Assessment of the cost of providing wholesale voice call termination services on fixed networks in the EU/EEA countries – SMART 2018/0014

Consultation document

Axon Partners Group

6 May 2019

Contents

1 Introduction

The European Commission (hereinafter "EC") commissioned Axon Partners Group Consulting S.L.U. (hereinafter "Axon Consulting" or "Axon") for the "Assessment of the cost of providing wholesale voice call termination services on fixed networks in the EU/EEA countries[1]" ('the Project').

As described during Workshop 1 held on 23 October 2018 at the EC's premises[2], the EC deemed relevant to develop a cost study to understand the costs of providing fixed termination voice services in EU/EEA countries. With such objective in mind, the EC/Axon team has developed a Bottom-Up Long Run Incremental Cost (hereinafter 'BULRIC') model that calculates the costs of providing wholesale voice call termination services on fixed networks in the EU/EEA countries.

The outcomes of this model are expected to inform, together with other information inputs, the EC's delegated act on a single maximum fixed voice termination Euro Rate across the EU by 31 December 2020[3]. **Stakeholders should not, in any case, expect any regulatory decision to be adopted solely based on the information produced by the cost model subject to this consultation.**

The EC/Axon team has decided to involve stakeholders in this public consultation process[4] to provide transparency and gather feedback to improve the outcomes of the cost study.

The objective of this document is to introduce stakeholders to this consultation process. In particular, this document includes an overview of the consultation process, namely, a description of the (i) files submitted for consultation; (ii) roles of each party during the consultation (NRAs and operators); (iii) procedure to submit comments; (iv) treatment of confidential information; and (v) questions for consultation.

The EC/Axon team invites stakeholders participating in this consultation to follow the indications presented in the remainder of this document.

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[1] SMART 2018/0014

[2] A video version of the workshop is available at:
https://webcast.ec.europa.eu/fixed-termination-rates-workshop-23-10-2018

[3] As included in the European Electronic Communications Code (EECC). Version available through the following link: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L:2018:321:FULL&from=EN

[4] See further indications on the different phases of the Project in the presentation of Workshop 1 held in Brussels on 23 October 2018 and shared with NRAs and operators.

2 The consultation process

The main objectives of this consultation are to:

▶ Provide full transparency to the industry with regards to the methodology, inputs and outcomes of the cost model developed to calculate the costs of providing fixed voice call termination services in the EU/EEA countries.

▶ Gather feedback from stakeholders on the methodology, inputs and outputs of the model.

▶ Maximise the accuracy and representativeness of the results for each of the countries included in the cost study.

The following sub-sections provide further indications on:

▶ Description of files submitted to consultation

▶ Roles of each party

▶ Procedure to submit comments

▶ Confidentiality of the information

2.1 Description of files submitted to consultation

As part of the consultation round, the EC has shared the following documents with NRAs:

▶ **Main Consultation Document** (this document)**:** provides an introduction to the consultation and gives general indications on the consultation process.

▶ **Annex 1 – Draft Cost Model (including an internal CONFIDENTIAL version and a NON-CONFIDENTIAL version to share externally):** Cost model for fixed networks in Microsoft Excel format. This document includes the calculations, inputs and outputs of the model developed by the EC/Axon team.

NRAs should note that <u>two versions</u> of the cost model have been shared with them.

• Annex 1- Draft cost model - Internal version: Microsoft Excel file '20190506 - Axon - Fixed Cost Model - **CONFIDENTIAL** – *Country Name*'.

This is the <u>CONFIDENTIAL version of the cost model.</u> This version of the cost model should be <u>for internal (i.e. NRA) use only and should not be shared with fixed operators or outside of the NRA</u>. This version includes the same input and output data as considered by the EC/Axon team in their internal version of the models for each NRA. This version will provide NRAs with a clear picture on the actual costs

produced by the model for their own country, without adjustments due to the anonymization of confidential data[5].

- Annex 1- Draft cost model - Anonymised version: Microsoft Excel file '20190506 - Axon - Fixed Cost Model - **NON-CONFIDENTIAL** – *Country Name*'.

    This is the NON-CONFIDENTIAL version of the cost model. In this version of the cost model, confidential information has been anonymised to allow NRAs to circulate it to relevant stakeholders. The procedure used to anonymise confidential information is described in section 2.4 below.

