to 7.7 EUR/GB as of 15 June 2017, 6 EUR/GB as of 1 January 2018, 4.5 EUR/GB as of 1 January 2019.

The analysis provided in the accompanying staffworking document shows that inbounder operators have benefited from the large increase in demand for wholesale roaming services and that, for outbounder operators, the net outbound roaming traffic - despite the considerable increase under RLAH - only represents a small fraction (typically less than 5%) of their domestic traffic.

Costs of provision of wholesale roaming are covered

As one of several inputs to the present roaming review, the Commission commissioned an external study to build a cost model of an efficiently operating mobile network in each Member State plus Norway³⁶. The estimates that can be inferred from the cost model and from additional transit price data provided by operators³⁷ show that the caps on wholesale roaming prices set in the Roaming Regulation in 2017 have allowed a full recovery of costs at wholesale level plus margin.

The sharp reduction in wholesale roaming prices observed above, whereby average wholesale market prices have continued to undershoot the declining regulated maximum wholesale tariffs, is persuasive evidence that operators have been able to meet the increasing demand in wholesale roaming services while at the same time recovering the cost of their network investments, including the cost of capital. The information gathered from the Commission on wholesale prices for domestic MVNO access is further evidence that the current caps allow operators providing wholesale roaming services to cover their costs.

Based on the Commission's external study, BEREC made its own assessment of the wholesale roaming cost³⁸. BEREC concludes that there is some room for further reducing the wholesale caps while keeping them above the underlying costs in all Member States including some space for negotiations below the caps.

The Commission shall take these and other inputs into account in considering whether there is a need, and economic scope, for further adapting the wholesale roaming price caps going forward, while keeping the caps above underlying costs in all Member States.

The specific situation of mobile virtual network operators (MVNOs) on the wholesale roaming market

An MVNO does not own a radio access network in the country(ies) where it operates. As a consequence, an MVNO cannot host any roaming traffic from an MNO in return for the roaming

³⁶ Study SMART 2017/0091 'Assessment of the cost of providing mobile telecom services in the EU/EEA' by AXON, July 2019, available [here](#). Luxembourg, Iceland and Liechtenstein have not provided the necessary data to build the model in these three countries. The study was executed in close collaboration with NRAs and BEREC. The full set of materials published from this study is available [here](#)

³⁷ The cost model and its outputs, as well as estimates of transit prices, are presented in the accompanying staffworking document.

³⁸ BEREC supplementary analysis on wholesale roaming costs, BoR(19)168, September 2019

traffic that the MVNO sends out to that foreign MNO. An MVNO can typically only buy at wholesale level the outbound roaming traffic generated by its customers abroad, without the possibility to trade/exchange (part of) this outbound roaming traffic against inbound roaming traffic. MVNOs are therefore in a structurally different situation from MNOs when negotiating wholesale roaming access³⁹. This factor is inherent to MVNOs' business models. On the other hand, MVNOs should be able to invoke the roaming wholesale traffic that their retail customers generate when negotiating with their domestic host, as it should help the latter to obtain better rates with wholesale roaming providers. Nonetheless, MVNOs typically pay wholesale roaming prices that are higher than those paid by MNOs, and in a number of cases close to or at the level of the wholesale roaming price caps. However, as shown in the accompanying staff-working document, there are also examples of MVNOs that pay wholesale roaming prices well below the regulated tariffs in most EU countries, at similar levels to those paid by MNOs.

MVNOs have in all cases benefited from the considerable reduction in wholesale roaming prices triggered by the sharp lowering of the price caps decided in 2017. As indicated above in section 3.b, MVNOs have overall maintained their position in their respective domestic markets. The Commission will take into account the situation of MVNOs when considering whether to propose a further adaptation of wholesale roaming price caps, in line with the main recommendation from BEREC in its Opinion on the roaming market.

In addition, the Commission, in line with BEREC's suggestions, will consider proposing further clarifications on wholesale rules that should support the position of MVNOs in wholesale roaming negotiations for example that the price cap is also applicable to alternative wholesale roaming solutions like sponsored roaming⁴⁰, that MNOs must give access to new technology generations (e.g. 4G, 5G) to MVNOs for roaming as they become available in visited markets or that the contract negotiations should not be unduly prolonged and the wholesale roaming access to be granted within 3 months of the conclusion of the contract under the current rules should be fully, not partly, operational.

The separate sale of data roaming services has not been used by the market

Since 2012, the Roaming Regulation has provided that end-users may not be prevented by operators from accessing regulated data roaming services on a visited network offered by an

³⁹ MVNOs establish wholesale roaming access agreements mostly indirectly (via the MNO hosting them in their country of operation or another MNO or a hub) but also directly in some cases (direct bilateral wholesale roaming negotiations with MNOs).

