

PUBLIC CONSULTATION REPORT

Draft Regulation on the provision of caller location information to the Call Point

Public Security Service

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Agosto 2024

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1 Introduction

The Board of Directors of the National Communications Authority (ANACOM) considered necessary and timely to adapt Regulation No. 99/2009¹, of 23 February (hereinafter "Regulation 112L"), taking into account (i) the publication of the new Electronic Communications Act (LCE)², (ii) the migration of 112 traffic (national emergency number) to the IP3 interconnection and (iii) the expected technological evolution of the Public Security Service Point (PASP) for the new generation of the 112 service, therefore, by resolution of November 22, 2022, it approved the start the procedure for drafting a regulation on this subject.

Having considered the content of the contributions received, the Board of Directors of ANACOM, resolution of March 1, 2024, approved the Draft Regulation on the provision of the caller's location information to the PASP (hereinafter the "Draft Regulation"), the which was submitted to the regulatory and public consultation procedure, under the terms provided for in Article 10 of the ANACOM Statutes⁴ and in Articles 98 et seq. of the Code of Procedure Administrative and for the purposes provided for in article 10 of the LCE, for a period of 30 working days, starting of its publication in *the Official Gazette*, publication that took place on March 28, 2024, through of Notice No. 6829/2024/25 .

By resolutions of May 2, 2024⁶ and May 16, 2024⁷, the public consultation period was extended by 10 working days, meaning it ended on May 28, 2024.

¹ Regulation on the provision to the authorities responsible for emergency services of information on the location of the person making the call to the single European emergency number 112, available at <https://www.anacom.pt/render.jsp?categoryId=347119>.

² Approved by Law No. 16/2022, of August 16.

³ <https://www.anacom.pt/render.jsp?contentId=1678881>.

⁴ Approved by Decree-Law No. 39/2015, of March 16.

⁵ Available at <https://www.anacom.pt/render.jsp?contentId=1774612>.

⁶ Available at <https://www.anacom.pt/render.jsp?contentId=1779301> and, respective Notice No. 10266/2024/2, published in the 2nd Series of the *Official Gazette*, on May 15, 2024.

⁷ Available at <https://www.anacom.pt/render.jsp?contentId=1785958> and respective Notice No. 12053/2024/2, published in the 2nd Series of the *Official Gazette*, of June 7, 2024.

On 22 May 2024, ANACOM held a clarification session⁸, open to all interested parties, on the aforementioned Draft Regulation, in order to contribute to the interested parties could submit their contribution in a more informed manner.

As part of the public consultation on the Draft Regulation, the following were received within the deadline: pronouncements of the following seven entities:

- APRITEL – Association of Electronic Communications Operators (hereinafter “APRITEL”);
- Colt Technology Services, Unipessoal, Lda. (hereinafter «COLT»);
- DIGI PORTUGAL, LDA (hereinafter «DIGI»);
- MEO – Communications and Multimedia Services, SA (hereinafter “MEO”);
- NOS, SGPS, SA, on behalf of its subsidiaries NOS Comunicações, SA, NOS Wholesale, SA, NOS Açores Communications, SA and NOS Madeira Communications, SA (hereinafter «NOS»);
- NOWO Communications, SA (hereinafter «NOWO»);
- General Secretariat of the Ministry of Internal Affairs (hereinafter “SGMAI”).

Therefore, and under the terms of paragraph 4 of article 10 of the ANACOM Statutes, this report contains reference to the opinions received and ANACOM's overall assessment which reflects your understanding of them and which underpins the options taken, with a view to approval of the regulation on the provision of information on the location of the caller to the PASP (hereinafter the “Regulation”).

The analysis of this document does not exempt the consultation of the full versions of the pronouncements, that, safeguarding the elements reasonably identified as confidential, are

⁸ Available <https://anacom.pt/render.jsp?contentId=1785321> <https://www.anacom.pt/render.jsp?contentId=1785182>

made available on ANACOM's institutional website , together with this document.

report, in compliance with the provisions of paragraph 5 of article 10 of the LCE.

As a preliminary point, the various comments in favor of this regulatory initiative are highlighted, expressed by the majority of respondents:

- a) **APRITEL** states that there is a *clear effort by ANACOM to incorporate the evolution technological since the publication of Regulation 112L, especially with regard to developments in mobile networks and interconnection in an IP context*» and which appears *«as very positive the evident commitment to the transition from a sending approach information focused on the elements made available by the operators' networks, for a approach in which the information transmitted by terminal equipment is central to the identification of the end user's location", which will contribute to "greater accuracy and reliability of the information presented to the PASP and will allow for more effective assistance in most emergency requests»;*
- b) **DIGI** welcomes *«the present initiative by ANACOM, in order to listen to the possible interest [and] the position of the various market participants on the topic under consideration”* and fully supports ANACOM's actions (...) *representing the improvement of actions emergency resolution a general objective, for which the contribution of all is necessary stakeholders involved»;*
- c) **MEO** considers that the *“migration of interconnection from PASP to SIP allows exploring new potential in sending location information and generally agrees with the proposal for a regulation»;*
- d) **NOS** understands the *“provisions of the Draft Regulation as an effort to keep up with technological developments and improve the accuracy and reliability of information location during calls to the European emergency number”,* adding that your comments submitted during the initiation phase regulatory were *«partially accepted by ANACOM»*, highlighting the *«suggestion of evolve call location information in mobile networks from a paradigm “network centric” for an “equipment centric” paradigm;*

- e) **NOWO** applauds *«ANACOM's initiative, since the current Regulation on this matter dates from 2009 (Regulation No. 99/2009, of February 23), being necessary update it technologically in order to take into account the interconnection of networks in technology IP and integrate the location information provided by modern mobile terminals»,* adding that in this way it will be possible to *“make the services of emergency, the importance of which is indispensable for the safety and well-being of citizens”;*
- f) SGMAI welcomes the *“proposals contained in the Draft Regulation”* and considers that *“its adoption, will constitute a significant contribution to a faster and more effective localization of citizens seeking help through the national emergency number 112».*

APRITEL and NOS also highlight that the information session on the Project of Regulation, still during the consultation, helped interested parties to submit their contribute in a more informed way.

2 Comments

2.1 Scope

NOS considers it *“essential to clarify the scope of communications services in the preamble” covered by the proposed obligations*”, this is because it considers that currently access to emergency services are carried out *“exclusively by telephone calls, as derives from Article 67 of the Electronic Communications Act”*. Thus, *“without prejudice to the preamble of the proposed regulation states that the use of the SIP protocol allows new means of communication beyond voice, for example, real-time text, video and messaging, and availability of more and new data, it is assumed that the measures proposed in the Draft Regulations are based on maintaining a restricted scope for voice communications, a premise which is also supported by the wording of the Draft Regulation».*

MEO **considers** that the Draft Regulation is not clear about *“which numbers of national emergency numbers, in addition to 112, to be considered”*, stating that this information is relevant because these numbers must be communicated *«to other international operators in the agreements VoLTE interconnection, in case these calls reach you through the S8HR interface, as*

provided for in 3GPP TS 24.229 and referred to for example in GSMA document NG.119 (Official Document NG.119 Emergency Communication)» and which are communicated in the database of BEREC regarding access to emergency services. Therefore, MEO considers that it is important to know the position of the *Portuguese Government, as well as ANACOM, regarding the numbers 115 and 117, provided for in the PNN respectively as the National Emergency Number and Number National Forest Protection Program*».