▶ **Annex 2 - User manual:** This document is an introduction to the cost model, describing the worksheets it contains and providing guidance on how to run it.

- Annex 2 – User manual of the model: PDF file '20190506 - Axon - User manual'.

▶ **Annex 3 – Descriptive manual:** This technical document provides transparency on the way the model works and describes the main algorithms implemented.

- Annex 3 – Descriptive manual: PDF file '20190506 - Axon - Descriptive Manual'.

▶ **Annex 4 – Methodological approach document:** This detailed document describes the methodology adopted to develop the model, the specific steps followed in the definition of the inputs used and the main outputs obtained. This document includes all the consultation questions.

- Annex 4 – Methodological approach document: PDF file '20190506 - Axon - Methodological approach document'.

▶ **Annex 5 – Template for the provision of comments (the 'Template')**: This Excel file is to be used by stakeholders to provide their comments to the questions raised by the EC/Axon team in this consultation (the questions are also included in Annex 4).

- Annex 5 – Template for the provision of comments: Excel file '20190506 - Template for providing comments to the EC's cost model'.

▶ **Annex 6 – Summary Presentation**: This presentation summarises the work done by the EC/Axon team for the public consultation and provides an overview of the main aspects of the model developed.

- Annex 6 – Summary Presentation: PDF file '20190506 - Axon Consulting - Summary Presentation'.

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[5] Only some inputs included in worksheet `1D INP CORE PLATF UNITARY COSTS´ have been anonymised in the CONFIDENTIAL version of the cost model provided to the NRAs. As indicated in section 2.4, some information about unit costs contained in this worksheet is considered to be highly sensitive since it could disclose vendors' actual level prices. Because of this, such information has been anonymised in both the CONFIDENTIAL and NON-CONFIDENTIAL versions of the model, following the same procedure, which is described in section 2.4.

The EC has set up a dedicated space for this project on its CIRCABC platform named "Fixed Termination Cost Study_2020". Only selected delegates from NRAs can access this platform. The materials for this consultation have been shared in the following folders in the aforementioned space:

▶ The general (non-confidential) documents accompanying the cost model, namely, the (i) Main Consultation Document; (ii) Annex 2 – User Manual; (iii) Annex 3 – Descriptive Manual; (iv) Annex 4 – Methodological approach document; (v) Annex 5 – Template for the provision of comments; and (vi) Annex 6 – Summary Presentation; can be found in the folder named "General", in sub-folder "4) General documents for consultation".

▶ The documents relating to the national cost model, namely, "Annex 1 – Draft Cost Model" (including a CONFIDENTIAL and another NON-CONFIDENTIAL version to be shared externally), can be found in the NRA's country folder, in sub-folder "Replies to consultation_May-June". For confidentiality reasons, only two colleagues from each NRA have been granted access to the country folder in CIRCABC containing the data relating to its own country (see section 2.4 for further indications on the treatment of confidentiality).

2.2 Roles of each party

The following subsections (i) describe the roles of the main parties from which the EC/Axon team are seeking responses to this consultation: NRAs and operators; and (ii) provide indications and suggestions on how to organise their work during the consultation process.

2.2.1 NRAs' role

Equivalent to the approach followed in previous processes within this study (such as during Workshop 1 and the data gathering), NRAs are expected to act as the interface between the EC/Axon team and national operators. They are also expected to be operators' point of contact with the EC. This allows the EC/Axon team to take into account NRAs' history and knowledge in regulating telecoms markets nationally and ensures that NRAs are in the "driver's seat" during the entire process, avoiding as well any scenario where national operators may bypass NRAs' previous national regulatory provisions.

In particular, NRAs are expected to conduct the following tasks:

▶ **Share with their national operators the general consultation files uploaded to the folder "General" (and, within this, into sub-folder "4) General documents for consultation") in CIRCABC.** This includes the following files:

1. Main Consultation Document (this document)

2. Annex 2 – User manual of the model: PDF file '20190506 - Axon - User manual'

3. Annex 3 – Descriptive manual: PDF file '20190506 - Axon - Descriptive Manual'

4. Annex 4 – Methodological approach document: PDF file '20190506 - Axon - Methodological approach document'

5. Annex 5 – Template for the provision of comments: Excel file '20190506 - Template for providing comments to the EC's cost model'