⁴⁰ Sponsored roaming is a wholesale solution where the MVNO uses a dual IMSI solution, where one IMSI range belongs to the sponsored network. The International Mobile Subscriber Identity (IMSI) is an ITU international standard. It is a unique number that identifies a mobile subscriber, as well as its mobile operator and country. The effect of this dual IMSI solution is that the MVNO's end users have a second identity while roaming and they can make use of all the roaming agreements belonging to the sponsor network. Traffic prices are set by the sponsored network.

alternative roaming provider⁴¹. This structural measure, known as local data break-out, was meant to foster competition on the roaming market. The Commission shares the observation by BEREC and by an external study on technological developments⁴² that this solution has not been deployed in practice⁴³. Looking forward, based on surveys of the market conducted in 2019 for the purpose of this review, both BEREC and the study note the lack of interest by market players in implementing such a solution in the future. Consequently, the Commission will consider proposing to remove the local data breakout obligations from the Roaming Regulation.

d. Competition dynamics on the wholesale and retail roaming markets have not changed - and are not expected to change - to the extent that regulation can be lifted in the coming years

Similarly to the pre-RLAH period, under RLAH the regulated price caps have been necessary to bring prices down on the wholesale roaming market. The price caps have continued to act as benchmark prices in wholesale roaming negotiations and for competitive dynamics below these ceilings. Any discount on the wholesale roaming market is made from these reference prices. In addition, parts of the market, in particular some MVNOs and smaller operators operating in one country and with large outbound roaming imbalances, often pay wholesale roaming prices at, or close to, the cap level.

BEREC recognizes that “*the overall objective of the RLAH regulation has been a success*”; at the same time, it “*does not expect that the competitive conditions in the roaming market will change in the near future in a way that a regulatory intervention is not required anymore*”⁴⁴. BEREC recommends that, until a new assessment of the roaming market can be made, the roaming rules should remain in their current shape and structure. Based on its review of the functioning of the wholesale roaming market, BEREC concludes that wholesale roaming price caps continue to be necessary and need to be further reduced, in order to ensure a proper functioning of RLAH throughout the EU and for all market players going forward. In addition, it considers that the retail roaming rules in place since 15 June 2017 should overall continue to apply over the coming years, albeit with some possible clarifications and improvement, in order to ensure that end users continue to benefit from RLAH throughout the EU⁴⁵.

⁴¹ Article 4 in 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

⁴² Study SMART 2018/0012 "Technological developments and roaming" by WIK Consult, July 2019, available [here](#)

⁴³ In 2016, the BEREC International Roaming Benchmark Report identified only one operator offering local data breakout services in the EU. It seems however that this operator from Lithuania (Cheap Data Communications) does not exist anymore, at least not in its original form. Since then, according to the information available to the Commission, there has been no further use of the local data breakout solution.

⁴⁴ BEREC supplementary analysis on wholesale roaming costs, BoR(2019)168, September 2019

⁴⁵ BEREC comments on the retail roaming rules have been analyzed in the SWD on fair use policy and the sustainability derogation published in June 2019. These comments do not put in question the principle of those rules nor their continued application in the years to come.

Looking forward as well, an external study commissioned by the Commission⁴⁶ for the purpose of this review has examined the possible impact of relevant technological and business developments on competition in the roaming markets, at both wholesale and retail levels⁴⁷. The study concludes that there is no case for significant changes to the retail and wholesale roaming rules under this review (without prejudice to any review of maximum wholesale rates). According to the study, at this stage, none of the current and foreseeable technological and business developments can be anticipated to modify, in the next few years, the competition conditions at wholesale and retail levels to such an extent that RLAH would continue to be provided by operators in the absence of the roaming rules.

The study however recommends to continue monitoring the deployment of embedded SIM cards and the evolution in over-the-top voice and messaging services with a view to assessing their impact on competition in retail roaming markets in the medium term. Developments in 5G and IP-based mobile communications in the coming years could also affect the nature, variety and pricing of wholesale roaming products going forward. Such developments will have to be considered in a future review of the Roaming Regulation.

The Commission also takes note of the very recent development of new ways of trading wholesale roaming traffic, such as online trading platforms, mentioned in the study. They have the potential to foster competition on the wholesale roaming market and facilitate the negotiation process between operators. As such platforms are now becoming operational, the Commission encourages operators to start trading part of their capacity via that channel, subject to full compliance with EU law. The Commission will closely monitor the related developments in order to determine whether the use of such platforms could justify over time a different approach to wholesale roaming regulation.