ANACOM's Understanding

Regarding NOS's comment regarding clarifying the scope of services communications covered by the Regulation, in particular whether it applies only to communications of voice, it is clarified that:

- Paragraph g) of paragraph 1 of article 3 of the LCE defines emergency communication as *“the communication established through interpersonal communications services between the end user and the public security service point (PASP), with the aim of requesting and receiving emergency assistance from emergency services”*;
- Article 67.1 of the LCE states that it is a right of end users of services of interpersonal communications based on publicly accessible numbers that allow make calls to a number included in a national or international plan numbering, including users of public payphones, *“access emergency services through emergency communications”, free of charge and without having to resort to any means of payment, using the single European emergency number “112” or any another national emergency number specified by the National Regulatory Authority, duly identified in the National Numbering Plan (now underlined)*;
- Paragraph b) of paragraph 2 of article 67 of the LCE states that companies offering services referred to in paragraph 1 of the same article, must provide *“information on the location from the caller to the most appropriate PASP, without delay after communication has been established emergency” (now underlined)*;
- Point 2.2.1 of Annex I to the Draft Regulation, to which Articles 8 and 10 refer, 11th of the Draft Regulation, defines in the 'Z' field of the routing number, three types of communication, specifically, *“call”, “manual eCall” and “automatic eCall”*;

- The reference to *“new media beyond voice, e.g. real-time text”*
real, video and messages, and the provision of more and new data» constant in the note
 The justification for the Draft Regulation refers to the potential of the NG112 architecture.

In view of the above, although the preamble and the articles of the Regulation refer to communications emergency, the same applies to calls and eCall (manual and automatic), so if considers that the scope of the Regulation, as regards emergency communications, is duly circumscribed, not justifying any change to its preamble or its articulated.

With regard to the emergency numbers covered by the Regulation, it should be noted that:

- As mentioned above, Article 67.1 of the LCE states that it is the right of users
“ of interpersonal communications services based on publicly available numbers”
that allow you to make calls to a number included in a national plan or
international numbering system, including users of public payphones, to access services
emergency through emergency communications, free of charge and without having to resort to
to any means of payment, using the single European emergency number “112” or
any other national emergency number specified by the ARN, duly
identified in the PNN» (now underlined);
- Paragraphs a) and b) of paragraph 2 of article 67 of the LCE stipulate that companies offering the services referred to in the previous point must ensure *“access to emergency services*
through emergency communications to the most appropriate PASP” and make available *“the*
information about the caller's location to the most appropriate PASP without delay after the
establishment of emergency communication and throughout its duration, as well as, if
feasible, ensure that the said PASP can retrieve and manage the available information
location of the person who made the call” (now underlined);
- Paragraphs a) and b) of paragraph 6 of article 67 of the LCE stipulate that companies that offer interpersonal communications services not accessible to the public, but which allow calls, from their networks, to a number included in a national plan or international numbering system, must guarantee *“access to emergency services through*
by dialing the number “112” or any other national emergency number” (now

underlined) and make available to the companies referred to in paragraph 2 of article 67 of the LCE the data of location necessary to comply with the obligations provided for in that same number;

- The NNP identifies the number '115' as *the 'national emergency number'* and the number '117' as a *"national forest protection number"*;
- Article 7 of Decree-Law No. 73/979 , of April 3, states that the *telephone number «115 remains in operation, together with the telephone number 112, until further notice of the Minister of Internal Administration who sets its term»*.

In view of the above, the emergency numbers to be considered for the purposes of the Regulation (such as already found in Regulation 112L) are the numbers '112' and '115', as they are the numbers which are currently listed in the NNP as *the "national emergency number"*. In this sense, it is not considers it necessary to make any changes to the Regulation, as its wording is aligned with the LCE, thus allowing for the accommodation of any changes that may occur in the emergency numbers (which appear in the PNN) to be considered for this purpose.

2.2 Cooperation

NOS , aware of the growing importance of the location of the *«terminal to safeguard the levels of precision required by this Draft Regulation»*, states that it is important to involve in this process also the *«companies and manufacturers of terminal equipment, their cooperation"*, since without their involvement *"efforts to make the Caller location using equipment centric may not produce the results expected"*, and therefore proposes that Article 4 of the Draft Regulation be amended to read to be worded as follows: *'The companies referred to in Article 2 **and the companies and manufacturers of terminal equipment** must cooperate with each other and with the competent authorities for the services*

⁹ Diploma that creates the number '112' as the national emergency number, available at <https://diariodarepublica.pt/dr/detalhe/decreto-lei/73-526779>.

emergency, with a view to providing the most appropriate PASP with the most accurate and reliable information on the location, in compliance with current legislation and framework”.

ANACOM's Understanding

The obligations set out in the Regulation are directed to the companies referred to in paragraphs 2 and 6 of the Article 67 of the LCE, and it is up to these companies to ensure compliance. Even if recognize the importance of involvement and cooperation from mobile device manufacturers to ensure that the mobile device makes available, in particular, its location data, ANACOM does not have the legal powers to impose cooperation duties on these manufacturers, therefore, Article 4 of the Regulation is not amended under the terms proposed by NOS. The cooperation referred to in this specific context should naturally safeguard the application of the competition law regime.

2.3 Company code

MEO, regarding the company code provided for in article 7 of the Draft Regulation, considers *«it is necessary to specify whether the same company code should be used in outgoing calls from fixed and mobile sources»*. Regarding their transport, under the terms set out in point 2.1 of Annex I to the Draft Regulation, the company clarifies that the “E-CSCF” currently in force in MEO does not support the *«reception of the 'Sip header' «Organization» (...) coming from the LRF»*, suggesting, thus, the company code is carried in an *additional «SIP header» «Accept-Contact»*, giving as an example *«Accept-Contact: *,organization="020"»*.

SGMAI « **expresses** *its interest in receiving a unique identification code for the company that offers interpersonal telecommunications services*”, as it will allow the PASP *“in the event of need for some error or failure in data transmission, to be able to determine the origin of the call made to 112, and quickly establish contact with the respective company”*.

ANACOM's Understanding

Regarding the issue raised by MEO regarding the company code, it is clarified that this code is unique for each company that, in practice, provides the PASP with information about the location of the caller, and the company must use the same code regardless of the network

(public fixed, public mobile or public *Internet*) where emergency communication is made (as stated in the explanatory note for the Draft Regulation).

This position is in line with the SGMAI statement, which expresses its interest in receiving a “*unique identification code*” for the company so that, if necessary, due to an error or failure when transmitting data, you can contact the respective company.

In any case and to avoid doubts in the interpretation and application of this provision, the following procedure is followed: the amendment of Article 7 of the Regulation, including a new paragraph 2.

Regarding the ‘*SIP header*’ «**Organization**»:

- It is verified that this ‘*SIP header*’ allows the transmission of the identification of the organization to which belongs to the SIP element that issues the request or response (RFC10 3261); and
- No limitations are identified at the level of technical documents that hinder their use under the terms set out in point 2.1 of Annex I to the Regulation, and may, in the However, its use depends on (i) configuration or implementation of functionalities in the network elements of companies, and/or (ii) intervention of manufacturers of these elements to implement these functionalities.

In the case of the ‘*SIP header*’ «**Accept-Contact**», proposed by MEO, it can be seen that this ‘*SIP header*’ allows the caller to transmit a set of elements that express their preferences about the characteristics of the *User Agent* to which the request should be forwarded (RFC 3841).

In view of the above, it is understood that the ‘*SIP header*’ «**Organization**» is the one indicated to transport the company code and not the ‘*SIP header*’ «**Accept-Contact**», so the arguments presented by MEO, thus maintaining the option set out in the Draft Regulation, and companies must ensure compliance with this provision.

¹⁰ *Technical/ standard document* .

2.4 Forwarding number

MEO considers **it** necessary to clarify whether, in *“emergency calls made while nomadic through the Public Internet”*, your interpretation that you should use *“as the destination the number +351 112 200, whenever it is not possible to determine the geographical area from which the call was originated”*. Additionally, the company indicates that in section 2.2. of Annex I of the Draft of Regulation *«it does not mention which are the valid formats of the «Request-URI» of the 'SIP request' «INVITE» that will arrive at the PASP, namely whether it should be sent in SIP-URI format with indication of user=phone or in TEL-URI format»*.