6. Annex 6 – Summary Presentation: PDF file '20190506 - Axon Consulting - Summary Presentation'.

▶ **Share with their national operators the <u>NON-CONFIDENTIAL</u> version of the cost model that can be found in each country folder in CIRCABC in sub-folder "Replies to consultation_May-June".** The name of the relevant file should be:

Annex 1- Draft cost model - Anonymised version: Microsoft Excel file '20190506 - Axon - Fixed Cost Model - <u>NON-CONFIDENTIAL</u> – Country Name'

▶ **Define internal deadlines and procedures with the operators to allow to consolidate feedback from operators in the template provided.** Equivalent to the previous processes, the EC/Axon team understands that each country has its own regulations, habits and/or processes in place regarding timing and submission of feedback by operators. Therefore, NRAs are expected to set the internal deadlines they deem appropriate to receive feedback from operators, in order to allow NRAs time to (i) integrate all feedback from operators in the template provided by the EC/Axon team and (ii) submit it to the EC/Axon team no later than the deadline of 28 June 2019.

▶ **Analyse the documents submitted for consultation and provide comments to these in the Template (which can be found in the folder "General" together with the other consultation materials).** Please remember to include supporting evidence and any information considered necessary to support your arguments.

▶ **Upload the filled-in Template (including the NRA and national operators' feedback to the consultation) in the NRA's country folder (sub-folder "Replies to consultation_May-June") in the CIRCABC space before the deadline of 28 June 2019** (see section 2.3).

2.2.2 Operators' role

Operators are the owners of the information and have the first-hand experience with the networks modelled. Therefore, their contribution is crucial to maximise the accuracy of the study. In particular, operators are expected to conduct the following tasks:

- **Analyse the consultation files and fill in the Template with the feedback on the consultation materials.** Please remember to include supporting evidence and any information considered necessary to support your arguments.
- **Deliver the filled-in Template to the NRA (on the date agreed) and following its indications in terms of timings and processes.**

2.3 Procedure to submit comments

The EC/Axon team invites comments on the materials that are part of this consultation from all stakeholders. The following rules should be respected by NRAs when submitting their comments:

- Stakeholders should focus their comments on the specific questions raised by the EC/Axon team in the Template provided.
- Comments should be as precise and brief as possible, while making sure they are properly justified with supporting information and evidence.
- Any questions from operators should be addressed to their national regulatory authority (not to the EC or Axon).
- The EC/Axon team will endeavour to provide answers to critical questions received from NRAs via email before 29 May 2019. For questions received after that date, every possible effort will also be made by EC/Axon team to answer them. Due to the vast number of stakeholders involved, NRAs are expected to issue questions to the EC/Axon team only if critical to successfully carry out the review of the consultation materials.
- Each NRA will only be able to provide one filled-in Template with comments. The document submitted will have to integrate the comments generated by the NRA itself and the comments collected by the NRA from its national operators.
- While all comments received will be assessed and studied by the EC/Axon team, the assessment of comments and answers to be done by EC/Axon team will focus only on comments that are i) significant for the results of the model and ii) have been thoroughly justified. In addition, repeated comments from members of the same operator group will be treated as a single response (rather than separate individual responses).
- Comments will have to be uploaded to the CIRCABC space[6] and, more specifically, to the subfolder "Replies to consultation_May-June" within your country's main folder.

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[6] Click to access to the CIRCABC space.

For any issues regarding access to the CIRCABC platform, please get in touch with KRAMER Hermes (CNECT) Hermes.Kramer@ec.europa.eu.

▶ **All comments will have to be submitted by NRAs to the EC/Axon team by 28 June 2019.**

The EC/Axon reserves the possibility to dismiss the comments that do not comply with the indications provided above and/or that have been provided outside the Template for the provision of comments.

2.4 Confidentiality of the information

The information included in the anonymised draft cost model shared with each NRA has been adjusted to account for potential confidentiality issues according to the indications provided by the NRAs in the data collection process, in particular:

▶ **Confidentiality Level 0 – Public Level**: This confidentiality level was associated with information available in the public domain that could be directly shared with or used in other NRAs' models to fill any potential gaps. Consequently, the inputs that had been provided under this confidentiality level have not been adjusted in the anonymised model.

▶ **Confidentiality Level 1 – National Level**: This confidentiality level was associated with information that could not be disclosed to NRAs from other countries (unless it was anonymised or averaged with data from other NRAs). It could, however, be disclosed to national stakeholders in the consultation process. Therefore, the inputs that had been provided under this confidentiality level have not been adjusted in the anonymised model (as they can be shared nationally). We can also confirm that inputs with this confidentiality categorisation in one country have not been used to populate the model of another country.

