

#eu4digital

EU4Digital: supporting digital economy and society in the Eastern Partnership

Project number: ENI/2018/396-727

Roaming report

Version: v2.00

Date: 25 November 2019



Table of Contents

1. Executive Summary	4
2. Introduction	7
2.1. Background and context of the report.....	7
2.2. Intended purpose and use of the report	8
2.3. Suggested approach for a model for harmonised reduction of rates	8
3. EaP Region Roaming Market Overview.....	11
3.1. Telecommunications industry summary.....	11
3.2. Roaming KPIs.....	12
3.3. Local and roaming services' price analysis.....	13
3.3.1. Local and services' effective price comparison roaming	13
3.3.2. EaP roaming prices compared to EU wholesale levels under the AERRM	14
4. Estimated Impact of Reduced Roaming Charges and IMTRs.....	19
4.1. Estimated impact of reducing of roaming charges	19
4.1.1. Potential impact for the customers of roaming services	20
4.1.2. Potential impact for the mobile operators	20
4.2. Estimated impact of reduction of international termination rates (IMTR)	21
4.2.1. Approach toward IMTRs	21
4.2.2. Estimated impact of IMTR reduction	22
4.3. Estimated total impact	23
5. Suggested Timeline and Glidepath for Price Reduction.....	23
6. Safeguard Issues.....	25
7. Description of the Impediments and Possible Barriers to the Realisation of the RRA, Suggested Mitigation Means.....	26
7.1. State of Play – EaP partner countries' international commitments	26
7.2. Legal framework options for concluding an RRA	27
7.2.1. Option 1 - Intergovernmental agreement and/or mesh type agreement.....	27
7.2.2. Option 2 - Intergovernmental agreement and/or mesh type agreement under broader umbrella of comprehensive free trade agreement.....	28
7.2.3. Option 3 - Intergovernmental agreement of Mutual Recognition Agreement type	
28	
7.2.4. Option 4 - Voluntary (facilitated) agreement among involved operators.....	29
8. Required Policy, Legislative, Institutional and Regulatory Framework Changes	31
8.1. Recommended structure and provisions of the RRA	31



8.2. Gap analysis between EU regulation and the EaP countries	31
8.3. Recommendations on the changes to be made to the policies, national legislative, institutional and regulatory framework	33
9. Relevant Latest Best Practice Analysis	36
9.1. Overall best practice snapshot and Western Balkans roaming agreement update	
36	
9.2. Summary EU practice on frauds encountered and prevention mechanisms.....	38
Annex 1 – Overview of the Applicable Legislative, Institutional and Policy Framework on Roaming in the EaP	40
Annex 2 – RRA Minimum and Additional Requirements	46
Annex 3 – Summary of Fraud Mitigation Within the European Union.....	48



1. Executive Summary

Linked to the “Eastern Partnership 20 Deliverables for 2020”¹ document, facility “EU4Digital: Supporting digital economy and society in the Eastern Partnership” (hereinafter – EU4Digital facility) has been launched aiming *inter alia* at supporting harmonised roaming pricing and reduced roaming tariffs in the Eastern Partnership (hereinafter – EaP) region. In the international roaming field, the EU4Digital facility builds further on a feasibility study “Harmonising International Roaming Pricing and Reducing Roaming Tariffs among the Eastern Partnership Countries”², providing for a detailed analysis, scenarios and contents of a potential regional roaming arrangement. The Study identifies an optimum intervention model based on amended EU Roaming regulation model.

At the 3rd Eastern Partnership Ministerial meeting the participants welcomed the findings of the Study and reaffirmed their commitment to sign by the end of 2020 a Regional Roaming Agreement (hereinafter – RRA).

The Study is a key input for activities taking place in EaP countries in relation to roaming. The Study apart from the proposed intervention model, identified substantial differences in applicable domestic prices and those available while roaming and estimated material impact of such intervention. As a result of intervention, it is estimated that consumer surplus will in the EaP be EUR 39.25m while operators surplus EUR -6.67m, totalling to a EUR 32.59m.

As the 3rd Ministerial meeting also recognised the need to update the final results, EU4Digital facility was tasked to update the impact assessment of roaming, prepare impact assessment on mobile termination services as well as explore the potential arrangement in light of international commitments of the EaP countries.

The overall EaP market of mobile is valued at around EUR 2.3b, while the roaming services constitute just under EUR 77m. Out total roaming revenues, the EaP roaming revenues amount to just under EUR 7m. The distribution of revenues per destination vary substantially from country to country and notably Ukraine, due to the domestic market volume has a significant impact in relative terms to other EaP countries. Hence, the proposed intervention model on EaP roaming will have an effect on EaP roaming market valued at just under EUR 7m for the time of preparation of this report, subject to changes triggered by the potential intervention as well as natural market developments such migration of traditional voice services and messaging to various over-the-top (OTT) such as WhatsApp, Skype, FaceTime, etc., and general raising demand for data transmission services.

For EaP roaming part of the market the Study outlines both a timeline and suggests glidepath for the harmonised reduction of applicable roaming rates as well as international mobile termination rates. The suggested model of intervention to be included in the RRA is an amended EU roaming regulation model (AERRM) – partially based on the EU Roaming regulation, which would regulate wholesale rates (setting them at the same level as in the EU) and set the retail rates equal to RLAH rates and charge to wholesale rate on top. This intervention while deemed to be lighter than other reviewed by the Study, would still entitle

¹ https://eeas.europa.eu/sites/eeas/files/20_deliverables_for_2020.pdf

² <https://europa.eu/capacity4dev/higstep/documents/harmonising-international-roaming-pricing-and-reducing-roaming-tariffs-among-eastern>



substantial reductions of applicable rates as an estimated 87% difference between current EaP roaming rates and suggested model.

To assess the impact on both customers and market participants an approach already employed by the Study was applied whereby based on European Union market developments following the regulatory intervention on international roaming services supply-demand curves were constructed and against this background EaP country information plotted. As a result, of the intervention based on updated roaming data it is estimated for consumer surplus is estimated to amount to EUR 11.29m while operators' surplus at EUR - 6.02m, totalling to EUR 5.26m.

The EU4Digital also reviewed and assessed the impact of proposed by the Study reduction of international mobile termination rates. The suggested impact is estimated to amount to EUR -0.626m.

Jointly the estimated monetary impact of reduction of both international roaming rates and the international mobile termination rates is estimated at EUR 4.64m.

The reduction and differentiation of international mobile termination rates in particular may have a side effect whereby the difference applicable rates depending of originating country can create a room for certain activities that may be deemed fraudulent in their nature may occur. Via the members of the Body of European Regulators for Electronic Communications and the EaPeReg, a feedback covering European Union best-practice on fraud mitigation was acquired. While there is no approach that cover all possible scenarios, the summary is to be used as reference to enable the complex exercise of tackling of fraudulent activities as they occur.

As the nature of the agreement is cross border, international commitments of the EaP countries have to be reviewed to the extent there may be an impact to type of the agreement the parties may prefer to be part of. The Study identifies no obstacles from international commitment perspective of EaP countries vis-à-vis a potential RRA to be signed, however, by a number of participants commitments related World Trade Organisation are to be reviewed. The commitments in question are set forth by the General Agreement on Trade in Services and the Article II in particular whereby a so called Most Favoured Nation clause would apply to 4 EaP countries, the WTO members – Armenia, Georgia, Moldova, Ukraine to extend the favourable conditions agreed upon to any WTO member. EU4Digital reviewed the relevant WTO GATS framework and identified 4 different possible scenarios, all in line with WTO GATS requirements, however, pending input on preferred scenario by specific EaP countries at the time of preparation of this report.

Relevant best practice was updated by this report where developments in the Western Balkans roaming agreement and fraud mitigation measures are included.

Originally in place since 29 September 2014, developments effective since 1 July 2019 in Western Balkans area are related to extending the agreement area which now comprises Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia. The ultimate aim of this agreement would be arriving at roam-like-at-home type of arrangement. This type of arrangement goes beyond what is suggested by the Study to the EaP countries, however, may be taken into account should there will an agreement to further develop the



applicable framework. From the international commitment perspective, Western Balkan agreement is of a particular interest, since it triggers the WTO GATS Most Favoured Nation requirements, however, is exempt thereof as there exists a comprehensive free trade agreement falling within the scope of GATS, so therefore not of a significant interest for EaP countries.

As due to the reduction of international mobile termination rates differentiation of rates may occur leaving a room activities that may be deemed to fraudulent in their nature. The report summarises European Union best practice and approaches European Union national regulatory authorities have provided in terms risks occurring, types of fraudulent activities, with most relevant being substituting the number of the subscriber initiating a call (to benefit from a lower interconnect rate) and to the extent possible address the risks. There is no one size fits all solution available as national situation will most likely differ, however, for a particular type of fraudulent activity occurring, a reference to specific EU case be made and linked to issue at hand.

This report is to be read jointly with the Study and provides updated information on market situation, impact assessment of the suggested regulatory intervention, provides options for addressing the preferred way forward of EaP countries deriving from international commitments and depending on options selected – necessary changes in national frameworks as well as reiterates contents of RRA already agreed within the framework of preparation of the Study.



2. Introduction

2.1. Background and context of the report

With final endorsement coming during the 3rd Eastern Partnership Ministerial Meeting on Digital Economy held on 28 February 2019 in Bucharest, Romania, the 6 Eastern Partnership countries of Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine have committed to sign by the end of 2020 a Regional Roaming Arrangement, in order to reduce the roaming tariffs in the Partnership region. There has been an ongoing effort in the 6 countries and the body of Eastern Partnership electronic communications regulatory authorities the EaPeReg to provide for harmonised and forward-looking approach aimed at establishing the common mobile electronic communications roaming area. This work also culminated at the 3rd EaP Ministerial Meeting on Digital Economy where the participants adopted the joint roadmap for the 6 countries prepared by the REWG of their national regulatory authorities for electronic communications. To support with practicalities and contribute to the objective of reducing mobile telephone roaming charges³ a feasibility study “Harmonising International Roaming Pricing and Reducing Roaming Tariffs among the Eastern Partnership Countries” (hereinafter – the Study) was conducted in 2017. The participants of the 3rd Ministerial Meeting on Digital Economy also welcomed final results of the Study, notably the options and measures proposed, while recognising the need for their update based on recent market data (period 2017 – 2018).

In January 2019 Eastern Partnership wide EU4Digital facility was launched covering inter alia telecommunications area. The facility will serve as a support mechanism for decision makers and experts in the EaP countries’ in telecommunications area by providing assistance to address tasks related to international roaming and potential arrangement on creating a common international roaming space among the 6 EaP countries, strengthening the independence of national regulatory authorities, and freeing the 700 MHz band for future mobile usage.

The Study after collecting information from market participants and public sources, following an in-depth analysis of market conditions in the EaP countries contrasts the differences in applicable local pricing and that available to EaP country mobile operators’ customers with a view of setting up a common roaming area, where the applicable rates for mobile international roaming services would be reduced to a level reflecting costs incurred.

The Study ultimately concludes that an amended European Union roaming regulation model (AERRM) shall be implemented in the EaP countries. Under this model wholesale and retail prices would be aligned with the EU levels and retail prices would be set adding the wholesale roaming rates and domestic rates.

As market situation has evolved in terms of pricing and consumption over the past 2 years since the data collection exercise and finalisation of the Study, EU4Digital finalised new round of data collection to support the impact assessment and fill the time gap between the finalisation of the Study and guidance of the 3rd Ministerial meeting on Digital Economy.

Starting further from the existing analysis and the findings of the study for the regional roaming arrangement design purposes the EU4Digital facility will prepare specific country profiles on state of play with national roaming regulatory frameworks, suggest best-practice analysis from select international cases against the background of specificities of

³ Study, p.7.



international commitments of the Eastern Partnership countries as well as follow the guidance of the 3rd Ministerial meeting and where appropriate update the finding of the Study with the main focus on impact assessment.

Related to actual volume of payments by roaming customers, an important point to mention is impact of potential double taxation on retail pricing whereby a traveling customer may be taxed both in domestic and visited countries thereby increasing the applicable retail prices. According to the Study, a separate solution to avoid double taxation is not required and EU4Digital review of most recently available information confirms the conclusion.

2.2. Intended purpose and use of the report

This document is aimed to accrue inputs and information required for as-is situation assessment, design and successful introduction of a regional roaming arrangement serving as an expert reference for the decision makers and stakeholders in assessing the impact of introduction and arriving at optimum proposal on approach aiming at establishing common roaming space from following perspectives:

- Market situation and outlook;
- Regulatory frameworks;
- International commitments.

The Study and its' findings remain valid and this document shall be read jointly with the Study.