NOS **states** that *“the suggestion was not directly included in the articles of the draft Regulation to coordinate between operators and PASP the call identification models where it is not possible to guarantee the reliability of its origin”*, giving as an example cases of nomadism. In your opinion, is it strange that this Draft Regulation is being *«prior to the Regulation on the establishment of rules for the use of geographic numbers and furniture in a nomadic situation”*, considering it essential for the *“framing and specification of calls made from the public Internet”*.

SGMAI **expresses** its agreement with the receipt of the routing number, because the considers it *“of paramount importance for 112, since this is the information used to make the first routing decision to the most suitable PASP”* and in case of total failure of the *«NG112-ESInet infrastructure is the only viable alternative for routing calls for the respective PASP”*. Therefore, it considers that the forwarding number should be *“always sent in accordance with the specifications in the new regulation and independently and parallel to any other element of caller location”*. Additionally, it states that the number routing also allows you to distinguish between voice calls (2xy) and eCall (6xy and 7xy), originated by IVS devices installed in motor vehicles», which in the case of eCall is essential. Otherwise, they *“would be processed in the same way as voice calls, losing the information contained in the MSD, and consequently the added value offered by this information such as the type and precise location of the vehicle.”*

ANACOM's Understanding

Regarding the doubt raised by MEO, it is important to highlight that, according to point 2.2.1 of Annex I of the Regulation, the 'xy' field of the routing number refers to the area geographic location where the emergency communication originates, corresponding to the last two digits of the '2xy' ranges of the PNN, except when, in particular¹¹, *'it is not possible to determine the geographic area where the emergency communication originated or ensure the reliability of the information about the caller's location'*, in which case it should correspond to '00'.

This option allows companies to signal when they do not guarantee the reliability of the information about the location of the caller, which is considered essential for (i) companies to carry out the forwarding of the emergency communication to the most appropriate PASP and to (ii) the PASP identify these communications and process them. This approach is aligned with the pronouncement of the SGMAI, which considers that the forwarding number should be *«always sent as specified in the»* Draft Regulation and that the information contained therein is *«of paramount importance to 112, since this is the information used to carry out the first routing decision to the most suitable PASP»*.

Thus, although the Regulation does not have the articulation sought by NOS, it appears that establishes the solution that allows companies to indicate to the PASP when they do not guarantee the reliability of the information. In the case of matters relating to emergency communications, It is understood that it must be provided for in the Regulation, so that all companies use it this solution, which has advantages for companies and for PASP, by standardizing identification of these emergency communications.

In this context, it is clarified that the 'xy' field of the routing number must correspond to '00', namely in emergency communications made in nomadic situations that are established in the respective regulation and only when companies do not

¹¹ In the case of the geographical areas of Lisbon and Porto, it corresponds, respectively, to '10' and '20'.

are able to determine the geographic area where the emergency communication originated or ensure the reliability of information about the caller's location.

Regarding this regulatory procedure, it precedes the regulation that aims to establish rules for using geographic and mobile numbers in a nomadic situation, it was understood initially define the solution compatible with the systems that handle communications emergency, which is also necessary to establish the rules associated with the use of geographic and mobile numbers in a nomadic situation, which will appear in the respective regulation. ANACOM will not fail to articulate the rules to be included in the regulation that aims to establishing rules for the use of geographic and non-mobile numbers in a nomadic situation with the rules contained in this Regulation.

Regarding the valid formats of the «**Request-URI**» of the «**INVITE**» SIP request, it is clarified that the 'TEL URI' format (RFC 3966) or the 'SIP URI' format with indication of "user=phone" (RFC 3261). This option is in line with the provisions of the decision on migration of 112 traffic to IP interconnection, so there will be no impact on companies.

Bearing in mind MEO's comment and to avoid doubts about the valid formats of the «**Request-URI**», point 2.2.2 of Annex I to the Regulation is amended.

2.5 Caller location information

2.5.1. Provision of information (PIDF-LO)

APRITEL **argues** that *"in some cases the introduction of PIDF-LO has negative impacts disproportionate to the benefits that the change introduces and applies to services and technologies whose use has seen a sharp decline"*. These are the cases of application in the public network mobile, with regard to 2G and 3G networks, as well as the fixed public network, since this information is not *"natively available by the equipment, which implies an effort substantially higher for creating the PIDF-LO document, as currently this information is not readily available"* and because the use of *"legacy mobile networks"* is find themselves in *"accelerated decline with the introduction of VoLTE and in some cases with its phase already completed or in perspective"*. Thus, APRITEL understands *"that the introduction of the PIDF-LO in these calls should not be a priority and should even be disregarded, being preferable to*

maintenance of the current solution». In the case of 4G and 5G networks, APRITEL considers that since «the PIDF-LO is generated natively by the equipment and operators must do developments to add all the location information made available by the network», «if appears proportional and constitutes a significant evolution in the information transmitted to the PASPs».

MEO **understands** that the proposal contained in the Draft Regulation is aligned with:

- The “options considered by **EENA** in its document *Caller Location in NG112 – End-To-End Approach v1.0*», based on the following principles:
 - the «“Location Format” of the “Geodetic” type, with provision for sending coordinates in PIDF-LO (Presence Information Data Format Location Object) as defined in the RFC 5491, and in the form of various geographical figures (“eg Circle, Point, Ellipse, etc.”)»;
 - the «“Location Transport” of the “by Value” type, which allows immediate shipment of the location of the terminal (RFC 6442). To this end, when establishing the call, emergency, the Geolocation header with Content-ID must be sent by the terminal (cid) and the respective SIP Body with the above mentioned PIDF-LO»;
 - the «NG112 architecture based on mobile networks supporting Voice over LTE (VoLTE) and respective SIP protocol (i.e. without relying on over-the-top applications). In addition sending the terminal location, in eCall scenarios it is also supported in SIP sending the Minimum Set of Data (MSD). It may also be possible to “Location Updates” based on a publish/subscribe mechanism by the PSAP.
- The « **3GPP standards**», which define the following options:
 - the **“Sending of terminal location to PSAPs”** as defined in “TS 24.229 v17.3.1 paragraph 4.7.5 Location in emergency calls, the sending of the location is foreseen of the terminal by including the Geolocation header, to support calls from emergency and for PSAP use»;
 - the **“Sending cell location to PSAPs”**, where obtaining and passing the location of the “cell from which the emergency call to the PSAP is made, is in accordance with TS 23.167 v17.2.0 paragraph H4 Location Handling (IMS emergency services using UTRAN, E-UTRAN and NG-RAN radio access network)».

Likewise, MEO considers that the *“proposal to activate the sending of the terminal’s location in VoLTE, in addition to cell location in both formats (new and old)”*, appears to be aligned *«with the E-MERCURY study of 10.12.2021, carried out at the request of the European Commission»*, the which recognizes, in particular, that the evolution of emergency services with new technologies require updating regulatory requirements, the importance of data from the mobile device and the possibility of being combined with the data coming from the public mobile network infrastructure.