▶ **Confidentiality Level 2 – Operator Level**: This confidentiality level was associated with information that could not be disclosed to any party involved in the process besides the NRA that provided it (unless it was anonymised or averaged with data from other operators/countries). The inputs classified under this confidentiality level have not been included as such in the anonymised model but have been adjusted (i.e. those values are not the true values).

When an input has been anonymised and, therefore, it does not represent the real value considered internally by the EC/Axon team, it has been formatted as follows:
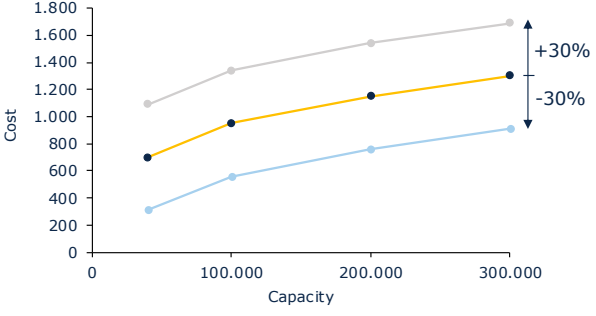
| Anonymised | This format is used for inputs that have been anonymised to protect confidentiality |

Exhibit 2.1: Colour code employed for anonymised inputs [Source: Axon Consulting]

The table below indicates how confidential data has been anonymised in each of the model's input worksheets:

Worksheet	Input	Data treatment
1A INP MARKET SHARE	Market Share	The market share presented in this worksheet corresponds to the incumbent operator in each country. When the market share was reported as confidential, it has been adjusted by multiplying the actual data by a random factor between 0.7 and 1.3 (i.e. variations ±30%).
1B INP DEMAND	Demand	When actual demand information was reported as confidential, it has been adjusted by multiplying the actual data by a random factor between 0.7 and 1.3 (i.e. variations ±30%). Regarding demand future trends, in most cases, these were defined based on historical trends, and, therefore, there was no need to anonymise the inputs considered. Nevertheless, when NRAs' information was used and it was reported as confidential, trends have been anonymised with a random factor between 0.8 and 1.2 (i.e. variations ±20%).
1C INP NW STATISTICS	Voice call statistics	Confidential information has been anonymised by multiplying the actual data by a random factor between 0.7 and 1.3 (i.e. variations of ±30%).

Worksheet	Input	Data treatment
1D INP CORE PLATF UNITARY COSTS	Core Network Equipment Unitary Costs	These inputs have been obtained, in most cases, based on EEA averages. However, information about unit costs of core equipment contained in this worksheet is considered to be highly sensitive since it could disclose vendors' actual level prices. Because of this, unit costs of each core equipment have been adjusted as shown in the following illustrative example: In particular, all data points of the same core equipment have been adjusted by adding or subtracting a random unit cost. Such random value has been calculated considering the data point with the maximum unit cost of each core equipment and multiplying it by a random factor between -0.3 and 0.3 (i.e. variations ±30% for the maximum unit cost). Some CapEx trends considered also to be sensitive information, since they had been derived from a reduced number of samples of information received, have been similarly anonymised. In these cases, data have been multiplied by a random factor between 0.7 and 1.3 (i.e. variations of ±30%).
1E INP ACTIVE TRANSMISSION COST	Active transmission and switching costs Mark-up	This input has been obtained as an EEA average. Therefore, it is not subject to confidentiality issues and has not been anonymised.
2A INP NW	Network Inputs	This information corresponds to standard and constant values used in the network dimensioning and is not subject to confidentiality issues. Therefore, it has not been anonymised.

Worksheet	Input	Data treatment
2B INP CORE NODES	Core Nodes	Confidential information has been anonymised by multiplying the actual data by a random factor between 0.7 and 1.3 (i.e. variations of ±30%), and rounding the values. In addition to the above, in cases of values of 2 nodes, they have been adjusted by adding a random factor of 0 or 1.
2C INP BUSY HOUR	Busy hour	Confidential information has been anonymised by multiplying the actual data by a random factor between 0.9 and 1.1 (i.e. variations of ±10%).
2D INP RESOURCES LIFE	Resources life	These inputs have been obtained as an EEA average. Therefore, they are not subject to confidentiality issues and have not been anonymised.
2E INP WACC	WACC	Confidential information has been anonymised with a random factor between ±2 percentage points.
2F INP SERVICE SPEC COSTS	Cost regressions	These inputs have been obtained as an EEA average. Therefore, they are not subject to confidentiality issues and have not been anonymised.