2.3. Suggested approach for a model for harmonised reduction of rates

From the point of view of implementation, the Study suggests 3 viable options Evaluation of possible intervention schemes:

- **EU Roaming regulation model** – based on the EU Roaming regulation, which would regulate wholesale rates (setting them at the same level as in the EU) and eliminate retail roaming tariffs through a Roam-Like-At-Home (RLAH) model.
- **Amended EU Roaming regulation model (AERRM)** – partially based on the EU Roaming regulation, which would regulate wholesale rates (setting them at the same level as in the EU) and set the retail rates equal to RLAH rates and charge to wholesale rate on top.
- **Clear wholesale and retail rates model** – based on a detailed costing study to establish specific EaP rates for wholesale and retail tariffs.

The 3 approaches are further analysed from the perspectives of ease of implementation, regulatory fit, impact on customers and undertakings, future outlook. As a result of the analysis the AERRM is proposed as optimum, given the circumstances (please see Table 1 below).

**Table 1.** Evaluation summary (max score 5, min score 1)

Criteria	EU model	Amended EU model	EaP specific model
Implementation	5	5	2
Regulatory fit	1	4	5
Customer impact	5	3	3
Operator impact	1	5	5
Future perspective	5	5	3
Total	17	22	18
Ranking	3rd	1st	2nd

Source: feasibility study “Harmonising International Roaming Pricing and Reducing Roaming Tariffs among the Eastern Partnership Countries”

From the perspective of applicable pricing the Study suggests glidepath for international roaming services of voice, SMS and data transmission both on retail and wholesale as well as glidepath for applicable mobile international termination rates.

Pursuant to the Study, the proposed model for intervention would entitle setting wholesale pricing in line with current EU regulatory approach:

- 0.032 EUR per outgoing minute;
- 0.0 EUR for incoming calls;
- 0.01 EUR for outgoing SMS;
- and 7.7 EUR for a GB of data.

Pursuant to the Study applicable retail price will be calculated as relevant wholesale rate with adding a calculated domestic retail rate.

The Study, based on proprietary methodology, assesses the impact of reduction of applicable roaming rates according to the price reduction scenario as outlined above. The EU4Digital was tasked by applying the identical methodology and latest market data to update the impact assessment as calculated by the Study, however, also to assess the impact of lowering of applicable mobile international termination rates.

As full set of information was not provided during the preparation of the Study, the Study acknowledges potential impact of decreases in values of applicable mobile international termination rates on specific markets and/or operators, however, do not estimate the impact. EU4Digital via the EaPeReg Roaming Expert Working Group collected the aggregated information per country and applied the identical approach used for modelling of roaming price decrease effects applied to the domain of international termination rates which is to be added to roaming impact assessment for complete estimation. As differentiation of termination rates depending on the originated country may trigger certain activities that may be deemed to be fraudulent in their nature, the Annex 3 presents the European Union experience as well chapter 8.2., summary of activities undertaken by European Union regulatory authorities to tackle those.

There are however options when it comes to the form and content of the potential arrangement, further detailed in this document and pending decision making of relevant EaP stakeholders. The Study identifies changes to be introduced to national frameworks in order to implement the suggested AERRM approach. As EU4Digital further explored options for



type of RRA to be concluded from the perspective of EaP countries international commitments, the suggested by the Study approach is valid for options 1, 2, 3 as described below in the section 6.2. For the option 4, a specific regulatory framework is not necessary.

There have been developments in the best practice analysis highlighted and reviewed by the Study – the European Union and the Western Balkans countries roaming agreement. The suggested approach of introduction of RRA the AERRM is based on European Union roaming regulatory model, however, the most recent iteration of Western Balkans roaming agreement is not entirely comparable within the context of the EaP RRA, due the existence of comprehensive free trade agreement.



3. EaP Region Roaming Market Overview

3.1. Telecommunications industry summary

This chapter describes the mobile electronic communications market in Eastern Partnership countries and roaming mobile services market in particular.

Since the finalisation of the Study in 2017 several changes have occurred from the perspective of ownership or group membership of market participants the mobile operators of the EaP countries – in Georgia, mobile operator previously operating within the Telia group became independently operating one, under a brand name – Silknet and in Azerbaijan the mobile operator Azercell also operating within Telia group became independently operating.

Figure 1. Mobile operators in EaP countries

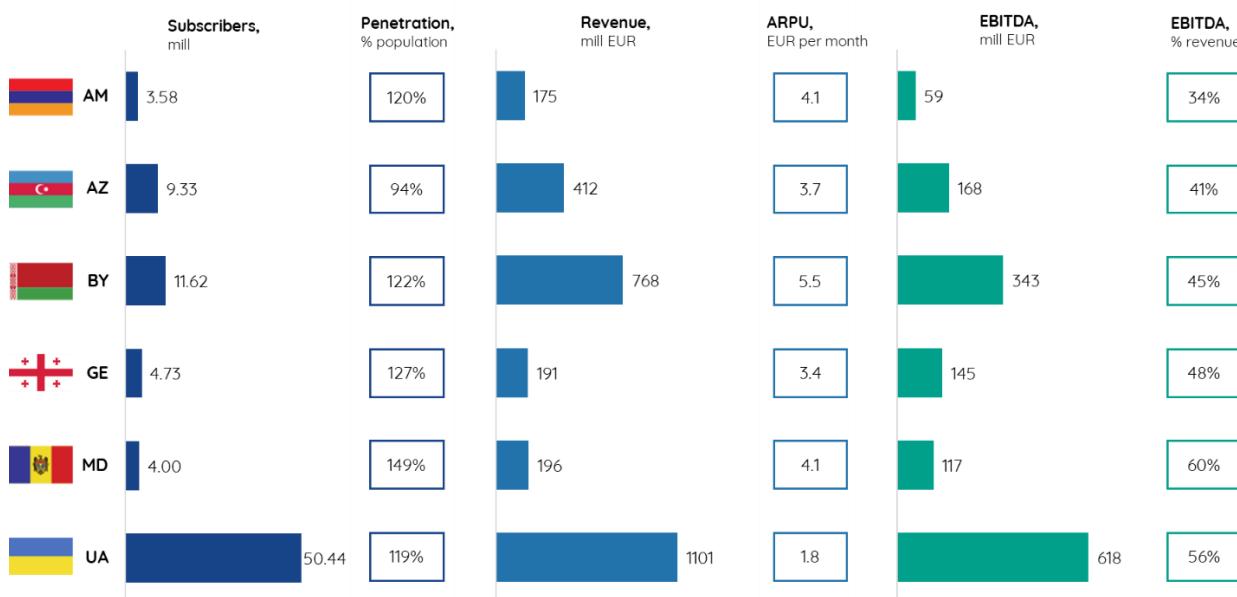
	Armenia	Azerbaijan	Belarus	Georgia	Moldova	Ukraine
Telia						
MTS						
VEON						
Turkcell						
Other						

In 2018, in the 6 EaP countries there were just over 80 million mobile users and mobile services markets were of a reported capacity of just under EUR 2.4 billion, with Ukraine being the largest market with over EUR 1 billion of revenues and over 50 million active connections, in fact, more than a half of all EaP mobile connections.

In terms of main market and financial indicators, updated financial and operational key performance indicators are summarised below.



Figure 2. Main financial KPIs in 2018

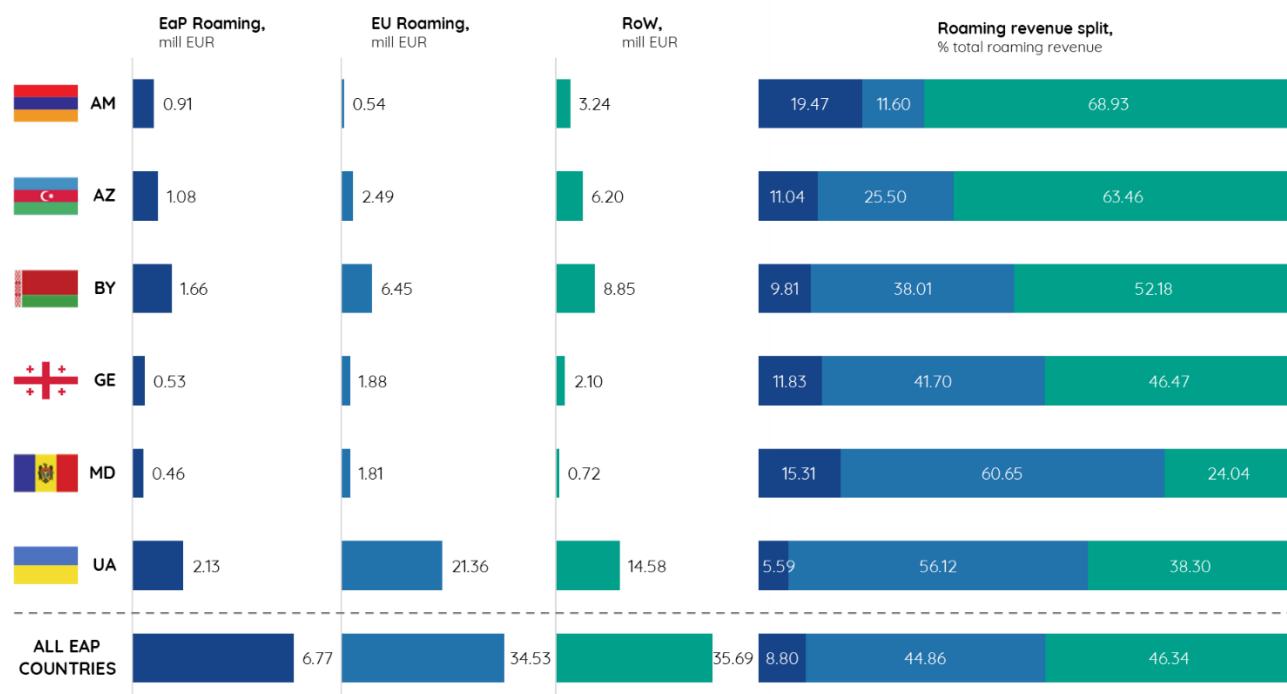


Source: Consolidated country level data provided by the operators

3.2. Roaming KPIs

Out of the overall mobile service market revenues, mobile roaming services amounted to EUR 76.9 million and Eastern Partnership retail roaming totalling to EUR 6.75 million, which represent respectively 3.24% and 0.28% of total mobile services revenues. The segment of the market covered by the potential arrangement on common roaming space with potentially reduced applicable rates is therefore of EUR 6.75 million value and 0.28% of the mobile services market of Eastern Partnership countries so the financial impact on mobile operators is expected to be minor. It must be noted; however, the actual 5-year impact may be altered in monetary terms in particular due to the impact of traffic balances as well as natural course of development of electronic communications markets and services consumption habits following introduction of harmonised roaming area among the EaP countries.

Among the EaP countries there were 2 countries (Moldova and Ukraine) for whom retail roaming revenues for generated by roaming customers roaming in EU exceeded those generated while roaming in the EaP countries. However, for 3 countries (Belarus, Armenia and Azerbaijan) majority of retail roaming revenues were generated outside both EaP and the EU.

**Figure 3.** Roaming revenues distribution per roaming destination in 2018

Source: Consolidated country level data provided by the operators

3.3. Local and roaming services' price analysis

Roaming study was concluded that roaming prices in EaP for voice services are 10 to 20 times, SMS prices by 10 to 15 times, and data by 30 to 70 times⁴ higher than amended EU model (EU wholesale, plus domestic effective prices). The average local prices of voice, SMS and data services were lower than the average roaming tariffs by 225, 9 and 423 times respectively⁵.

Since the finalisation of the Study substantial roaming service price developments have taken place in the EaP countries. Overall, positive developments can be evidenced however, on a country by country level per direction and roaming service it is observed further decreases of applicable rates are required to bring the pricing schemes in line with the suggested level of AAERM (European Union wholesale price + domestic effective price). In all cases analysed there were substantial differences identified between prices available for local (domestic) services and those available while roaming. For the year 2018, roaming prices in EaP are on average 87% higher than amended EU model (EU wholesale, plus domestic effective prices), and also 96% higher than local rates.

The following chapter explores local and roaming pricing dynamics observed over the period of recent data collection on country level.

3.3.1. Local and services' effective price comparison roaming

This chapter highlights and breaks down the applicable prices for local mobile electronic communications services and those available to the customers while roaming.