NOS , although it understands the objective of ensuring that *“information about the location of the caller is always made available in the same way, regardless of the network where the emergency communication is carried out (fixed, mobile or Internet)”*, states that, in practical terms, its widespread implementation *“has disproportionate impacts on specific services, that could be avoided or mitigated with longer than expected implementation times, taking into account the benefits they present”*. The company bases this understanding on referring that:

- In the case of 4G and 5G networks, *“in general, terminals compatible with these networks allow generate the PIDF-LO, as long as this functionality is enabled and configured correctly on the device”*, although he acknowledges that companies will have to make *“developments to add location information from your networks to your PIDF-LO.”*

Despite the *“costs and time required to adapt network services to introduce new location elements and features such as the Sector”*, the company highlights that such appears to be *“reasonable and proportional, given the growing preponderance of these technologies and the significant benefits that additional information from the network may be introduced as information transmitted to the PASP”*;

- In the case of Voice over WiFi (VoWifi) *«without the use of third-party applications, the production of PIDF-LO also depends on its correct configuration on the device, and applies, in principle”*, the considerations of the previous point;
- In the cases of (i) 2G and 3G networks, (ii) the fixed public network and (ii) the public Internet , *“production of the PIDF-LO presents additional challenges, in that either the PIDF-LO is not sent natively by the equipment (in the cases of 2G/3G and in the fixed network) or it may depend on the correct configuration of the application where the call is made (in the case of the Internet*

public)», therefore «the production of the PIDF-LO will have to be done by the operator», which requires «root developments, in which the location of the caller is “simulated”, constituting «naturally an implementation and integration effort that may not be proportional, in particular given the decreasing relevance and weight that these services have in the universe of calls destined for emergency networks». It also adds that the use of “legacy mobile networks (2G and 3G) is in accelerated decline with the introduction of VoLTE and, in some cases, with the respective phase out already completed or in perspective”, and the “increasingly reduced use of the fixed network and the respective impacts that these developments imply, without this implying an increase in the quality of the information”, therefore, in the company’s understanding, the current solution should be maintained and Annex I should be amended accordingly. compliance to reflect this change.”

SGMAI informs that it is currently implementing an infrastructure in the «Service 112 » technological (NG112), based on the technical specification ETSI TS 103 479, with SIP connectivity and location transported and encoded in the PIDF-LO», therefore considering that the Draft Regulation “technologically meets the requirements and needs of PASPs” contributing decisively to the provision of a better emergency service to citizens.”

He adds that it is “extremely important that the location of the person making the 112 call is redundant, quickly known, and has the greatest possible precision, so as to allow immediate dispatch of assistance to the place where relief is needed», since in many cases “the person making the call is unable to reference their position with a level of accuracy sufficient for emergency services to locate it (or because she is unable to speak or because she does not know where she is). In this sense considers it vital that “all technological information that contributes to the location of the person making the call, are made available to emergency services” and states that “the accuracy of the caller’s location depends largely on the capabilities techniques of fixed and mobile telecommunications operators, to send data to the PASP reliable call location information».

With regard to data on the infrastructure of the public mobile network, provided for in Regulation 112L, the SGMAI states that the “radius of the cell may, in some cases, be greater than 30 km (corresponding to an area greater than 2,827 km²) so its usefulness is limited to validation of other sources of more accurate location information (e.g. AML)», which is why

"insufficient to determine a reasonably approximate location of the incident" but that continues to maintain *its "relevance given its high reliability"*. In this sense, it considers it to be *«it is essential to adopt ANACOM's proposal that foresees the evolution of data geolocation from the public mobile network infrastructure (Cell ID) to the form sector type geometric pattern (Cell Sector/ Arc Band), which will result in a substantial reduction in land area where the caller is located»*. It further adds that *«only about 50% of calls delivered to the 112 Service Operational Centers contain information originating from the device of the person making the call (AML)»*, so the data from the public mobile network infrastructure *«are extremely relevant for PASPs, as in which its availability, in addition to being independent of the type of mobile device and generation of the network (2G, 3G...) through which the call is made, it will always be assured even in situations where»* (i) the *«PIDF-LO is not delivered to the PASP, or is incorrect»*, (ii) there is *«no information obtained via GNSS»* and (iii) *«calls are made in LSS»*.

In the case of the fixed public network, SGMAI completely agrees with the proposal of the Project of Regulation, which provides that *“the location (civic address) is received embedded in the SIP signaling of the call (sent in the PIDF-LO and in accordance with the applicable standards and technical specifications)»*, since it will not require *“consulting a local database in the PASP, simplifying expressively the process currently in force”*, adding, in particular, that:

- PASPs should only have *“access to the caller's physical address (address) at the time that he contacts the emergency service 112”*;
- The GDPR (Regulation (EU) 2016/679 of the European Parliament and of the Council), states, in particular in recital (39), which states that *“Personal data should be adequate, relevant and limited to what is necessary for the purposes for which they are processed”*;
- He does not consider that it makes *“any sense to maintain, on the 112 service side, a database complete list of customers of companies providing fixed-line telephone services, when technically it is possible for them to send us, in real time, the data (civic address) strictly necessary to locate the caller”*;
- The current solution is based on a database (BD-112L) and has *«about 15 years of experience»*. *existence»* being, nowadays, completely out of adjustment;

- The aforementioned database requires *a significant and continuous effort from the “SGMAI team, didactic level, whenever new operators enter the fixed network market, in order to ensure that no files are sent to us by operators out of sequence or invalid (e.g. containing invalid dates and/or wrong line count)”* and requires “a *complex and permanent maintenance*».

ANACOM's Understanding

With respect to caller location information data being transported and encoded using the *Presence Information Data Format Location Object* (PIDF-LO), regardless of the network where emergency communication is carried out (fixed, mobile or *Internet*), as stated in the explanatory note of the Draft Regulation this option:

- Allows to represent information about the caller's location and the sending of different types of information (e.g. physical address, sector, *arcband*, coordinates geographical areas) in a structured and standardized way, thus enabling the availability to the PASP for more and better information, which for the provision of emergency services is fundamental;
- Allows you to provide different types of information about the caller's location, whether in the same PIDF-LO or in different PIDF-LOs, as well as making this information available to throughout the duration of the emergency communication;
- Allows caller location information to be made available directly to the PASP without the need, in the case of the fixed public network, for the PASP to have and maintain a database data (BD-112L) and sending files with the necessary data by companies;
- It allows to standardize, facilitate and simplify the provision process and, mainly, receiving information about the caller's location, as it is made available always in the same way regardless of the network where the emergency communication is carried out;
- It is aligned with the way the mobile device makes available, in the signaling of the emergency communication, data relating to your location;

- It is aligned with technical standards and best practices regarding the provision information about the location of the caller making the emergency communication (such as, *Caller location in NG112 End-to-end approach of the European Emergency Number Association – EENA*), as also mentioned by MEO, in its statement.

In this sense, the abovementioned statement by SGMAI stands out, which refers to the importance of information about the caller's location is as accurate as possible, since in many cases cases, *"the person making the call is unable to reference their position with a level of sufficient precision for emergency services to locate it"*. In the particular case of the network public mobile, adds that current data (i.e., circle geometric shape) are insufficient to *"determine a reasonably approximate location of the incident"* and that in only 50% of cases emergency communications are received data from the mobile device, sent by *Advanced Mobile Location (AML)*. In the case of the fixed public network, it is highlighted that the PASP should only have access to information about the caller's location when the communication is received emergency.

Thus, it can be seen that the SGMAI's ruling reinforces the options contained in the Regulation, in which refers, in particular, to the PIDF-LO and the need to improve information on the caller location on the public mobile network and not just on 4G and 5G networks.

Furthermore, in 4G and 5G networks there may be situations where the mobile device does not makes available, or takes some time to make available, your location data using the PIDF-LO, and companies should not make the provision of data dependent or delay it. coming from the network infrastructure of the PIDF-LO provision of the mobile device. Thus, the cases in which companies have to generate the PIDF-LO are not limited to the case of 2G and 3G networks and on the fixed public network, as APRITEL and NOS refer. And, even in cases where the device mobile makes its location data available using PIDF-LO, companies must include data coming from the network infrastructure in this PIDF-LO or another PIDF-LO.