Table 2.1: Summary table of confidential information treatment [Source: Axon Consulting]

3 Questions for consultation

This section includes a summary of the questions included in this Consultation. Please refer to "Annex 4 – Methodological approach document" (for a more detailed explanation of all the questions included below) and "Annex 5 – Template for the provision of comments" (for a more detailed explanation on the feedback expected by stakeholders).

#	Question
1	**Question 1:** Do you agree with the methodological approaches adopted to develop the cost model, as presented in Table 2.1 and Table 2.2? Otherwise, please describe what you would have done differently and justify your proposal in detail. Please also describe how your proposal is consistent with the provisions in the 2009 Recommendation and the EECC, as well as provide supporting information and references.
2	**Question 2:** In your opinion, what scenario should be adopted to consider the market share of the reference operator in EU/EEA countries? Please describe your preferred approach in detail and explain the regulatory rationale behind your choice. In case you consider that a market share different from the options provided should be used, please provide supporting information justifying your choice.
3	**Question 3:** In your opinion, should the same scenario for the market share of the reference operator be applied to all EU/EEA countries? Please describe the rationale behind your answer, providing supporting references and any regulatory principles or regulations that support your position.
4	**Question 4:** Do you agree with the validation, treatment and definition of the market share inputs? Otherwise please describe your rationale in detail and provide supporting information and references.
5	**Question 5:** Do you agree with the validation, treatment and estimation of the values for demand inputs? Otherwise please describe your preferred approach in detail and provide supporting information and references.
6	**Question 6:** In your opinion, what voice demand forecast scenario do you expect to better represent the traffic evolution in your country? Please, describe your preferred approach in detail and provide supporting information and references.
7	**Question 7:** Do you agree with the validation, treatment and estimation of the value for the network statistics inputs? Otherwise please describe your rationale in detail and provide supporting information and references.
8	**Question 8:** Do you agree with the validation, treatment and estimation of the percentage of traffic in the busy hour and in weekdays? Otherwise please describe your rationale in detail and provide supporting information and references.
9	**Question 9:** Do you agree with the validation, treatment and estimation of the values for core network equipment unit cost inputs? Otherwise please describe your rationale in detail and provide supporting information and references.

#	Question
10	**Question 10:** In your opinion, which scenario for the core network equipment unit costs should be adopted to estimate the incremental cost of fixed voice call termination? Please, describe your preferred approach in detail and provide supporting information and references.
11	**Question 11:** Do you agree with the validation, treatment and estimation of the mark-up percentage to reflect the costs of active transmission and switching equipment? Otherwise please describe your rationale in detail and provide supporting information and references.
12	**Question 12:** Do you agree with the validation, treatment and estimation of the wholesale specific costs inputs? Otherwise please describe your rationale in detail and provide supporting information and references.
13	**Question 13:** Do you agree with the validation, treatment and estimation of the values for core nodes inputs? Otherwise please describe your preferred approach in detail and provide supporting information and references.
14	**Question 14:** Do you agree with the validation, treatment and definition of the useful lives inputs? Otherwise please describe your rationale in detail and provide supporting information and references.
15	**Question 15:** Do you agree with the validation, treatment and definition of the WACC input? Otherwise please describe your rationale in detail and provide supporting information and references.
16	**Question 16:** Do you agree with the approach adopted to define the standard inputs? Otherwise please describe your rationale in detail and provide supporting information and references.
17	**Question 17:** Do you agree with the approach adopted to assess the reconciliation of the cost base? If you don't, please justify your position and provide supporting information and references.
18	**Question 18:** Do you consider that the annual cost base of the core network produced is reasonable for an operator handling all the traffic of the reference operator in your country with an NGN core network? If you don't, please justify your position and provide supporting information and references.
19	**Question 19:** Do you consider that the unit costs obtained for the voice termination service are reasonable for a theoretical operator in your country with the scale of the reference operator, based on the criteria defined in the Annex III of the EECC? If you don't, please justify your position and provide supporting information and references.

Table 3.1: Summary of public consultation questions [Source: Axon Consulting]

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