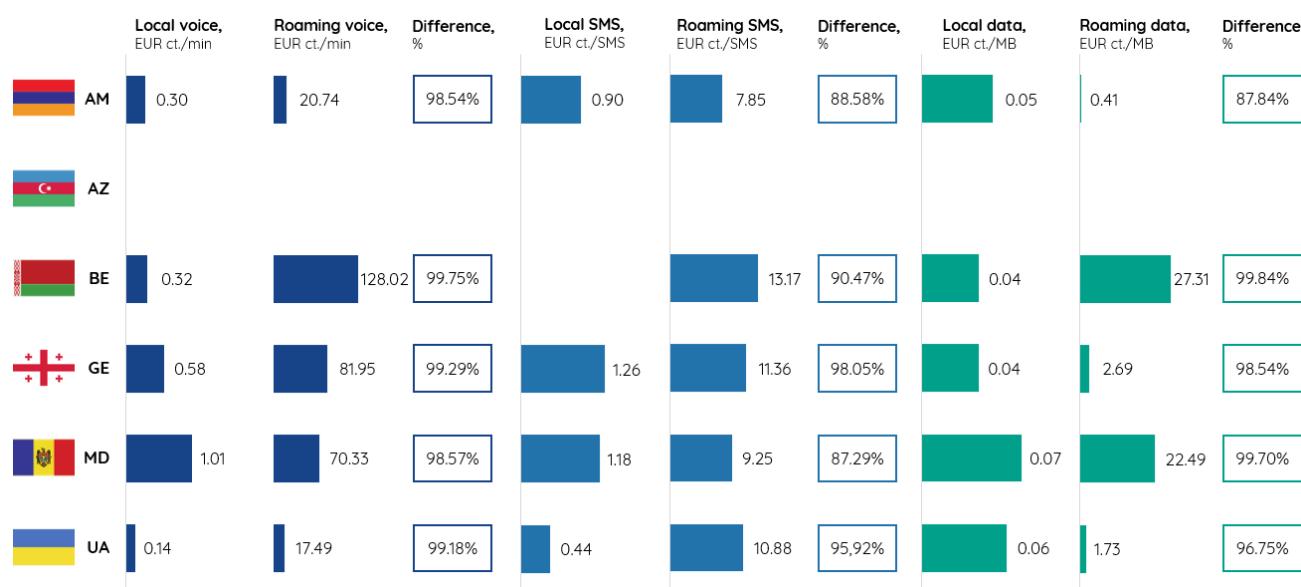
⁴ Study, p. 100

⁵ Study, p. 56



For local and roaming voice, SMS and data transmission services in 2018 there are following prices and indicated differences:

Figure 4. Local and roaming voice, SMS and data transmission services prices and differences in 2018



Source: Consolidated country level data provided by the operators

3.3.2. EaP roaming prices compared to EU wholesale levels under the AERRM

As noted above, price developments have taken place in the EaP countries. In some instances, there have been substantial price reductions, however, it must be noted that substantial price reductions are still to be implemented in order to reach the calculated target levels – European Union wholesale price for a particular service plus domestic effective price. If 2018 effective prices⁶ that take into account most recent market developments are compared to the calculated Study target prices calculated as European Union wholesale price added to the domestic retail price per EaP country per service, on average a decrease of just over 87% is to be expected. It must also be noted that in some instances increase in effective roaming prices have been observed. Below are the results of calculations and indications of effective applicable EaP roaming prices against the background of target rates per country as outlined by the Study. In all cases prices are given in Euro; for voice services per minute, for SMS per SMS, for data transmission per Megabyte in a 3-year perspective.

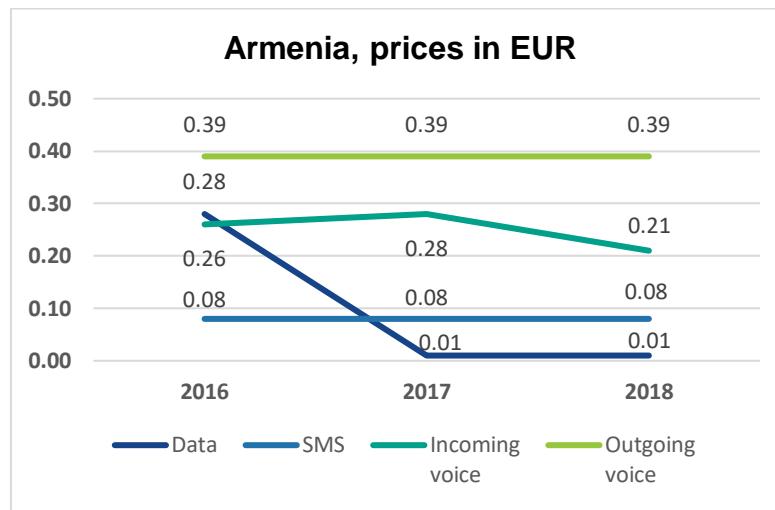
Armenia

There have been price fluctuations for all roaming services in Armenia, however there was a comparatively steep decline in price for EaP roaming data transmission.

⁶ Effective prices are derived from aggregated price information provided by the EaP countries which in turn collect the information from the mobile operators. Effective prices are calculated as service revenues divided by service traffic



Figure 5. Roaming services pricing changes in Armenia



For Armenia following effective prices for EaP roaming services and following target rates are calculated in EUR:

Table 2. Effective (2018) and target (2017) prices of roaming services in Armenia (EUR)

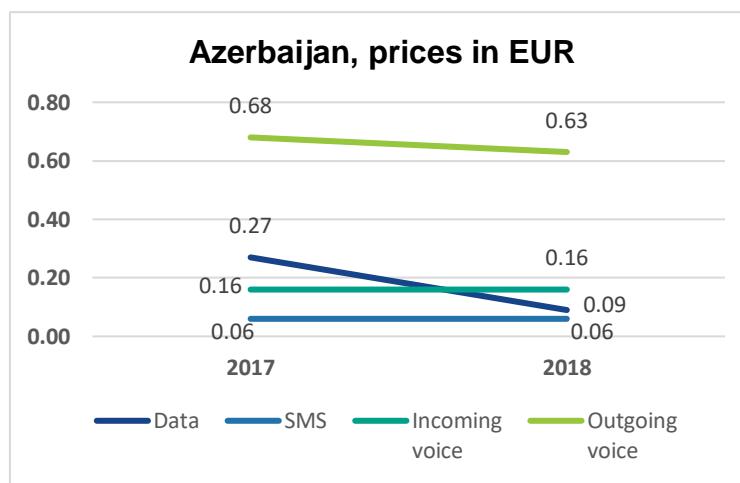
Service	Effective Price 2018	Target Price 2017
Outgoing voice	0.387	0.037
Incoming voice	0.211	0.011
SMS	0.079	0.019
Data transmission	0.006	0.008

For Armenia roaming data transmission services it is only case EU4Digital came across where effective price is below the 2017 calculated target price.

Azerbaijan

For Azerbaijan information is available for 2017 and 2018. With 2 data points it would be challenging to describe a trend, however, very much in line with other EaP countries tendencies, prices for roaming voice services and data have declined.

Figure 6. Roaming services pricing changes in Azerbaijan





For Azerbaijan following effective prices for roaming services and following target rates are calculated in EUR:

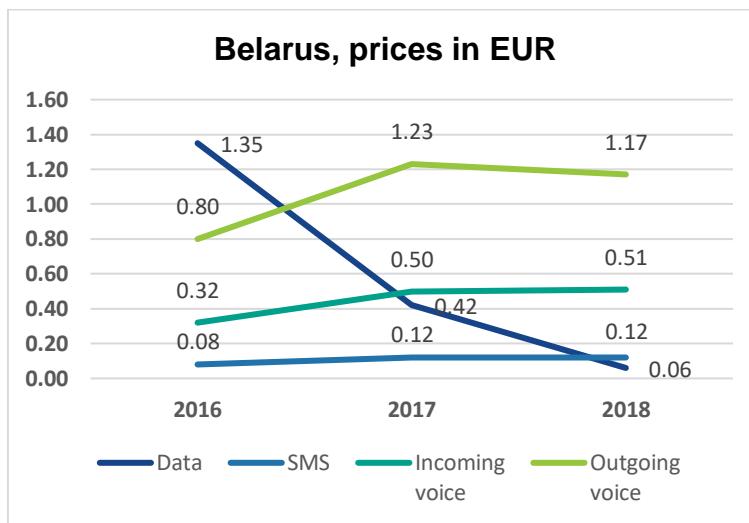
Table 3. Effective (2018) and target (2017) prices of roaming services in Azerbaijan (EUR)

Service	Effective Price 2018	Target Price 2017
Outgoing voice	0.629	0.043
Incoming voice	0.156	0.011
SMS	0.062	0.015
Data transmission	0.092	0.0095

Belarus

For Belarus over the reporting period there has been steep decline in roaming price of data transmission, again along the lines of developments in rest of EaP countries. There has been however also an increase of price of voice communication services.

Figure 7. Roaming services pricing changes in Belarus



For Belarus following effective prices for roaming services and following target rates are calculated in EUR:

Table 4. Effective (2018) and target (2017) prices of roaming services in Belarus (EUR)

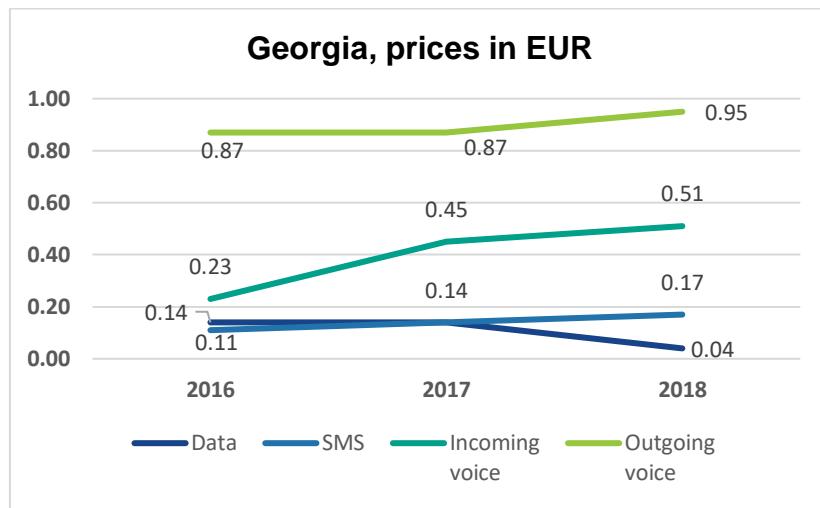
Service	Effective Price 2018	Target Price 2017
Outgoing voice	1.173	0.037
Incoming voice	0.511	0.511
SMS	0.122	0.018
Data transmission	0.056	0.009

Georgia

For Georgia, the overall trend in EaP countries to reduce applicable rates for roaming data transmission services is maintained, however, prices for both incoming and outgoing voice have increased.



Figure 8. Roaming services pricing changes in Georgia



For Georgia following effective prices for roaming services and following target rates are calculated in EUR:

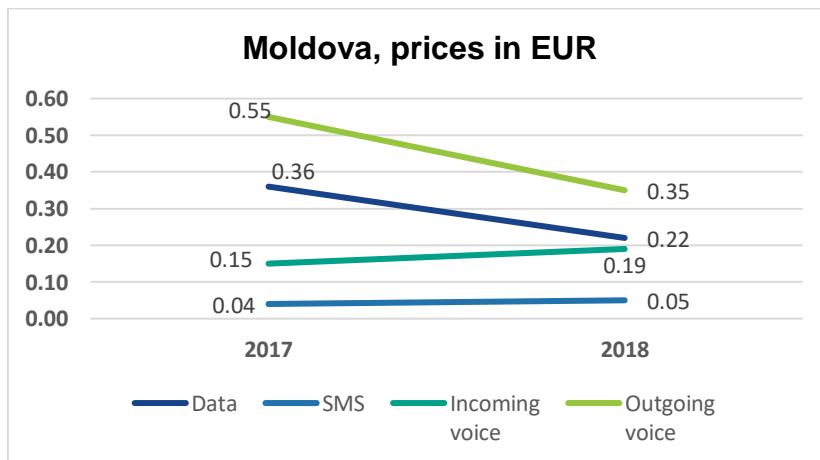
Table 5. Effective (2018) and target (2017) prices of roaming services in Georgia (EUR)

Service	Effective Price 2018	Target Price 2017
Outgoing voice	0.955	0.037
Incoming voice	0.513	0.511
SMS	0.167	0.018
Data transmission	0.045	0.009

Moldova

For Moldova information is available for 2017 and 2018. With 2 data points it would be challenging to describe a trend, however, very much in line with other EaP countries tendencies, prices for data have declined and outgoing voice have declined.