In view of the above, the arguments presented by APRITEL and NOS are not supported. that this measure appears disproportionate in the case of the public mobile network, with regard to 2G and 3G networks, and the fixed public network, for the following reasons:

- According to available data¹², in the 1st quarter of 2024, (i) the number of accesses to the service telephone at a fixed location reached 5.5 million accesses, a figure that increased in relation to the same quarter of the previous year, and (ii) the number of mobile accesses with effective use on the networks 2G and 3G was approximately 2.9 million accesses, which means that there is a high number of accesses that can carry out emergency communications through these networks;
- In the case of the 3G network, it is expected, given the information available, that its shutdown is completed during the year 2025 and before the date of entry into force of the Regulation, changed as referred to below in this report, so it is not anticipated that the Regulation implies the need for developments and adaptations by companies in which refers, in particular, to the PIDF-LO in that network;
- In the case of the 2G network, (i) there is no information if and when its shutdown will occur in Portugal, (ii) there are mobile devices that only have the ability to perform the emergency communications via the 2G network, namely by shutting down the network 3G, and (iii) some of these devices (referred to in (ii)) do not have the capability to make your location data available (AML), so the implementation of PIDF-LO will allow to improve the accuracy of information about the caller's location, i.e. change from the current geometric shape circle to sector or *arcband*, thus reducing significantly, the area of the cell that is made available to the PASP and where the caller can be located;
- In the case of the fixed public network, considering, in particular, (i) the PASP only needs the data on the location of the caller when receiving the emergency communication, (ii) the current BD-112L maintenance process is out of step with the technological developments that have occurred since 2009, and (iii) the PASP only began to have

¹² Information available <https://www.anacom.pt/render.jsp?contentId=1787750> in <https://www.anacom.pt/render.jsp?contentId=1787801>.

access to caller location data only as strictly necessary and for as long as just necessary.

Thus, it is understood that the implementation of PIDF-LO in all networks will have advantages for both emergency services and for end users, by enabling, in particular, a more precise location of the caller, which means that the costs and impacts are justified, also in these networks, when what is at stake is rapid and immediate assistance in risk situations, namely, direct risk to the life or physical integrity of people.

In any case, recognizing that companies need time to carry out the necessary adaptations and configurations of the information systems involved in the various networks, the date of entry into force of the Regulation will be changed, as detailed below in more detail constant understanding of subchapter 2.13.

MEO considers that in point 3.1 of Annex I of the Draft Regulation *"it is not indicated as the 'content-id' field of the 'Sip header' «Geolocation» and associated PIDF-LO must be filled in, in cases where this content is added by the operator with the indication of the location of the cell/address of the caller"*, therefore, with the aim of standardization at a national level, it suggests the *«'<cid:address-geolocation>' in case of calls initiated on the fixed network and '<cid:cell-geolocation>' in the case of calls initiated via the mobile network»*.

ANACOM's Understanding

Regarding the *content id* (cid) reference that must be inserted in the *'SIP header' «Geolocation»* (RFC 6442) and which corresponds to the **'Content-ID'** of the *'SIP body'*, where the respective data (PIDF-LO), it is clarified that it must comply with RFC 2392. As stated of the explanatory note of the Draft Regulation, we sought to follow, whenever possible, the technical standards applicable to this matter, thus avoiding specific solutions that may imply additional adaptations and developments to companies and the PASP. In this specific case, companies must ensure that the *content id* (cid) reference inserted in the *'SIP header' «Geolocation»* (i) complies with the aforementioned RFC and (ii) allows matching with the respective data.

Additionally, it is also understood that the PASP, through the type of data present in the PDIF-LO, for example «**civic**» and «**Geodetic**» «*arcband*», as well as through the numbering range that made the emergency communication, can distinguish between data coming from the mobile device and data from companies.

In view of the above, we do not support the suggestion presented by MEO, and therefore the following remains in place: option included in the Draft Regulation. However, point 3.1 of the Annex I of the Regulation, adding the reference to RFC 2392.

2.5.2. Redundancy

DIGI **understands** that in order to *“correctly ensure the necessary redundancy provided for by the ANACOM, it will be pertinent, (...) to use for location information, both the signaling (SIP), such as MLP (NI-LR)”*, therefore, *“in the case of a VoLTE emergency call, the voice call containing the primary location is transmitted on the one hand and on the other hand the determined location is sent via the MLP protocol”*. DIGI's proposal *“translates into achieve increasing redundancy”*, since the MLP (NI-LR) system *“can operate independently of voice routing (SIP)”*, which allows the PASP to continue to receive *“location information and also information about the person who is in a emergency situation, via MLP”*. According to DIGI, this solution is implemented in Romania.

SGMAI **states** that the additional information provided for in Annex II of the Draft Regulation *«it will also allow safeguarding a situation of partial system failure, particularly at the level of the ESInet infrastructure since the geolocation information (...) is processed in different elements of the 112 system»*.

ANACOM's Understanding

With regard to DIGI's proposal, it should be noted that the Regulation contemplates a solution for redundancy regarding the provision of data from the network infrastructure mobile public service, which is in line with the provisions of (i) Regulation 112L and (ii) the decision relating to the migration of 112 traffic to IP interconnection. In choosing this solution, ANACOM, as well as stated in the explanatory note of the Draft Regulation, took into account that companies, at the date of entry into force of the Regulation, they already make this data available to the PASP and there will be no changes

in them, so any potential impacts will be reduced and justified considering the advantages that this redundancy will have for emergency services. The proposed solution is, in fact, aligned with the SGMAI statement which states that this redundancy will allow *“safeguarding a situation of partial system failure, namely at the level of the ESInet infrastructure once that the geolocation information referred to above is processed in different elements of the system 112”*.

In the case of the solution proposed by DIGI, that understanding does not apply, since not only companies as well as PASP, would have to implement this solution, different from the current one, without there is a significant advantage in terms of information about the location of the caller or the redundancy, when compared with the solution provided for in the Regulation and which justifies its implementation.

In view of the above, DIGI's proposal will not be considered in the Regulation.

2.5.3. Arcband

NOS **considers** that the Draft Regulation provides that the representation of data originating from the public mobile network infrastructure in the *arcband* geometric form is *“an alternative to the type sector, and is therefore not mandatory”*, given that the explanatory note refers to *“case have the necessary capacity, namely through Timing Advance (TA)”*, noting that it does not *currently have the “necessary capacity to send such information”* and that this would require developments at the network level to *“extract TA (Timing) information advance) of radio signaling protocols”* and at the level of the *“geolocation platform for convert arcband information into coordinates/polygons”*. Regarding the form geometric sector NOS agrees with the new specification, but highlights the need (i) to *“development of a solution for this purpose”* and (ii) *“allocation of non-negligible costs and teams in the development of such solutions”*.

ANACOM's Understanding

Regarding the arcband geometric shape, it is clarified that the data coming from the public mobile network infrastructure must be represented in this geometric form when the companies have the capacity to determine the area within their cell where the terminal equipment is located, in particular through *Timing Advance* (cf. point 3.3

of Annex I of the Regulation). Thus, when companies do not have this capacity, the Such data must be represented in the geometric sector form, as stated by NOS.

2.5.4. Updating data

Regarding data about the physical address of the network termination point (PTR), in a network fixed public, **NOS** states that although companies have an *"interest in maintaining the information about its customers, namely addresses, as up-to-date as possible"*, is not possible to *"ensure that at any time the information contained in the systems of operators is up to date, as this update depends, to a large extent, on the operators themselves customers"*. The company states that it is common that over time there is, for example, *"update the designation of streets and/or replacement of temporary designations, for example "lot", by definitive designations"* and *"modification of postal codes"*. In this sense, it states that it is not *"reasonable to require that operators ensure, at all times, the updating of the information about the address where its customers are located"*, and therefore proposes that paragraph *b)* of Article 5 of the Draft Regulation be amended to read as follows: **"Strive for keeping up to date the sources of information that establish location information of the caller"**.

ANACOM's Understanding

Regarding the guarantee of updating data on the physical address of the termination point network (PTR), this is information that companies must ensure and guarantee is correct, since they control access to the network at that point. To this end, companies must ensure that implement the necessary procedures to ensure that such data is correct and updated, with this duty to update already arising from paragraph 6 of article 3 and paragraph 4 of article 6, both from Regulation 112L.