For the shorter term of this review, the study and BEREC echo feedback received by some market players asking for more explicit rules or guidelines governing access requests for permanent roaming for the purposes of connectivity for machine-to-machine/Internet of Things. The Commission notes that, while the Roaming Regulation was designed for the benefit of end-users using their mobile device while periodically traveling abroad in the EU/EEA, it does not exclude machine-to-machine communications from its scope⁴⁸. Wholesale roaming access obligations laid down in Article 3 of the Roaming Regulation therefore also apply in case such access is sought for the purposes of machine-to-machine communications. As to permanent roaming, it is not prohibited as such by the Roaming Regulation and can be agreed by two

⁴⁶ Study SMART 018/0012 "Technological developments and roaming" by WIK Consult, July 2019, available [here](#).

⁴⁷ The study analyzed the potential impact on the roaming market of Wi-fi and Wi-fi aggregation services, over-the-top services, Rich Communication Services (RCS), embedded SIM cards provisionable over-the-air, 5G and 5G network slices, internet of things (IoT), local data break-out, new business models and players entering the roaming market (such as multi-MVNO agreements and cross-border MVNOs, entry of equipment, content and service providers into the roaming market)

⁴⁸ Except from specific provisions in Article 15 of the Roaming Regulation (transparency obligations).

roaming partners in the wholesale roaming contract⁴⁹. According to information available to the Commission, operators often have an interest to host machine-to-machine communications traffic on their networks, including on a permanent basis, in order to benefit from the related wholesale revenues. The relevance of volume-based maximum wholesale charges for low-volume, narrow-band machine-to-machine communications requires further attention. In order to facilitate the development of pan-European machine-to-machine services in particular, the European Electronic Communications Code provides that Member States shall ensure that NRAs make available numbers that may be used on a permanent basis outside of the Member State (known as “extra-territorial use of numbers”)⁵⁰. The Commission will consider introducing the relevant clarifications regarding the wholesale access conditions for permanent roaming for the purposes of connectivity for machine-to-machine/Internet of Things where necessary in the Roaming Regulation.

4. CONCLUSION

As noted in the Commission's contribution to the informal EU27 leaders' meeting in Sibiu (Romania) on 9 May 2019, Roam-Like-at-Home counts as one of the top-20 EU achievements during the Juncker Commission mandate. The rapid and massive increase in roaming traffic since June 2017 has shown that the RLAH reform has met its objective of unleashing the untapped demand for mobile consumption by travellers in the EU. This review confirms the success of the reform and the overall good functioning of the roaming market under the new rules.

The review shows that, despite signs of some competition dynamics on both the retail and wholesale roaming markets, the underlying basic competition conditions have not changed, and are not likely to change in the foreseeable future, to such an extent that retail or wholesale regulation of the roaming market could be lifted. BEREC recommends further lowering the wholesale roaming price caps “*in order to increase the competitive strength for MVNOs in the years to come*” and assesses that there is room to do so. While there is some evidence of economic space between the wholesale price caps currently programmed until 2022 and the level of costs of all operators, the case for further reductions in order for the RLAH regime to function better while maintaining domestic competitive dynamics needs to be further analysed.

In view of the above analysis, further detailed in the accompanying staffworking document, the Commission intends to conduct an impact assessment in the first semester of 2020 on whether to

⁴⁹ While the wholesale level measures provided in Article 3 of the Roaming Regulation to enable a visited operator to prevent permanent roaming are intended to be useful in the case of personal communications of travelers, such measures may also be used in the case of machine-to-machine communications. It is however expected that, in general, visited operators have no interest to prevent permanent roaming in the case of machine-to-machine communications.

⁵⁰ Article 93(4) of the European Electronic Communications Code, Directive (EU) 2018/1972 of the European Parliament and the Council, OJ 2018 L 321, p. 36. The Code is to be transposed in national legislation by Member States by 21 December 2020 and applied from that date.

table a legislative proposal to the European Parliament and the Council prolonging the Roaming Regulation beyond June 2022. The Commission will consider in particular the extension of the retail and wholesale roaming rules beyond 30 June 2022, and in this context will further examine the adequacy of the wholesale roaming price caps. In view of the adequate functioning of the safeguard rules at retail level (fair use policy and sustainability derogation), the Commission does not intend at this stage to amend the rules laid down in the Implementing Regulation (EU) 2016/2286.

To prepare the impact assessment on a possible legislative proposal, the Commission will organise a public consultation in early 2020. The preparatory work for an impact assessment will also further assess the opportunity of introducing in the Roaming Regulation the various clarifications and updates on the quality of service, MVNOs' access, separate sale of roaming data services, and machine-to-machine communications mentioned in this report.