Figure 9. Roaming services pricing changes in Moldova





For Moldova following effective prices for roaming services and following target rates are calculated in EUR:

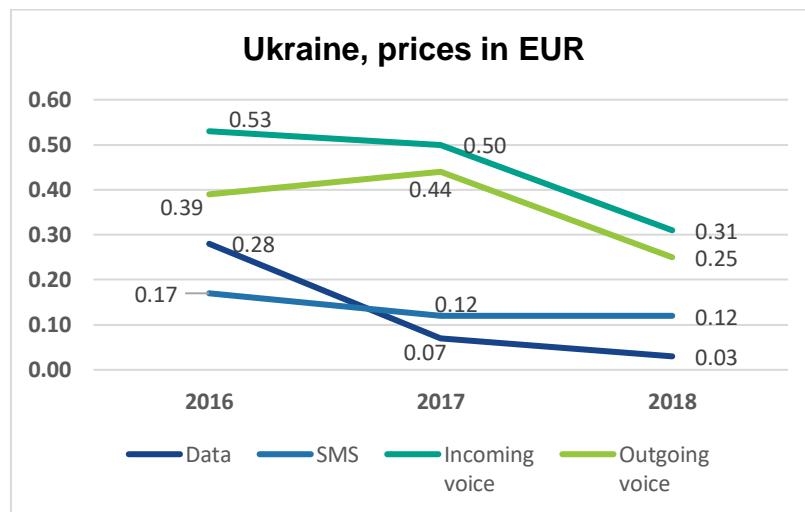
Table 6. Effective (2018) and target (2017) prices of roaming services in Moldova (EUR)

Service	Effective Price 2018	Target Price 2017
Outgoing voice	0.346	0.037
Incoming voice	0.190	0.511
SMS	0.052	0.018
Data transmission	0.216	0.009

Ukraine

For Ukrainian roaming customers within the reporting period effective prices of all EaP roaming services have decreased:

Figure 10. Roaming services pricing changes in Ukraine



For Ukraine following effective prices for roaming services and following target rates are calculated in EUR:

Table 7. Effective (2018) and target (2017) prices of roaming services in Ukraine (EUR)

Service	Effective Price 2018	Target Price 2017
Outgoing voice	0.251	0.034
Incoming voice	0.313	0.011
SMS	0.122	0.018
Data transmission	0.030	0.009



4. Estimated Impact of Reduced Roaming Charges and IMTRs

4.1. Estimated impact of reducing of roaming charges

The Study in great detail based on actual data provided by the EaP countries and data sets reflecting EU roaming price reduction regulatory framework and effects constructed demand curves the analyse the impact of harmonising the roaming rates within the EaP region and harmonising the regulatory approach to that of the EU and trends that took effect within EU following several iterations of regulatory interventions on international roaming services. Please see the

Table 8 below.

Table 8. Effects of a decrease in roaming service prices (change in total surplus, mEUR)

Country	Voice Out	Voice In	SMS	Data	Total
Armenia	0.27	0.69	0.00	0.46	1.42
Azerbaijan					
Belarus	1.55	0.79	0.02	7.36	9.73
Georgia	0.85	0.29	0.02	0.25	1.42
Moldova					
Ukraine	0.88	11.93	0.24	6.97	20.02
Total	3.55	13.70	0.28	15.05	32.59

Source: feasibility study "Harmonising International Roaming Pricing and Reducing Roaming Tariffs among the Eastern Partnership Countries"

Estimated by the Study the total surplus of proposed introduction of AERRM approach in the EaP countries is valued at EUR 32.59 million over the course of introduction with consumer savings amounting to EUR 39.25 million and operators surplus amounting to EUR -6.67 million.

The purpose of this paper was to update the impact assessment of the Study given the market developments since the 2 years of finalisation of the Study both in terms of expected roaming and international mobile termination rate reduction. Following this approach, the EU4Digital team based on the methodology devised for the purpose of preparation of the Study has worked to update the impact assessment based on the suggested AERRM approach. For this purpose, with assistance of EaPeReg REWG a data collection exercise was carried out in May and June 2019 aimed at updating the data sets made available by the Study team. Below the EU4Digital facility using methodology as set forth by the Study and using updated market data collected via national regulatory authorities of the EaP countries estimates and update the monetary market impact of introduction of AERRM. The methodology applied is described in detail in the Study p. 77-79 and calculation retail prices derived for individual services from bundles in Annex 6.

The based on the information provided the updated total surplus is estimated at EUR 5.26 million, comprised of EUR 2.59 million generated by the roaming voice out service, EUR 2.56 million generated by roaming voice in service, EUR 0.06 million generated by roaming SMS service and EUR 0.06 million by the data transmission services. Updated estimation



is a strong deviation from the originally estimated total surplus of EUR 32.6 million. The main reason behind this development are substantial reductions pricing in data pricing and voice in services. In absolute numbers, the Study estimated surplus for data transmission services. It must also be noted that due to still substantial differences in domestic and effective roaming charges and emergence of Over-the-Top services (data-transmission-based services) roaming customers are opting to the convenience of using of available Wi-Fi networks for both voice and message exchanges and video communication capabilities on top. There is however, no meaningful scenario to estimate the migrated or on top generated volumes.

It must be noted that comparing the calculations with the Study ones, a substantial decrease from EUR 39.3 million to EUR 11.3 million is observed on consumer side, due to the price reduction already taking place, while the producer side surplus remained comparative at EUR -6.7 million and EUR -6.02 million respectively. These changes are due to the market developments that have already taken place in EaP countries whereby there have already been substantial reductions in applicable roaming prices and as impact is assessed as cumulative indicators, comparative volume of market is driving the overall impact from regional perspective.

4.1.1. Potential impact for the customers of roaming services

Following the Study methodology, it is estimated an overall positive monetary impact for the customers as a result of harmonised introduction of AERRM of EUR 11.3 million.

Table 9. Estimated potential impact for roaming customers as a result of roaming rate reduction (EUR)

Country	Voice Out	Voice In	SMS	Data	Total
Armenia	468 334	567 845	23 075	108 767	1 168 021
Azerbaijan	818 615	236 449	20 896	332 945	1 408 905
Belarus	2 539 710	1 482 180	148 391	184 937	4 355 218
Georgia	428 566	650 652	46 228	103 218	1 228 664
Moldova	213 787	178 948	21 235	138 252	552 222
Ukraine	665 179	1 271 970	113 720	527 780	2 578 649
Total	5 134 191	4 388 044	373 545	1 395 899	11 291 679

Source: EU4Digital facility calculations



4.1.2. Potential impact for the mobile operators

The producer surplus as a result of introduction AERRM is estimated at a negative EUR 6.02 million.

Table 10. Estimated potential impact for mobile operators as a result of roaming rate reduction (EUR)

Country	Voice Out	Voice In	SMS	Data	Total
Armenia	-341 869	-353 577	-20 646	-107 844	-823 935
Azerbaijan	-469 909	-168 739	-19 264	-313 435	-971 346
Belarus	-838 461	-404 102	-124 722	-178 676	-1 545 961
Georgia	-177 833	-176 482	-36 620	-100 568	-491 503
Moldova	-162 716	-117 477	-19 926	-119 256	-419 375
Ukraine	-550 472	-607 015	-95 619	-519 095	-1 772 201
Total	-2 541 259	-1 827 392	-316 796	-1 338 873	-6 024 320

Source: EU4Digital facility calculations

4.2. Estimated impact of reduction of international termination rates (IMTR)

As integral part in assessing the overall impact, the EU4Digital was tasked inter alia to assess the impact of introduction of RRA to revenues generated by the provision of voice termination services on mobile networks. This chapter expands the impact assessment approach with regard the international roaming services to the international voice termination services and estimates monetary impact of suggested by Study of rate reductions.

4.2.1. Approach toward IMTRs

While the Study recommends approach towards the applicable IMTRs, it does not estimate the reduction impact due to the unavailability of data. The Study recommends to gradually decrease IMTRs towards average mobile termination rates in the EU. Please see Table 11 below.

Table 11. Recommended timeline for international termination changes (MTR) reduction

	Now	Year 1	Year 2	Year 3	Year 4	Year 5
Voice out (EUR ct per min)	12.0 – 24.1	12.0	8.0	4.0	1.0	New EU average rate

Source: feasibility study “Harmonising International Roaming Pricing and Reducing Roaming Tariffs among the Eastern Partnership Countries”

The proposed decrease is aligned with relevant margins providers of international roaming services would incur for provision of termination services. Based on the EU best regulatory practice of voice call termination services price per unit of terminated traffic on both fixed and mobile networks are regulated. Regulatory intervention comes as part of the so-called market analysis procedure whereby national regulatory authority look and evaluate whether termination services are provided in an effectively competitive market. Typically, under the calling party pays scenario, the terminating undertaking enjoys a dominant position on its



own network as supply substitution of termination is not possible whereby enabling potentially not competition-based market behaviour. As a result of this, regulatory authorities are in position to impose certain behavioural obligations, in order to simulate in the market competitive conditions. One these obligations, remedies, is related to cost/price regulation whereby cost orientation of applicable voice call termination tariffs is required. Under this obligation and European Commission Recommendation ⁷ national regulatory authorities would be empowered to and seek to align applicable tariffs with costs of an efficient operator by means of evaluation of efficient costs basing on current cost and the use of a bottom-up modelling approach using long-run incremental costs (LRIC) as the relevant cost methodology. As this approach is implemented on national level following certain procedural steps, the glidepath as suggested by the Study can be used as starting point with national regulatory authorities following up the glidepath with procedures and measures of their own, in order to ensure sufficient revenues and implementation of cost orientation principles.

4.2.2. Estimated impact of IMTR reduction

When it comes to actual monetary impact of changes introduced to the level of applicable termination rates, the EU4Digital, applying the methodology serving the calculation in the Study, has estimated changes in traffic volumes due to the decreases in applicable roaming charges. These changes are in direct connection to the volumes mobile operators can expect to terminate on their electronic communications networks. As the suggestion is to decrease the applicable level of termination rates, there will be a direct impact on revenues mobile operators are generating from providing of international mobile termination services.

All directions of voice traffic have been mapped and changes in volumes of traffic have been estimated and compared to actual. The monetary impact has been assessed as a difference between revenues generated in a situation where there are no reductions in applicable termination rates as opposed to the situation where there is, given the suggested levels of termination rates as suggested by the Study in the final year of implementation of glidepath. In fact, the immediate effect will be lower as the first rung of glidepath is suggested to be of a comparatively substantially higher value as the end result.

The information provided to EU4Digital is not covering all EaP countries and in those countries for which the information has been made available, limited comparison and calculation can be made.

The applicable levels of termination rates observed for domestically originated traffic and traffic originated outside – international traffic, are typically different. Only the rates for termination of international traffic are covered by the roaming rate reduction exercise.

Overall growth of volumes for voice traffic are expected ranging from just over 180% to over 1400%. The growth in traffic is expected to offset to certain extent the expected monetary impact however an overall decrease in revenues generated is expected as per table below.

⁷ COMMISSION RECOMMENDATION of 7 May 2009 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU (2009/396/EC)

**Table 12.** Estimated monetary impact of reduction of applicable mobile termination rates

	AS IS Volume	TO BE Volume	As Is IMTR, EUR	To Be IMTR, EUR	As Is Revenue, EUR	To Be Revenue, EUR	%
AR	218 609	1 381 049	0.15	0.01	33 353	13 810	59
AZ	276 156	2 222 757	0.13	0.01	36 698	22 228	39
GE	2 687 799	7 902 174	0.19	0.01	510 682	79 022	85
MD	586 439	2 462 301	0.13	0.01	73 541	24 623	67
UA	2 050 349	9 297 988	0.10	0.01	204 780	92 980	55

Source: EU4Digital facility calculations

As implementation of RRA for voice services available while roaming will require decrease of applicable international termination among the 6 EaP Countries, this may lead to a situation when due differences in applicable national and international and/or EaP region termination rates a situation may occur where potentially fraudulent activities may take place. EaPeReg REWG participants indicated interest in understanding how fraudulent activities have been dealt with the EU electronic communications regulatory authorities and as a result of communication between the EaPeReg Vice Chair 2019 the national regulatory authority of the Republic of Latvia the Sabiedrisko pakalpojumu regulēšanas komisija and Independent Regulators Group, a questionnaire on Frauds in the Electronic Communications Sector covering all EU Member States and circulated by the national regulatory authority of the Republic of Poland the [Urzad Komunikacji Elektronicznej](#) was shared with the EU4Digital team, available in the Annex 3 while a summary of inputs and measures reviewed is included in the chapter 8.2. of this report.

4.2.3. Estimated total impact

Total estimated impact is calculated as a sum of monetary impact of reduction of applicable roaming rates and the estimated monetary impact of reduction of applicable IMTRs. As reduction of roaming rates is estimated to bring EUR 5.26m of societal welfare and proposed glidepath of IMTRs would bring a EUR -0.626m impact on revenues, the total estimated impact is calculated at EUR 4.64m.