In this context, no amendment is made to paragraph *b)* of Article 5 of the Regulation under the terms proposed by NOS.

2.6 Telephone extensions

APRITEL mentions that the « regulation does not define a technical solution that allows operators to validate the content of the additional location data of the extensions telephones (e.g., bedroom, living room)" and that "operators do not currently process systematized this additional information about the location of the extensions... in your systems nor do they have full control over their reliability." He adds, on the one hand, that "even that this information were collected and sent during calls, it could lead to the indication of incorrect locations, which would naturally be ineffective and even counterproductive" and, therefore, on the other hand, that the proposed changes, "with regard to specific requirements with impacts in calls originating from the fixed network, they are technically complex, in some cases even even technical impossibility, given that they depend on information held by customers and not controlled by the Operators". Thus, APRITEL understands that "this obligation is disproportionate and inappropriate", and therefore requests its "lifting".

COLT **considers** that this provision "is excessive in relation to the benefit to be obtained", as it implies "a significant implementation and maintenance effort, both for communications operators electronics, both for business customers». He also considers that «the greater the number of additional data required, the greater the likelihood of unintentional error in the data provided", as well as that the "location data of each customer's telephone extensions business can be very varied and heterogeneous" which, in his opinion, can create "more confusion of what helps in trying to determine the location of emergency calls».

The company considers it more appropriate for this data to be provided "through information contextual, which are defined as information transmitted directly by the end user through emergency communication as defined in Delegated Regulation 2023/444 of December 16, 2022». In view of the above, COLT requests that it be «optional to provide of the additional data provided for in [sic] table I-4 in point 3.2.2 of the annex» of the Draft Regulation, in order to "reduce the burden on operators" and to "reduce possible confusion in providing additional data».

DIGI **states** that the provisions of this article "cannot be implemented when the solution and the equipment is installed and managed by the end user, in which case there is no

electronic communications operator any control over the user's internal system end".

MEO **states** that the Draft Regulation *"does not define a technical solution that allows operators to validate the content of the additional location data of the extensions telephone numbers (e.g., bedroom, living room)"* and that this is *"information about which operators do not have any control and which ultimately depends on customers and end users and the decisions that they take regarding the organization of their internal telephone networks and the locations where originate the calls"*. Therefore, it considers that the Regulation *"should not impose obligations regarding the location of calls made from telephone extensions"*, since *can "lead to incorrect locations being indicated, which is ineffective and counterproductive."*

NOS **states** that the introduction of additional elements relating to the physical address of the PTR, in the case of telephone extensions, it appears *"not only disproportionate, but also more susceptible to error and, for this reason, potentially counterproductive"*. It also understands that the provision of *"information regarding extensions associated with end users who are not consumers is limited to extensions that have a PNN number associated with them"*, adding that in these cases typically, *the address is surveyed and the specific information relating to it is not processed [to] the location of the extensions"*, which is why it is considered important to emphasize that even though NOS perform the *"installation of extensions, only manage them to the extent that they are made viable technically"*, there is *therefore a wide margin for them to change the location physical aspects thereof"*. Thus, this provision, on the one hand, deserves *"serious reservations on the part of NOS, firstly because operators have no control over their reliability"* and, on the other hand, *"it would be necessary to ensure the collection and inclusion of this data in the information systems (...) that required the allocation of substantial means and resources for this purpose"*. NOS also highlights that, in cases where end users are the ones providing this information, companies cannot be held responsible for *"any error arising from any communicated element"* to the extent where companies are not *"responsible for the configuration and management of their respective extensions telephone companies"*. In this sense, the company considers that this *"forecast is disproportionate and should be eliminated from the final version of the future Regulation"*. However, if ANACOM decides to maintain this provision, NOS argues that it should only apply to future installations, taking into account exhaustive explanation of its position and subject to the *"limitations presented listed and*

scope of responsibility of operators, in accordance with what is clarified by the ANACOM».

SGMAI **agreed** to provide additional data to the address

physical part of the PTR, in the case of telephone extensions, indicating that *“they should always be available sent to PASP in PIDF-LO».*

ANACOM's Understanding

As stated in the explanatory note of the Draft Regulation, it is understood that, in the case of end users who are not consumers, data supplementing the physical address of the PTR, regarding the location of the telephone extension, may be relevant to the PASP, including, SGMAI has expressed its agreement to its availability.

However, considering the arguments presented in the statements of APRITEL, COLT, MEO, DIGI and NOS, it is understood that the companies' duty to establish the data additional information about the location of each telephone extension that has an associated number PNN, when they are responsible for configuring and managing their customers' telephone extensions. end users who are not consumers, must be changed, namely:

- Due to the technical complexity associated with establishing additional data on the location of each telephone extension that has a PNN number associated with it;
- For the significant effort of implementing and maintaining this data for companies.

In this sense, paragraph a) of article 10 of the Draft Regulation is hereby deleted , leaving companies, covered by this standard, with no duty to ensure the establishment of the aforementioned additional data. However, if companies choose to establish (collect) this additional data, then, as it is an emergency communications, It is understood that this data should be used to allow for more precise location of the caller, which is why subparagraph i) of paragraph d) of paragraph 1 of article 11 of the Regulation, thus leaving the duty to make this additional data available limited to cases in which they are established (collected) by companies.

With regard to cases where additional data is made available by the respective end users, although NOS's concern is recognized, it is understood that the

provision set out in subparagraph *ii)* of paragraph *d)* of Article 11.1 of the Regulation, since which allows a more precise location of the caller in addition to the address data physical of the PTR are assured by the companies.

2.7 Mobile device

NOS **argues** that the *“information made available using data sent directly by terminal equipment”* should be the *“primary source for providing location of the caller”*. Therefore, he considers that it is *“important that suppliers of this equipment are aware of the importance they play in this process”*, which is why he understands that no *responsibilities in this regard should be imposed directly on operators procedure, which are not associated with specific technical configurations associated with their carrier settings*». In case of different understanding, that is, if *“other requirements or functionalities, which are not directly associated with the configuration of mobile networks”*, NOS argues that *“this role of encouraging cooperation should be played by ANACOM, so that these stakeholders are called upon to cooperate in order to provide information that is exclusively under its control”*, and therefore proposes that points *a)* and *b)* of Article 12 of the Draft Regulation shall be amended to read as follows:

- *«a) Ensure the necessary configurations for mobile devices to provide, whenever technically feasible **and configurations under your responsibility are involved**, the data indicating your geographical position when a communication is made emergency”;*
- *«b) Coordinate with the competent authorities the frequency of emergency services that must be configured on mobile devices so that they are available, whenever technically feasible **and configurations under your responsibility are involved**, the data indicating their geographical position throughout the duration of the emergency communication».*

ANACOM's Understanding

As stated in the explanatory note of the Draft Regulation, for the mobile device make your location data available and updated on emergency communication signs (ie, PIDF-LO), you may need to perform configurations on the devices.

Therefore, companies must carry out the necessary coordination with their respective manufacturers to check whether, on the one hand, the devices meet the necessary conditions (*hardware and software*) to make this data available and, on the other hand, whether any configuration is necessary.

Because it is recognized, in particular, that not all devices have the capabilities necessary to make such data available and that such settings may depend only on the manufacturers, Article 12 of the Draft Regulation establishes the condition that “*wherever technically feasible*».

In any case, given NOS's concerns, and since the aim is for companies liaise with their respective mobile device manufacturers to ensure configurations necessary for devices to make their data available, whenever technically feasible location, paragraph a) of paragraph 1 of article 12 of the Regulation is amended . Additionally and in the same sense, paragraph 2 of the same article is amended.

2.8 IMEI

MEO **states** that it can only guarantee the sending of the *International Mobile Equipment Identity (IMEI)* «*in emergency calls originating in VoLTE and VoWiFi*». Regarding their transport under the terms set out in point 2.4 of Annex I of the Draft Regulation, the company identifies restrictions and clarifies that the «*EATF acts as a Back-to-Back User Agent (B2BUA) and, as such, after anchoring, the 'SIP header' «Contact» now contains the EATF domain and port, making it impossible to requirement*». Thus, it suggests as an alternative that the IMEI be transported “*in the form of IMEI URN in the 'SIP header' «Accept-Contact»*», giving as an example «*Accept-Contact: *;+sip.instance=<urn:gsma:imei:35301711-304873-0>*».

NOS understands that it is “*mandatory to send IMEI information when made available by the device*”, but that in cases “*where it is not possible to make this information available through the devices, the sending of this information obtained by the network will be carried out in a logic of best-effort, within the limits of the technical capacity of the network and available resources*».

SGMAI **states** that information relating to calling line identification is “*indispensable for the quality of the provision of the 112 service, as it allows the PASP to carry out, whenever justified, callbacks*” and to allow the association of “*AML data with the 112 call and the*

MSD data to eCall». Regarding the IMEI it indicates that it allows to associate «the 112 call to AML information received, when mobile network operators do not send the CLI (e.g. in calls carried out in LSS)», and «MSD data to the eCall». It also highlights that if it is not received the calling line identification or the equipment IMEI, the AML data will be «automatically discarded and the accuracy of the caller's location will be compromised, since it will depend exclusively on the Cell ID (Sector/ Arc-band)». The same applies to eCall, since it will not be possible to “deliver the MSD (Minimum Set of Data) to the registration application occurrences, these calls being treated like the remaining emergency calls, generated on mobile devices».

ANACOM's Understanding

The Draft Regulation establishes how companies must ensure the transport of the IMEI to the most appropriate PASP, when it is made available by the mobile device or when it is obtained through the network, if the network has this capacity, thus confirming NOS's understanding.

In any case and to avoid doubts in the interpretation and application of this provision, the following procedure is followed: to amend paragraph e) of Article 5 of the Regulation, to that effect.

Without prejudice to the above, it should be noted that, as stated in the explanatory note for the Draft Regulation and confirmed by the SGMAI ruling, in the absence of the identification number of the calling line and mobile device IMEI, PASP cannot match between the emergency communication and the respective data sent by AML or eCall MSD , this data is automatically discarded and the accuracy of the caller's location remains compromised, so there will be advantages for companies to ensure that the network has the ability to obtain the IMEI of the mobile device performing the emergency communication.

Regarding its transport in the 'SIP header' **«Contact»**, no limitations are identified at the level of technical documents that hinder their use under the terms set out in point 2.4 of the Annex I of the Draft Regulation. On the contrary, it is even found, in particular:

- In section «A.16.2 - UE initiating an emergency session in IMS» of ETSI TS 124 237, a example of a 'SIP request' **«INVITE»**, generated by the *Emergency Access Transfer Function* (EATF), which is subsequently forwarded by the *Emergency - Call Session Control Function*

(E-CSCF) for the PASP, where the IMEI is included in the 'SIP header' **«Contact»** (see «Table A.16.2-5: SIP INVITE request»);

- In point 5. of RFC 7255, it is stated that the *User Agent Server* (UAS) should not include in its responses the *instance-id* that contains the IMEI in the 'SIP header' **«Contact»**, except when the response is related to an emergency session, also stating that due to requirements regulatory agencies may request the provision of the IMEI to the PASP;
- In section 13.8 of ETSI TS 123 003 it is stated that the mobile device makes its IMEI available in the 'SIP header' **«Contact»**.

Without prejudice to the above, the carriage of the IMEI in the 'SIP header' **«Contact»** may depend on configuration or implementation of functionalities in the companies' network elements.

In view of the above and because it is also intended that the information or data coming from the mobile device are made available without any changes to the PASP, (in this specific case, do not change the IMEI data that the device makes available in the 'SIP header' **«Contact»** for the 'SIP header' **«Accept-Contact»**), the arguments presented by MEO are not supported, thus maintaining the option set out in the Draft Regulation, with companies having to ensure compliance with this provision.

2.9 AML

NOS understands, with regard to AML, that the *“obligation to send is limited to SMS, while HTTPS sending is optional”*, and reiterates the importance of *“companies and equipment manufacturers terminals are directly involved in this project, given the operators' involvement in this topic be limited”*, which states that *“operators cannot be required to undertake any obligation related to requirements that only terminal equipment companies can achieve implement and make available”*.

ANACOM's Understanding

As far as ANACOM is aware, the PASP currently has the capacity to receive the AML via short message (SMS) and via *Hyper Text Transfer Protocol Secure* (HTTPS), with the mobile device, according to its settings, which determines, on the one hand, the data to be

be sent relating to your location and, on the other hand, how this data is sent (i.e., SMS/HTTPS).

It is not within ANACOM's competence to impose any obligation regarding the functioning of the AML, in particular on how the said data should be sent, i.e. whether by SMS, whether by HTTPS, or via SMS and HTTPS simultaneously.

The Regulation essentially aims to ensure that the number to which AML SMS must be sent be sent, is properly configured in the companies' networks.

In any case and to avoid doubts in the interpretation and application of this provision, the following procedure is followed: to the amendment of the wording of paragraph a) of Article 13 of the Regulation.

2.10 VoWiFi

MEO questions whether the provisions of section 2.1 of Annex II of the Draft Regulation apply also to *"calls made using VoWiFi technology, the content of the 'SIP header' being «diversion» or «history-info» corresponding to the information present in the 'SIP header' «Cellular-Network-Info»»*.

It also states that the information from the last cell *"where the terminal was registered must be considered for information only, not as an indication of its actual location"* and that the *«emergency calls on VoWiFi will be limited to areas without any mobile coverage, as terminals will always select a mobile network over a WiFi network.»*

In this sense, it considers that the Regulation should only *"indicate the sending of the SIP Cellular header-Network-Info as supplementary information when received from mobile terminals, or optionally obtained through the network, and in these circumstances the priority will always be the sending your geolocation via the terminal in the PIDF-LO"*, this is because *"some LRFs on the market, when configured to obtain the last known cell from the network in VoWifi scenarios, they pass to ignore the PIDF-LO with the location information indicated by the Geolocation header"*.

Adds that in a scenario *«where the terminal does not send the 'SIP header' «Cellular-Network-Info» (...) it will not be possible to obtain information from the caller's cell phone"*, so in his opinion it would be important that *there is always a clear indication that the call was made using VoWiFi*.

understand that it is not described «*unequivocally in the regulation that the 'SIP header' «P-Access-Network-Info» should be transported to the PASP»*, suggests that the Regulation foresee its transport to ensure the «*identification of a call made by VoWiFi, through the field 'access-type' with indication '3GPP-WLAN'»*, giving the following example «*P-Access-Network-Info: "3GPP-WLAN;network-provided"*».

NOS **understands** that despite the “*costs and time required to adapt network services to introduce new location elements and features such as the Sector»*, it appears “*reasonable and proportionate, taking into account the growing preponderance of these technologies and the significant benefits that additional information from the network could introduce into the quality of information transmitted to the PASPs»*. Regarding the transport of *cell-info-age*, the company stresses that “*this information comes from the cell – currently, this information is not provided in all calls and there are manufacturers that do not provide it*” –, which reinforces the need for “*inclusion of other stakeholders so that this forecast is safeguarded, with operators only have the ability to send the information that is sent to them and not the ability to control the information transmitted to you.*”

ANACOM's Understanding

Regarding the issue raised by MEO, it is confirmed that in the case of emergency communications carried out via VoWiFi, data from the infrastructure of the public mobile network, under the terms set out in Annex II of the Regulation, relating to the last cell:

- That the mobile device sends in the 'SIP header' «*Cellular-Network-Info*»; or
- That companies obtain from their network elements.