The impact is expected to be higher but not significantly as there is an obvious major difference between roaming revenues and those generated by termination of international traffic on mobile networks and only for termination part not all EaP countries provided relevant data to the EU4Digital.

Table 13. Estimated total impact of harmonisation of EaP roaming prices and the IMTRs

Country	IMTR impact, EUR	Roaming Impact, EUR	Total Impact, EUR
Armenia	-19 542	344 086	324 543
Azerbaijan	-14 470	437 559	423 089
Belarus	<i>Data is not available</i>	2 809 257	2 809 257
Georgia	-431 660	737 161	305 501
Moldova	-48 918	132 847	83 929
Ukraine	-111 800	806 448	694 649
Total	-626 390	5 267 358	4 640 968

Source: EU4Digital facility calculations



5. Suggested Timeline and Glidepath for Price Reduction

The suggested approach under the AERRM would imply a glidepath (timeline) with that would allow full implementation of the AERRM over five years, while ensuring a coherent decrease of roaming charges and giving the operators time to adjust accordingly. The suggested timeline for wholesale charges (Please see Table 14 below) in Year 1 would start with the current lowest wholesale price observed within EaP countries.

Table 14. Recommended timeline for wholesale roaming charges reduction

	Now	Year 1	Year 2	Year 3	Year 4	Year 5
Voice out (EUR ct. per min)	16.5 – 53.0	16.5	10.0	6.0	3.2	New EU rate
Voice in (EUR ct. per min)	1.0 – 13.0	1.0	1.0	1.0	1.0	New EU rate
SMS (EUR ct. per SMS)	4.0 – 6.5	4.0	3.0	2.0	1.0	New EU rate
Data (EUR per GB)	96.0 – 208.0	96.0	50.0	25.0	7.7	New EU rate

Source: feasibility study “Harmonising International Roaming Pricing and Reducing Roaming Tariffs among the Eastern Partnership Countries”

Prices would reach EU wholesale roaming prices of 2017 in Year 4 and would further decrease to the then-new EU wholesale roaming rate in Year 5. Retail roaming charges (please see Table 15 below) are set with a 50% mark-up from wholesale cost and would gradually move in Year 5 to the then-current wholesale level, plus the effective national price applied at that time.

Table 15. Recommended timeline for retail roaming charges reduction

	Now	Year 1	Year 2	Year 3	Year 4	Year 5
Voice out (EUR ct. per min)	39.0 – 53.0	24.8	15.0	9.0	4.8	Wholesale + national
Voice in (EUR ct. per min)	14.0 – 53.0	1.5	1.5	1.5	1.5	Wholesale + national
SMS (EUR ct. per SMS)	7.5 – 17.0	7.6	4.5	3.0	1.5	Wholesale + national
Data (EUR per GB)	137.0 – 1350.0	137.0	75.0	37.5	11.6	Wholesale + national

Source: feasibility study “Harmonising International Roaming Pricing and Reducing Roaming Tariffs among the Eastern Partnership Countries”



6. Safeguard Issues

For the currently applicable EU RLAH regulatory framework certain balancing measures have been introduced in form of fair use policy to ensure transparency and predictability for supply and demand sides involved in international roaming transaction. The Study reviews potential safeguards in the light of the proposed *AERRM* and considers that safeguard measures will not be necessary to prevent abusive uses by customers. Indeed, although the model proposes much lower tariffs than the current ones, it will still represent a higher cost to the users than what they usually pay at home. It is unlikely therefore that they will abuse the system. And moreover, as retail prices and wholesale costs will be aligned with sufficient margins, even extensive usage will ensure proportional return.



7. Description of the Impediments and Possible Barriers to the Realisation of the RRA, Suggested Mitigation Means

7.1. State of Play – EaP partner countries' international commitments

The Study suggested approach of AERRM would take form of an intergovernmental agreement (please see Annex 2 for contents). However, as an intergovernmental agreement it would become part of overall group of EaP country's international commitments. Following the international commitments dimension, this chapter summarises the analysis of international commitments by the EaP countries, based on the Study findings and additionally collected information from the EaP countries about existing free trade agreements (hereinafter – FTAs).

Table below provides the summary of the EaP countries' international commitments, state of play and impact on potential RRA.

Table 16. Summary of the EaP countries' international commitments

No.	Type of international commitment	State of play and / or comment regarding impact on potential RRA
1	17 January 1997 Treaty on cooperation among the CIS countries in the development and use of cellular mobile communications systems and the development of mechanisms and accounting systems	No impact on RRA identified.
2	19 November 2010 Decision of the Council of CIS Heads of Government, which refers to competition in the telecommunications markets of the CIS Commonwealth	
3	30 October 2015 Framework Agreement on Inter-operator Settlements in the CIS countries	
4	18 October 2011 Treaty on a Free Trade Area between CIS members	
5	29 May 2014 Eurasian Economic Union	
6	FTAs among EaP countries	No impact on RRA identified. There is neither a comprehensive single trade agreement in effect among the 6 EaP countries, nor there are mesh of agreements covering trade between the 6 EaP countries on a bilateral or multilateral base. None of the existing bilateral agreements covers Trade in Services.
6	World Trade Organization (hereinafter –WTO), the General Agreement on Trade in Services (hereinafter – GATS)	Impact on RRA: <ul style="list-style-type: none">Out of the 6 EaP countries, 4 are members and 2 (Belarus and Azerbaijan) are at different stages of accession.All members of the WTO are parties to the GATS, which covers electronic communications services.Under GATS Article II Most Favoured Nation Clause (hereinafter – MFN) is introduced: when a party to GATS grants some advantage, those shall be made available to the services and service suppliers from all other WTO members.



As outlined in the table above, out of all EaP countries' international commitments, WTO GATS is identified as having an impact on potential RRA. Although it could be argued whether an intervention resulting in reduction of applicable rates and subsequent reduction on revenues for the supply side may constitute advantages, MFN principle needs to be considered for the conclusion of RRA. In the context of RRA, MFN would mean that any WTO Member may claim the benefit of the RRA, given that the reduction of the roaming tariffs among RRA parties could be considered to be an advantage for services and service suppliers.

Decision to sign RRA in order to reduce roaming prices in the EaP region was made only after careful studying of potential market impact and necessary conditions to protect interests of citizens and businesses. Thus, MFN principle providing any WTO party to be eligible for entering RRA without equal market impact or similar type of analysis, is seen as a risk for EaP countries' roaming market. To manage it, two possible exceptions to the obligation to grant MFN treatment to services and service suppliers from all WTO members are identified:

1. via a preferential trade agreement that meets the conditions of GATS Article V: e.g., it applies for broad free trade agreement having substantial services sectoral coverage or
2. via a recognition agreement that meets the conditions of GATS Article VII: it applies for agreements mutually recognizing the education or experience obtained, requirements met, or licenses or certifications granted.

Below in this document potential legal framework options for concluding a RRA are being explored.

7.2. Legal framework options for concluding an RRA

In light of the EaP countries' existing international commitments, findings of the Study, and discussions with REWG, four potential legal framework options have been identified for conclusion of an RRA:

1. Intergovernmental agreement and/or mesh type agreement;
2. Intergovernmental agreement and/or mesh type agreement under broader umbrella of comprehensive free trade agreement;
3. Intergovernmental agreement of Mutual Recognition Agreement (MRA) type;
4. Voluntary (facilitated) agreement among involved operators.

7.2.1. Option 1 - Intergovernmental agreement and/or mesh type agreement

Under the intergovernmental agreement and/or mesh type agreement option participating countries would sign either multilaterally or bilaterally covering all countries an RRA based on content proposal identified by the Study and in close cooperation with the REWG (please see Annex 2 for details). There would be no implications from international trade agreements perspective; however, the agreement or agreements would fall under scope GATS Article II and signees will be required to make available the advantages to all other WTO members. As a result, WTO Members would be enabled to request, and signatories obliged to extend the common roaming space minimum as per the signed conditions.



7.2.2. Option 2 - Intergovernmental agreement and/or mesh type agreement under broader umbrella of comprehensive free trade agreement

Under the intergovernmental agreement and/or mesh type agreement under broader umbrella of comprehensive free trade agreement option participating countries would sign either multilaterally or bilaterally covering all countries an RRA based on content proposal identified by the Study and in close cooperation with the REWG. By introducing an RRA under this option, the signees may invoke Article V of the GATS, given that there already is an agreement between two or more parties liberalising trade in services and meeting following two key conditions cumulatively:

1. substantial sectoral coverage for trade in services; and
2. the elimination of substantially all discrimination between the parties.

As described above, based on information available to the EU4Digital facility there is neither a comprehensive single trade agreement in effect among the 6 EaP countries, nor there is a mesh of agreements covering trade between the 6 EaP countries on a bilateral or multilateral base for the meeting of criteria to be evaluated, hence an RRA would not fall within the scope of Article V and Article II (MFN) would be applicable.

Should the RRA be concluded, not falling under the scope of Article V, agreement or agreements would fall under scope GATS Article II and signees will be required to make available the advantages to all other WTO members. As a result, WTO Members would be enabled to request, and signatories obliged to extend the common roaming space minimum as per the signed conditions.

7.2.3. Option 3 - Intergovernmental agreement of Mutual Recognition Agreement type

Under intergovernmental agreement of Mutual Recognition Agreement (MRA) type option a multilateral or bilateral agreement would be signed, recognising the completion and findings and content proposals of the Study by each of the EaP countries.

The open nature of MRA type agreement is aimed at helping easing access to markets as a result reducing the cost burden for cross border trade for producers and exporters associated with understanding the market regulatory mechanisms and ensuring compliance while at least partially addressing the risk that regulations and standards could be adopted and applied with aim at protecting domestic producers.

Under GATS Article VII WTO Members may recognise education or experience obtained, requirements met, or licenses or certifications granted in a particular country. Such recognition, which may be achieved through harmonisation or otherwise, may be based upon an agreement or arrangement with the country concerned or may be accorded autonomously.

As described above, a comprehensive Study on international roaming regulatory frameworks and market conditions has been conducted in the EaP countries, covering all potential parties to an international roaming arrangement. The Study looks in-depth at European Union underlying international roaming regulatory practice iterations and based on comparable European Union market dynamics resulted from regulatory intervention introduction models and assesses the market impact for the EaP countries. The Study is based on analysis of relevant market data provided by the EaP countries and aligned methodology so as to ensure possibility for consistent and continuous monitoring of results.

Equally to the European Union starting point and evolution of international roaming regulatory framework, the findings of the Study concludes that in the case of the EaP



countries, an intervention based on an amended EU roaming regulation model might be most appropriate. Furthermore, the Study Team estimates that such a model would also allow the EaP Countries to harmonise with the EU roaming pattern in the future while ensuring that the retail tariffs fully cover all costs and generate a fair profit, thus balancing the interests of both customers and operators. To this regards the Study identifies requirements for ensuring an efficient regulatory roaming policy in domestic markets. To ensure the expected outcome of creating level playing field for harmonised reduction of applicable rates for international roaming services in the 6 EaP countries, the model is to be applied simultaneously and following an analysis performed jointly by the members of the Roaming Expert Working Group and the Study team. The Study is to be recognised by EaP countries as best practice for balanced reduction of international roaming rates as per the recommendations of the Study.

Under this scenario an RRA in a form of a Mutual Recognition Agreement would cover the 6 EaP countries, with members mutually recognising a need for, the comprehensive nature and results ensuring positive impact of the Study as requirement for establishing a common international roaming area. As any other WTO Member may seek access to join the arrangement, for further extension of the MRA, requirement for joint, comprehensive study of international roaming conditions and impact assessment yielding positive potential benefits in the 6 countries and the accession country/ies would serve as a recognition element. A Conformity Assessment Body (CAB) would be setup by the 6 EaP countries for whom the EaPeReg Roaming Expert Working Group may act as advisory body or EaPeReg Roaming Expert Working Group may act as CAB in order assess the actual state of play of requirements met by the accession country's conformity assessment results. The role of CAB would be based on objective criteria of calculated potential positive benefits for the society (consumer savings and producer surplus) to assess and produce a decision on accession of any candidates to the MRA.

As any other WTO member may join the RRA, following a member's expressed interest in negotiating accession to an existing recognition agreement a relevant study shall be conducted based on identical methodology with assistance of the REWG ensuring a consistent application of EaP requirements met for harmonisation of roaming charges.

7.2.4. Option 4 - Voluntary (facilitated) agreement among involved operators

Under this option an RRA would cover the 6 EaP countries, however as opposed to the options outlined above, the signees of the agreement would be the business entities actually charged with implementation of the RRA on practical business-to-business relationship level – mobile operators. Even in the case RRA is taking a form of an inter-governmental agreement, the implementation would be left to the mobile operators introducing changes to their roaming agreements with partner mobile operators in EaP countries. This type of an agreement potentially facilitated by relevant EaP national ministries or regulatory authorities would have a voluntary business type contract setting a harmonised level of applicable roaming rates. The signing of such an agreement be it on bilateral and/or multilateral basis would entitle complex preparation and signing mechanism and require strong commitment both on the side signees and relevant governmental bodies acting purely as facilitators beforehand with involvement of the REWG. Once signed the RRA can be in theory immediately effective while the relevant authorities tasked with supervision functions and coordination via the REWG.

A document outlining the options on possible way forward keeping in mind the international commitments of the EaP countries has been circulated to relevant EaP countries'



governmental authorities via the EaP countries' Electronic Communications Regulators Network Roaming Expert Working Group to agree on the most appropriate legal framework option for signing a RRA; by the time of preparation of this document feedback is still pending. The feedback received will be main driver for further work of EU4Digital in preparing the roaming arrangement and validating the suggested group of activities related to RRA introduction as per the Study.



8. Required Policy, Legislative, Institutional and Regulatory Framework Changes

8.1. Recommended structure and provisions of the RRA

As RRA will take a form a cross border arrangement, the Study identifies a number of details to be addressed by the potential agreement. The requirements are divided into minimum (mandatory) and additional (optional). For detailed information per topic to be addressed please see Annex 2.

8.2. Gap analysis between EU regulation and the EaP countries

Important aspect is the ability of EaP countries to implement the decided upon roaming framework, therefore a set of principles coming from EU roaming regulatory framework taking form of Regulations needs to be reviewed and gaps between EU framework and that in each of the EaP countries need to be identified. This task was completed already by the Study and below is an extract of Study on gap analysis between EU framework and that of the EaP countries.

Table 17. Gap analysis between EU regulation and EaP countries

OBLIGATIONS FROM EU ROAMING REGULATION OF RELEVANCE FOR EaP COUNTRIES	GAP BETWEEN EaP AND EU OBLIGATIONS
<i>The Regulation 717/2007/EC provides that:</i>	<i>In the telecommunications laws of the EaP Countries</i>
The NRAs should take specific measures in relation to roaming and should not be limited to the sphere of intervention of SMP regulations	The telecommunications laws in Armenia, Georgia, Moldova and Ukraine do not allow the Regulator to take specific measures in relation to roaming and limit the Regulator's sphere of intervention to SMP regulations. The Ministries in Azerbaijan and Belarus have, likewise, limited powers of intervention
Roaming services tariffs should not be defined by commercial agreements alone	Most EaP Countries regulations do not address the question or provide that roaming services tariffs should be defined by commercial agreements alone
NRAs should impose obligations at both retail and wholesale level to protect the interests of roaming customers	Regulators cannot impose obligations at both retail and wholesale level to protect the interests of roaming customers outside of SMP regulations in AM, GE, MD and UA. Ministries in AZ and BE are also restricted
The NRAs should monitor and supervise compliance with the Regulation within their territory	In all EaP Countries the Regulator (or Ministry) does not have the authority to monitor and supervise compliance with the roaming regulation within its territory as in fact there is no regulation pertaining to international roaming
The NRAs should have the power to: - require mobile operators to supply all information relevant to the implementation and enforcement of the roaming regulations - require the immediate cessation of an infringement to the roaming regulations - implement penalties applicable to infringements of the roaming regulations	In the absence of a roaming regulation, the Regulators do not have any of these powers



The Regulation proposes to adopt a roaming regulatory approach which is: - simple to implement and monitor to minimise the administrative burden both for the operators and for the national regulatory authorities charged with its supervision and enforcement. - transparent and immediately understandable to all mobile customers within the EaP. - provides certainty and predictability to operators providing wholesale and retail roaming services	In the absence of a roaming regulation, the EaP Countries do not have a roaming regulatory approach
<i>The Regulation 544/2009/EU provides that:</i>	
Euro tariff shall be extended SMS	No regulation in the EaP provide for SMS tariffs
<i>The Regulation 531/2012/EU provides that:</i>	
A common approach to ensure that users of public mobile communications networks, when travelling within the Union, do not pay excessive prices for Union-wide roaming services in comparison with competitive national prices, when making calls and receiving calls, when sending and receiving SMS messages and when using packet switched data communication services shall be introduced	In the absence of a roaming regulation, there is no common approach on roaming amongst the EaP Countries
Lays down rules to enable the separate sale of regulated roaming services from domestic mobile communications services and sets out the conditions for wholesale access to public mobile communications networks for the purpose of providing regulated roaming services.	<p>The EaP regulatory frameworks do not provide for the separate sale of regulated roaming services.</p> <p>No conditions are provided for wholesale access to public mobile communications networks as international roaming is considered a commercial agreement between parties.</p>
It also lays down transitory rules on the charges that may be levied by roaming providers for the provision of regulated roaming services for voice calls and SMS messages originating and terminating within the Union and for packet switched data communication services used by roaming customers while roaming on a mobile communications network within the Union. It applies both to charges levied by network operators at wholesale level and to charges levied by roaming providers at retail level.	There are no rules on the charges to be levied by roaming providers in the EaP Countries.
	Although there are no common rules on transparency, all EaP Countries impose rules on their operators for the transparency of their services and these include roaming.
<i>The Regulation 2015/2120/EU provides that:</i>	
Roam-Like-At-Home principle shall be introduced	This principle does not exist in the EaP regulatory frameworks
<i>The Regulation 920/2017/EU provides that:</i>	
Wholesale prices shall be lowered enabling the introduction of RLAH from 15 June 2017	The EaP authorities do not have the power to reduce prices in the EaP regulatory frameworks

Source: feasibility study "Harmonising International Roaming Pricing and Reducing Roaming Tariffs among the Eastern Partnership Countries"



8.3. Recommendations on the changes to be made to the policies, national legislative, institutional and regulatory framework

Following the identification of the optimum intervention model of AERRM, having regard to the identified regulatory frameworks in the EaP countries and option of arrangement decided upon based on EaP country international commitments, as per the Study following changes to national regulatory setups are required to introduce a regional roaming arrangement per country.

Armenia

NECESSARY PREREQUISITES FOR AN EFFICIENT REGULATORY ROAMING POLICY

To ensure that a new roaming tariff could enter into force, it would be advisable to amend and clarify the Electronic Communications Law so as to allow the Regulator to define a roaming price-cap.

STEPS REQUIRED FOR THE APPLICATION OF A REGIONAL ROAMING AGREEMENT (RRA) WITHIN THE FRAMEWORK OF DOMESTIC LAW

Once an RRA is signed, it will have to be ratified by the Parliament, in a process that might require some time. Ratification by the Parliament will allow the Armenian Government to adopt and enforce the relevant roaming tariff reductions directly, even without initially requesting amendments to the current Electronic Communications Law.

Azerbaijan

NECESSARY PREREQUISITES FOR AN EFFICIENT REGULATORY ROAMING POLICY

The current regulatory framework defines the legal and economic aspects and organisational features relative to the provision of mobile telecommunications services and networks and services to users in Azerbaijan. International roaming is ensured by Azerbaijan's international commitments.

Neither the Ministry of Transport, Communications and High Technologies, nor the Tariff Council are granted by the law the power to reduce roaming tariffs.

Whilst the Ministry of Transport, Communications and High Technologies has some power to control operators that are dominant on their markets, the Azerbaijani regulatory framework, unlike in Armenia, Georgia and Ukraine, is quite different from the EU. The EU's SMP regulatory aspects for Significant Market Power have led the European Union's NRAs to analyse, monitor and decide upon mobile tariffs even before the adoption of the EU roaming framework.

Finally, the currently limited powers of the Ministry - and even of the judiciary - to sanction the operators would make it difficult for the Ministry to enforce its decisions if the operators refuse abiding by them.

STEPS REQUIRED FOR THE APPLICATION OF A REGIONAL ROAMING AGREEMENT (RRA) WITHIN THE FRAMEWORK OF DOMESTIC LAW

Once the RRA is signed by the Minister of Transport, Communications and High Technologies, it will need to be ratified by the Parliament.

Belarus

NECESSARY PREREQUISITES FOR AN EFFICIENT REGULATORY ROAMING POLICY



In Belarus, the President of the Republic and the Council of Ministers determine the applicable pricing of telecommunications services either directly or based upon recommendations made by the Ministry of Communications.

Several alternatives could be envisaged for the regulation of roaming tariffs:

- In accordance with the Telecommunications Law and upon a proposal from the Ministry of Communications and Informatisation, the President can promulgate a Presidential Decree reducing such tariffs.
- Alternatively, the Council of Ministers could include roaming tariffs in the list of regulated price services. Further to such decision, the Ministry of Antimonopoly and Trade could define the actual wholesale and retail tariffs to be applied, based on recommendations from the Ministry of Communications and Informatisation.
- Specific recommendations of the Ministry of Communications and Informatisation, would need to contain indications as to whether and how the OAC should be involved and whether the URDN wholesale prices of international roaming should be adjusted.
- Finally, the Telecommunications Law could be amended to create an independent regulatory authority in charge of implementing the RRA and monitoring the application of its rules by the operators.

The second solution above seems to be the simplest and the quickest solution as it does not require any change of law and is based on the existing powers of the relevant stakeholders.

STEPS REQUIRED FOR THE APPLICATION OF A REGIONAL ROAMING AGREEMENT (RRA) WITHIN THE FRAMEWORK OF DOMESTIC LAW

Further to the approval and signature of an RRA by the President of the Republic and in view of the current legal framework, the Ministry of Communications and Informatisation, the OAC and the Council of Ministers might become involved in its development. Their role might entail the preparation of an amendment of the Telecommunications Law to empower the OAC or the Ministry of Communications and Informatisation to impose wholesale and retail price tariffs to mobile operators.

In addition, the OAC might also consider a reduction of the URDN network wholesale price services.

Georgia

NECESSARY PREREQUISITES FOR AN EFFICIENT REGULATORY ROAMING POLICY

Pursuant to Articles 29 and 30 of the Electronic Communications Law, the powers of the Regulator are restricted to Significant Market Power interventions. In SMP cases the Regulator may impose obligations on a mobile operator. According to Article 35 thereof, this includes regulating tariffs and setting up their maximum value.

Amendments to the Electronic Communications Law will be necessary to allow the Regulator to impose a reduction of roaming prices on the mobile operators even in the absence of SMP.

STEPS REQUIRED FOR THE APPLICATION OF A REGIONAL ROAMING AGREEMENT (RRA) WITHIN THE FRAMEWORK OF DOMESTIC LAW



Once signed by a Ministry representative, the RRA will constitute an international treaty that should be ratified by Parliament in order to be transposed into national law. The signatories of the RRA can specify that the Regulator will implement the RRA.

Amendments to the Electronic Communications Law will be necessary to ensure that the powers of the Regulator are defined in detail and consistent with its functions.

Moldova

NECESSARY PREREQUISITES FOR AN EFFICIENT REGULATORY ROAMING POLICY

A new law approved by the Parliament will be necessary to empower the Regulator or the Ministry to impose a reduction in roaming tariffs.

STEPS REQUIRED FOR THE APPLICATION OF A REGIONAL ROAMING AGREEMENT (RRA) WITHIN THE FRAMEWORK OF DOMESTIC LAW

Once the RRA is signed it will need to be ratified by the Parliament.

Ukraine

NECESSARY PREREQUISITES FOR AN EFFICIENT REGULATORY ROAMING POLICY

The current Telecommunications Law would have to be amended by the Parliament in order to equip the Regulator with the necessary powers to reduce roaming tariffs and to monitor their implementation by the telecommunications operators.

STEPS REQUIRED FOR THE APPLICATION OF A REGIONAL ROAMING AGREEMENT (RRA) WITHIN THE FRAMEWORK OF DOMESTIC LAW

Once the RRA is signed by the President of Ukraine and/or by the Cabinet of Ministers according to their respective competence, it should be ratified by the Parliament. The signature of the RRA can be delegated to a state body including NCCIR.



9. Relevant Latest Best Practice Analysis

9.1. Overall best practice snapshot and Western Balkans roaming agreement update

Over past few years there have been initiatives around the world to control the applicable roaming rates. Already in 2013 the OECD reflected the multitude of efforts⁸ and namely European Union, Australia – New Zealand, Arab Regulators Network (AREGNET) and Gulf Cooperation Council (GCC), Russia – Poland, Russia – Finland, Association of Southeast Asian Nations (ASEAN), South African Region CRASA/SADC Home and Away Roaming, South America. The EU4Digital is aware of other initiatives such as Western Balkan Roaming Agreement, Memorandums on Roaming between Georgia and Lithuania, Georgia and Latvia, initiatives announced - Eurasian Economic Union roaming initiative comprising Armenia, Belarus, Kazakhstan, Kyrgyzstan and Russia, efforts between Romania and Moldova.

The Study highlights 2 of the initiatives that have since gained most relevant results and are most comparable from the regulation framework perspective to the EaP efforts and are further taken into account when designing the suggested EaP roaming model: EU and the Agreement on Reducing Prices of Roaming Services on Public Mobile Communications Networks in Western Balkans signed on 29 September 2014 covering Bosnia and Herzegovina, Montenegro, Serbia, and the former Yugoslav Republic of Macedonia.

The EU approach has at length been analysed by the Study, however relevant for the EaP countries developments have taken place in Western Balkans where from 1 July 2019 a new agreement covering Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia took its effect. The ultimate goal of this arrangement is to introduce RLAH principle, with gradual reduction foreseen until RLAH regime is in place.

The signatories agree by 1 July 2021 to bring the maximum retail prices in line with the European Union RLAH rule. However, until 30 June 2021, roaming service providers may apply a surcharge in addition to the domestic retail price for the provision of regulated retail roaming services. If surcharge is applied, in any case it shall be in line with following requirements:

- (a) any surcharge applied for regulated roaming calls made, regulated roaming SMS messages sent and regulated data roaming services shall not exceed EUR 0.05 per minute, EUR 0.02 per SMS message and EUR 0.025 per megabyte used, respectively; from 1 July 2020, any surcharge applied for regulated data roaming services shall not exceed EUR 0.015 per megabyte used;
- (b) the sum of the domestic retail price and any surcharge applied for regulated roaming calls made, regulated roaming SMS messages sent or regulated data roaming services shall not exceed EUR 0.19 per minute, EUR 0.06 per SMS message and EUR 0.18 per megabyte used, respectively. In case the domestic retail price is higher than the maximum retail roaming price, that maximum retail roaming price shall apply, even if no surcharge is applied;
- (c) any surcharge applied for regulated roaming calls received shall not exceed the maximum mobile termination rates of EUR 0.04 per minute from 1 July 2019, EUR

⁸ OECD (2013-06-03), "International Mobile Roaming Agreements", OECD Digital Economy Papers, No. 223, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5k4559fzbn5l-en>



0.025 per minute from 1 July 2020, EUR 0.016 per minute from 1 July 2021 and onwards.

For wholesale charges from 1 July 2019 until 30 June 2021, the maximum average wholesale roaming charge that the visited network operator may charge from the roaming provider for the provision of a regulated roaming services originating on that visited network inclusive of origination, transit and termination costs, shall not exceed EUR 0.05 per minute for regulated roaming calls, EUR 0.02 per SMS message for regulated roaming SMS message and EUR 0.025 per megabyte of data transmitted for regulated data roaming. From 1 July 2020, the maximum average wholesale roaming charge for regulated data roaming service shall not exceed EUR 0.015 per megabyte of data transmitted.

From 1 July 2021, the maximum average wholesale roaming charge that the visited network operator may charge from the roaming provider for the provision of a regulated roaming services originating on that visited network inclusive of origination, transit and termination costs, shall not exceed EUR 0.032 per minute for regulated roaming calls, EUR 0.01 per SMS message for regulated roaming SMS message and EUR 0.0077 per megabyte of data transmitted for regulated data roaming services. The maximum average wholesale roaming charge for regulated data roaming services shall decrease to EUR 0.006 per megabyte on 1 January 2022, to EUR 0.0045 per megabyte on 1 January 2023, to EUR 0.0035 per megabyte on 1 January 2024, to EUR 0.003 per megabyte on 1 January 2025 and to EUR 0.0025 per megabyte from 1 January 2026 and onwards.

Western Balkan countries agree to regulate termination on reciprocal bases, with the maximum mobile termination rates of regulated roaming calls originated and terminated in Western Balkans region shall not exceed: EUR 0.04 per minute from 1 July 2019, EUR 0.025 per minute from 1 July 2020, EUR 0.016 per minute from 1 July 2021 and onwards.

As indicated above, from 1 July 2021, RLAH regime shall be in place whereby no surcharges can be levied on retail prices of roaming customers, however, a fair use policy to prevent abusive and anomalous usage may be introduced. Also a sustainability mechanism may be introduced whereby specific and exceptional circumstances, where a roaming provider is not able to recover its overall actual and projected costs of providing regulated roaming services, from its overall actual and projected revenues from the provision of such services, that roaming provider may apply to the national regulatory authority for authorisation to apply a surcharge, in accordance with the rules laid down by each of the signatories. The surcharge shall be applied only to the extent necessary to recover the costs of providing regulated retail roaming services having regard to the applicable maximum wholesale charges.

Any surcharge applied for regulated retail roaming services in the Western Balkan region shall not exceed the maximum wholesale charges as set for the by the Western Balkan roaming agreement.

Western Balkan agreement draws a particular attention, since it triggers the WTO GATS Art.II requirements. However, it may potentially be exempt thereof as there exists a comprehensive free trade agreement CEFTA (Central European Free Trade Agreement) at the moment of preparation of this report in the international roaming area not falling within the scope of GATS Art.IV, but with relevant protocol in the works to cover *inter alia* international mobile roaming services. This approach is also highlighted as an option towards setting up the common roaming space, however, not feasible at the moment as



there is no direct and comprehensive free trade agreements covering all EaP countries either on multilateral or bilateral basis.

As future outlook, in light of the suggested review of options of EaP roaming area to be connected to the EU roaming framework or should EaP countries decide to update the proposed roaming regulation model towards RLAH, Western Balkan experience and specific steps undertaken to gradually arrive at a RLAH regime, can serve as best-practice for further development of EaP regulatory model. Gradual transition from a roaming regulatory framework that is glidepath based to RLAH based one can be applied as a yard stick.

9.2. Summary EU practice on frauds encountered and prevention mechanisms

Further to the introduction in the chapter 3.2.2., this chapter summarises the types of potentially fraudulent activities identified by the European Union countries as well frameworks surrounding tackling challenges related.

Following potentially fraudulent activities have been identified:

- Substituting the number of the subscriber initiating a call (to benefit from a lower interconnect rate)
- „one ring one cut”
- artificial traffic
- Misleading SMS, e.g. in terms of the sender, or in terms of services activated by the SMS
- Using retail offers to terminate or transit commercial SMS traffic, e.g. for marketing campaigns etc., the so-called bulk SMS
- PBX (public branch exchange) hacking
- Using a number without relevant authorisation
- Fixed termination rate (FTR) manipulation (introducing international traffic under national FTR by using the “A” number substitution)
- Mobile termination rate (MTR) manipulation (introducing traffic from outside of the EU under the EU MTR)

Most relevant to the roaming rate harmonisation within the EaP as well as reductions of IMTRs are substituting the number of the subscriber initiating a call and MTR manipulation.

These situations may occur when there is a differentiated termination rate discriminating traffic based on the origin of the traffic, creating a situation where certain entities are working towards altering certain characteristics of traffic transmitted so that the terminating network may perceive as originated in a network with, from the perspective of fraudulent entity, preferential conditions.

The situation has been highlighted by the responding EU national regulatory authorities, however, a conclusion can be made that it is not a wide spread situation overall and vary in presence from country to country.

While there are no one-size-fits-all solutions, the suggested means of tackling are identified as operator level measures that are implemented to monitor traffic and prevent fraudulent activities. Moreover, a cooperation framework with national regulatory authorities is suggested whereby information is circulated among interested bodies allowing cross referencing as well as follow-up on international scale, should the fraudulent activity be cross border in its nature.



Extensive table providing summary of inputs received from EU national regulatory authorities for further reference is attached to this report.



Annex 1 – Overview of the Applicable Legislative, Institutional and Policy Framework on Roaming in the EaP

According to the information available to the EU4Digital facility and as stipulated in the Study, there are substantial differences in applicable national regulatory frameworks. It is important to recognise that while most likely the introduction of harmonised regulatory framework for roaming would take place as pan-regional arrangement, there might be changes requiring introduction on national level in order to ensure proper implementation and enforcement mechanisms. Per country the Study based on information provided by the EaP countries identifies the following legislative framework in electronic communications and international roaming in particular:

Armenia

MAJOR LAWS/REGULATIONS APPLICABLE TO THE MOBILE TELECOMMUNICATIONS INDUSTRY

The 2005 Electronic Communications Law 5 regulates all telecommunications services, while the 2003 law on Public Services Regulatory Body 6 establishes and defines the powers of the Public Services Regulatory Commission (the Regulator).

The Regulator's Decree of 31 July 2013, establishes the licensing procedures for public electronic communications networks 7, including for mobile communications operators. Since its creation in 2003, the Regulator has adopted about two hundred normative acts to regulate the telecommunications sector.

LAWS AND REGULATIONS ON ROAMING

The only rules that relate to international roaming services were adopted through the Regulator's Decree of 3 December 2009 8, which defines how and when operators must provide information on tariffs and conditions of international roaming to their customers, including when they actually use roaming services.

The 2017 Memorandum of Understanding (MoU) between the Russian Federation and Armenia (i.e. representatives from the Ministries and several operators of the two countries) aims to reducing the current level of international roaming tariffs between the parties. Russian and Armenian operators' signatory to the MoU agreed to reduce their mutual wholesale tariffs, including their respective interoperator tariffs, through bilateral agreements within six months of the signature of the MoU. It is to be noted that the MoU is not an international treaty and therefore does not create rights and obligations governed by international law.

Armenia, as a Member of the Commonwealth of International States (CIS), signed a Treaty on Cooperation and a Framework Agreement which cover international roaming. Armenia also agreed to a Decision of the Council of the CIS Heads of Government that provides recommendations on international roaming services.

Armenia, as a Member of the International Telecommunication Union (ITU) adheres to the ITU's International Telecommunication Regulations, that refer *inter alia* to international roaming.

REGULATION OF WHOLESALE SERVICES



The Regulator does not control wholesale roaming services. The only supervision of wholesale services is carried out for the termination payments for the interconnection of local services.

REGULATION OF MVNOS

Mobile Virtual Network Operators are not envisaged by the current legislation on mobile communications.

MAJOR GAPS COMPARED TO THE EU

Except for general regulations on the provision of international roaming there are no regulations on roaming in Armenia and, in particular, no regulations on roaming tariffs.

Azerbaijan

MAJOR LAWS/REGULATIONS APPLICABLE TO THE MOBILE TELECOMMUNICATIONS INDUSTRY

The 1998 Information, Informatisation and Information Protection Law 14 defines how information resources are developed through collection, usage, storage, searching and dissemination of data. It regulates the creation and usage of information systems and technologies and their provision. It also provides for the resolution of conflicts related to data protection and defines the participants' rights in the context of data processes.

The 2005 Telecommunications Law 15 establishes the legal, economic and organizational basis for telecommunications activities in Azerbaijan and regulates the effective planning and fair use of telecommunications resources.

The Regulation of the Ministry of Transport, Communications and High Technologies, approved by Decree of the President of the Republic in 2018 defines measures on the improvement and management in transport, communications and high technologies. The Regulation describes the powers of the Ministry in the field of telecommunications.

LAWS/REGULATIONS APPLICABLE TO ROAMING

On 29 April 2003, the Presidential Decree N° 1219 ratified the Agreement on Cooperation to Develop and Use Mobile Communication Systems, which contains certain provisions on roaming.

The 2014 Law on the Approval of International Telecommunications Regulation ratified the International Telecommunication Regulations adopted by the ITU Dubai World Conference on International Telecommunications of 2012. The law covers issues such as accounting, charging, payments and international roaming.

The legal framework in Azerbaijan does not envisage the introduction of MVNOs.

Azerbaijan, as a Member of the Commonwealth of Independent States (CIS), signed a Treaty on Cooperation that covers international roaming.

MAJOR GAPS COMPARED TO THE EU

Azerbaijan's specific regulations related to roaming cover mainly its international commitments and do not envisage any possibility to intervene on roaming prices.

Belarus

MAJOR LAWS/REGULATIONS APPLICABLE TO THE MOBILE TELECOMMUNICATIONS INDUSTRY



The Telecommunications Law of 2005 regulates the framework of the telecommunications services.

The Decree of the President of the Republic of 2011 identifies the state-regulated telecommunications and postal services of general use. The Council of Ministers determines its list.

A Decree of the Council of Ministers of 2006 determines the rules for the provision of telecommunications services; the procedure for concluding and executing contracts, the description of how are established the users' information obligations.

A Presidential Decree of 2010 determines who can operate the United Republican Data Network (URDN) in the field of information and communication technologies and establishes the Operational and Analytical Centre (OAC) as Regulator.

A Presidential Decree of 2011 establishes the independence of the Regulator (OAC) and defines its functions and activities.

The Council of Ministers Decree of 2016 approved the Agreement on Inter-operator Settlements for the provision of international telecommunication services in the CIS countries which recommends tariff regulation principles.

LAWS/REGULATIONS APPLICABLE TO ROAMING

No law or regulation envisages measures related to roaming in Belarus.

However, some normative acts were adopted to harmonise sector legislation amongst the CIS countries. Belarus, as member of the CIS, signed a Treaty on Cooperation and a Framework Agreement which cover international roaming. Belarus also agreed to a Decision of the Council of the CIS Heads of Government that provides recommendations on international roaming services.

Belarus, as a Member of the International Telecommunication Union (ITU) adheres to its International Telecommunication Regulations, which refer *inter alia* to international roaming.

REGULATION OF MVNOS

Mobile Virtual Network Operators are not envisaged in the Belarusian legislation.

MAJOR GAPS COMPARED TO THE EU

There are no specific Belarusian roaming regulations.

Georgia

MAJOR LAWS/REGULATIONS APPLICABLE TO THE MOBILE TELECOMMUNICATIONS INDUSTRY

The Electronic Communications Law of 2 June 2005, sets a legal and economic framework for the activities carried out by electronic communications networks and through their associated facilities, defines the principles for creating and regulating a competitive environment in this field, establishes the functions of the national regulatory authority - the Georgian National Communications Commission (GNCC) - and describes the rights and obligations of the users of electronic communication networks and facilities as well as of the providers of such services.

The Law on National Regulatory Bodies of 13 September 2002 determines the legal framework and the institutional environment for the functions of independent regulatory authorities in Georgia, including the GNCC, in order to ensure a balance of interests



between licence holders and consumers and to guarantee pricing and service supply efficiency. The GNCC has competence on telecommunications and broadcasting markets.

The Broadcasting Law of 23 December 2004 determines the procedure to exercise broadcasting activities in accordance with the principles of freedom of speech and expression and the principles of free enterprise, as well as the procedure for setting up the national regulatory body for broadcasting and telecommunications and the appointment of the Commissioners, their rights and obligations, their term of office, their independence. It also determines the functions of the regulatory body and conditions for the regulation of activities in this field. It should be noted that Article 17, paragraph 7 of the Constitution of Georgia ensures the financial and institutional independence to the national regulatory body in the field of electronic communications and media.

The Regulator established a legal framework for cost accounting, pursuant to its own requirement of methodological rules for the separate submission of cost accounting and expenditures by authorised undertakings. The framework defines the methodology for SMP operators to calculate the distribution of their accounting expenses and services tariffs for activities in the relevant electronic communications market.

The GNCC's resolution of 17 March 2006, on Regulations on the Rules of Provision of Services and Protection of Consumer Rights in the Sphere of Electronic Communications defines roaming as a mobile service.

LAWS/REGULATIONS APPLICABLE TO ROAMING

There is no definition of roaming in the Georgian legal framework. Although the law⁴⁶ includes the access to virtual network services.

Georgia, as a Member of the International Telecommunication Union (ITU) adheres to its International Telecommunication Regulations, which refer *inter alia* to international roaming.

MAJOR GAPS COMPARED TO THE EU

The Georgian telecommunications framework just mentions roaming services as being part of the mobile services provided.

Georgia does not have a roaming tariff policy in place.

Moldova

MAJOR LAWS/REGULATIONS APPLICABLE TO THE MOBILE TELECOMMUNICATIONS INDUSTRY

The Electronic Communications Act N° 241 of 2007 sets-out the general rules and terms for the electronic communications sector in Moldova and outlines the general policy. It defines the central authority's powers and the general regulatory framework for electronic communications networks and services. By defining the powers and objectives of the regulatory authority, it establishes the rights and obligations of the State and of natural and legal persons in the process of establishment, management and use of electronic communications networks, as well as the conditions for the management and use of electronic communications networks. The goal of the Electronic

Communications Act is to provide the population with modern and useful electronic communications services of high quality at reasonable prices and to ensure free access to public electronic communications services.



The Law of 10 March 2016 on Access to Properties and Infrastructure associated with Public Electronic Communications Networks establishes the rules and conditions to allow providers of public electronic communications networks access to premises and shared use of infrastructures in order to build or benefit from electronic communications networks.

The Decision N°12 of the Regulator on the Rules of Interconnection of 31 January 2009 approves the regulations on interconnection.

The Decision N° 55 of the Regulator of 29 December 2008 on the Regulations on Relevant Markets in Electronic Communications, defines the rules to designate providers of electronic communications networks and/or Services with Significant Market Power on these Markets.

The Decision N° 10 of the Regulator of 28 August 2008 on the Regulations on General Authorisation and License Regime, defines the rules for the attribution of licences and the use of limited resources for the provision of public electronic communications networks and services.

LAWS/REGULATIONS APPLICABLE TO ROAMING

Moldova's legal framework does not include the notion of roaming.

As a Member of the International Telecommunication Union, Moldova adheres to its International Telecommunication Regulations, which refer *inter alia* to international roaming.

REGULATION OF MVNOS

The national legal and regulatory framework sets the conditions for the provision of MVNO services. A natural person or legal entity intending to provide mobile virtual network services shall file a notification with the Regulator, based on the general authorisation regime, and sign a commercial agreement with a licensed mobile operator. The terms and conditions for providing access to the network of a mobile operator by the MVNOs are stipulated in the Governmental Decree N° 57 of 21 December 2010 on special licensing conditions for the usage of radio frequencies in the provision of mobile networks and services.

No operator has yet made use of the available legal provisions to launch MVNO services.

MAJOR GAPS COMPARED TO THE EU

No roaming regulation principles have been adopted in Moldova.

Ukraine

MAJOR LAWS/REGULATIONS APPLICABLE TO THE MOBILE TELECOMMUNICATIONS INDUSTRY

The Telecommunications Law of 18 November 2003 N°1280-IV establishes the legal framework of operation in the telecommunications field, identifies the authority of the state in regulating the sector and defines the management and the regulatory activities in the telecommunications sector as well as the rights, responsibilities and basic liabilities of individuals and legal entities who participate in these activities or use telecommunications services.

A Cabinet of Ministers' Order of 7 June 2006 N. 316-p on the Approval of the Development of Telecommunications defined the basic principles and directions for the development of telecommunications networks.



A NCCR Decision of 26 January 2006 N° 179 on the Approval of Licensing Conditions for Mobile Telephony Services, detailed licensing conditions for the implementation of activities in the field of telecommunications.

A NCCR Decision of 2 April 2009 N°1438 on the Approval of the Procedure for public telecommunication services' tariffs determines the procedure to define and apply tariffs for public telecommunications services.

A NCCR Decision of 11 November 2010 N°513 on the Approval of Licensing for Telecommunications activities, detailed the provision of maintenance services and operation of telecommunication networks, terrestrial television and radio broadcasting networks, cable radio and television networks.

A NCCIR Decision of 8 November 2016, N°589 on the Approval of Tariff Caps, relates to tariff caps for public telecommunication services.

A Cabinet of Ministers' Resolution of 11 April 2012 N°295 on the Approval of the Rules for the provision of telecommunications services, regulates the relations between operators, telecommunications providers and consumers.

A NCCIR Decision of 30 August 2016 N°456 on the approval of fee cap settlements for telecommunication operators with Significant Market Power relates, among other things, to fee cap settlements for transfer of incoming international voice telephony traffic to telecommunication networks of telecommunication operators with Significant Market Power.

The Law on Access to Infrastructure of 7 February 2017 N° 1834-VIII on Access to Facilities for the Development of Telecommunications Networks, defines the terms and conditions for the access to construction, transport and electricity facilities for the development of telecommunications networks.

LAWS/REGULATIONS APPLICABLE TO ROAMING

The law makes it mandatory for Ukrainian telecommunications operators to offer national roaming services to their users, subject to the conclusion of written agreements between the operators. The law mandates the regulator to define the procedure for the provision of national roaming services. Such procedure was promulgated on August 25, 2011. As a result, all major operators currently provide national roaming services.

Ukraine, as a Member of the International Telecommunication Union (ITU) adheres to its International Telecommunication Regulations, which refer inter alia to international roaming. The Telecommunications Law mandates that the recommendations of the International Telecommunication Union will apply to the international agreements between Ukraine and other countries and/or to the contracts between the Ukrainian telecommunications operators and operators from other countries. Among other things, such recommendations apply to the Ukrainian telecommunications operators' interactions with operators from other countries, to the distribution of revenues from international communications services, and to the interconnection of public telecommunications.

REGULATION OF MVNOS

The legislative framework does not envisage the introduction of MVNOs.

MAJOR GAPS COMPARED TO THE EU

Except for the national roaming provisions, no other roaming regulations have been adopted in Ukraine.



Annex 2 – RRA Minimum and Additional Requirements

The Study proposes to introduce regional roaming arrangement in form of an agreement and include following as minimum:

- The names and titles of the representatives who have the proxy to sign the agreement on behalf of their countries (the signatories)
- A common language should be agreed upon for the agreement. As the REWG's working language is English, it would be convenient to use the English language for the text of the RRA;
- A preamble describing the objectives that the signatories wish to fulfil by signing the agreement such as: promoting a common and concurrent set of policies to substantially reduce roaming charges in Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine in order to alleviate citizens' expenses when travelling abroad, balancing this with the operators' interests, with the long-term objective of expanding these policies to include European Union citizens and allowing EaP citizens to benefit from the EU roaming policies;
- The preamble should also define whether the signatories wish to restrict the agreement to the themselves or to extend it to third parties;
- The preamble should describe the process by which the RRA will be ratified by the parliaments of the signatories, how it will become enforceable in the respective countries and within which timeframe;
- An article committing the signatories to take the decision to impose to all mobile roaming operators in the respective countries the obligation to reduce the price of roaming services (for voice, SMS and data) at wholesale and retail levels, as defined in the recommendations related to the RRA, based on AERRM. The chosen model should be added as an annex to the RRA. Reductions in international terminations costs and the avoidance of double taxation should also be considered;
- An article that sets a deadline for implementation of the decision by all the roaming operators of the EaP Countries;
- If applicable generally, an article mandating the attribution of specific powers to implement the RRA and the subsequent applicable laws to the Regulators or relevant Ministries;
- An article committing the signatories to change the regulatory framework to comply with the above-mentioned decision to reduce roaming tariffs. This article can be structured either by giving to the signatories an obligation to deliver the result, or the signatories can commit to enact specific changes, this would be the case where the Regulator would need additional powers to decide upon and control the implementation of the reductions in roaming tariffs;
- An article defining the role of the Regulator in preparing the new legislation, in cooperation with the relevant Ministries, for the application of the law, also giving the Regulator additional powers, if necessary, or defining how the authority should be constituted;
- An article binding the agreement to the EU regulatory framework on roaming tariffs. The article should determine to which extent the regulatory package on roaming



applies, including its future amendments, in order to cope with the progressive adjustment of EU prices;

- An article that defines the role of the REWG (or a subset of the REWG composed only of EaP representatives) functioning as a central advisory structure to coordinate the agreement on common priorities and joint actions for the implementation of the RRA;
- An article committing each country to send a representative to the REWG at least twice a year to specifically discuss the implementation and development of the RRA;
- An article committing the signatory countries' regulators to impose on the roaming operators the obligation to automatically inform their customers of the applicable roaming tariffs when arriving in a country prior to their usage of the services;
- An article whereby the signatories declare that they will bear their own costs in relation to the reduction of roaming costs and that no financial transaction will be involved;
- An article that allows the signatories to leave the agreement within a defined notice period

On top of the minimum items to be included in the RRA the Study further elaborates "additional requirements" that may be included in the RRA:

- The signatories should define how to arbitrate the disputes between countries related to the application of the RRA;
- Including in the agreement additional EU roaming regulations that the signatories commit to impose on the EaP roaming operators such as:
 - Consumers have the right to choose an alternative roaming provider;
 - Default cut-off limit for consumers to prevent bill shock
 - Default message notification of price terms and other required information
 - Provision of a free customer service number for information on prices and conditions of roaming
 - No cost access to emergency number
 - Right for the customers to buy from their home operators separate roaming services from the operator of their choice.



Annex 3 – Summary of Fraud Mitigation Within the European Union

Below is file containing the summary of inputs received to a questionnaire circulated to European Union national regulatory authorities and responses received.



Summary_UKE_quest
ionnaire_frauds_in_th