In any case and to avoid doubts in the interpretation and application of this provision, the following procedure is followed: the amendment of paragraph c) of paragraph 1 of Article 11 and point 2.2 of Annex II to the Regulation.

Regarding data originating from the public mobile network infrastructure, in the case of VoWiFi, does not correspond to the current location of the caller, the understanding of the MEO, and therefore, companies must, when they do not guarantee the reliability of the information about the location of the caller, as will be the case with VoWiFi, ensure that the 'xy' field of the number

forwarding corresponds to '00', as translated in the understanding constant in subchapter 2.4. Thus, it is understood that the PASP, when verifying (i) that the identification number the calling line is a mobile number, currently in the PNN ranges '91', '92', '93' and '96', and (ii) that the 'xy' field of the routing number corresponds to '00', identifies:

- That this is an emergency communication made using another access network (e.g. WiFi, with *Internet connection*) as an alternative to the public mobile network;
- That the data coming from the public mobile network infrastructure refers to the last cell to which the mobile device was connected, which may not correspond to the current location of the caller.

So even if the mobile device did not send the '*SIP header*' «*Cellular-Network-Info*» and/or the '*SIP header*' «*P-Access-Network-Info*», it is understood that the PASP can identify the emergency communications made via VoWiFi. In any case, this does not invalidate the fact that companies ensure that the '*SIP header*' «*P-Access-Network-Info*» sent by the mobile device is transported to the most appropriate PASP, as suggested by MEO. Given the above, it is not possible to it is necessary to make any changes to the Regulation in order to include MEO's suggestion.

However, we do not agree with MEO that the provision, to the most appropriate PASP, of the data originating from the public mobile network infrastructure, may be limited to cases where the mobile device sends the '*SIP header*' «*Cellular-Network-Info*» with the information (identification) of the last cell, since:

- There may be situations where your mobile device does not make your data available. location in the communication signaling, so there would be emergency communications made via VoWiFi without any information about the caller's location;
- It is understood that companies have information on the latest cell in which the mobile device was registered or connected, and the date/time of that information.

On the other hand, it is also recognized that obtaining information from network elements about the latest cell to which the mobile device was connected may, in some cases, be more complex for companies, when compared to getting the information about the last cell the device

mobile phone was registered. Therefore, it is considered appropriate to provide for both situations, and the companies ensure that they have the necessary mechanisms to obtain through their network elements the information of the last cell, as well as the elapsed time, in seconds, since the mobile device was either registered or connected to that last cell, when the emergency communication is carried out. In this sense, points 2.5 and 3.4 are amended, both from Annex I of the Regulation, in order to add that it may refer to the last cell to which the mobile device was registered or connected.

Regarding the case shared by MEO regarding the *Location Retrieval Function* (LRF), it is understood that companies must make the necessary configurations to ensure the provision to the most appropriate PASP of data originating from (i) the network infrastructure public mobile relating to the last cell and (ii) of the mobile device, not having been verified in the technical documents any impossibility that hinders the implementation of this measure.

Regarding NOS's comment on the inclusion of other *stakeholders*, reference is made to the understanding expressed in subchapter 2.2.

2.11 Accuracy and reliability

APRITEL begins by stating that the “ **information** made available by the operators’ networks, in itself, does not allow, in the overwhelming majority of situations, the achievement of the expected levels of precision», therefore, the fulfillment of “these objectives is only possible based on information made available by terminal equipment, which is not the responsibility of the operators electronic communications, so the assessment of compliance with these provisions should necessarily take this limitation into account.”

MEO **highlights** that the «registry of operators regarding cell coverage areas uses theoretical models, and it is not possible to guarantee compliance with the accuracy requirements and reliability” for the public mobile network and that in their understanding these requirements depend «essentially the technological evolution of mobile devices, and should therefore be considered an implementation objective and not an obligation for operators.”

NOS **states** that:

- In the case of the public mobile network, *the combination of data must be taken into account from terminal equipment and data from the network infrastructure mobile public – being only possible to reach them with geolocation information from terminals via AML and/or 112 over VoLTE (4G)»,* reiterating that the accuracy *«when not regarding information coming from the network, does not depend on the operator, but on the terminal equipment, so the implementation of the accuracy objectives set out in the draft Regulation»;*
- In the case of the fixed public network, it states that *“it is not possible to guarantee that in each and every moment the information contained in the information systems that manage the addresses of customers is up to date, paying attention, for example, to changes in their names»;* in which refers to telephone extensions, states that *“typically only the processing of the address and never of the information relating to the extensions”* and that even if If you started to collect this information, there is no guarantee that *“this extension is not exchanged by the client himself and, therefore, there will be volatility and impossibility of supervision of its location».*

ANACOM's Understanding

As stated in point 3.2 of Annex III of the Draft Regulation, in the case of the mobile network, the reliability criterion takes into account the *“combination of data from the mobile device and of data originating from the infrastructure of the public mobile network”*, and the Regulation therefore states aligned with the comments of APRITEL, MEO and NOS.

Even if we agree with APRITEL, MEO and NOS that compliance with this criterion depends, to some extent, from the provision by the device of its location data, the Regulation establishes that companies:

- They must coordinate with their respective manufacturers the necessary configurations so that the devices make available, whenever technically feasible, such data, as best they can details in the understanding set out in subchapter 2.7;

- They must take the necessary steps to ensure that emergency communications are carried out with the identification of the calling line, thus enhancing the sending of the AML, in particular by SMS.

Additionally, although not mandatory according to the Regulation, companies may:

- Ensure that the mobile device's IMEI is made available in all communications emergency, particularly relevant in cases where such communications are made without identification of the calling line, thus ensuring that all AML data, as well as like the *eCall MSD*, are used by PASP;
- Carry out the necessary developments to determine the area within the respective cell where the terminal equipment is located, namely through *Timing Advance*, and thus represent data coming from the public network infrastructure mobile in the *arcband geometric shape*, contributing to better information accuracy about the location of the caller;
- Ensure that emergency communications, whenever technically feasible, are carried out on 4G and 5G networks, thus taking advantage of the information made available by mobile device directly in the signaling of this communication.

Thus, it appears that there is a significant set of actions that companies can develop to ensure compliance with these criteria.

Regarding NOS's comment regarding the update of information in the case of the public network fixed, refer to the understanding set out in subchapter 2.5.4.

Finally, it is clarified that compliance with the established accuracy and reliability criteria in the Regulation, under the provisions of paragraph 4 of article 67 of the LCE, constitutes an obligation and not a goal.

Furthermore, when establishing the criteria, particularly in the case of the public mobile network, whether the percentage of emergency communications in which the data originating from the mobile device are made available, through the AML, to the PASP, in order to adjust the criteria to the reality of Portugal. In this context, it was taken into account that, for example, the objectives recommended by EENA, which is recalled to have a horizontal accuracy estimate of 50

meters for 80% of emergency communications, would not be adequate for now, considering this, adjusted (i) the accuracy value from 50 to 100 meters and (ii) the reliability from 80% to 60%. In any case, as stated in paragraph 3 of article 14 of the Regulation, the aim is, within the period maximum of two years from the date of entry into force of the Regulation, to carry out the assessment accuracy and reliability criteria and, if justified, review them.

2.12 Sanctions regime

NOS **states** that this article *“generically defines the violations of the provisions of Draft Regulation, appearing to classify all infractions as very minor offences serious, as established in paragraph v) of paragraph 3 of article 178 of the LCE”*, which does not consider the *«different complexity and efforts required to comply with certain obligations, whose The sanctioning framework must take into account the definition of proportionate and appropriate sanctions to its compliance»*. Considering that *«operators do not, in all cases, have intervention or control over the information made available by terminal equipment»*, NOS understands that the following cases should be *“explicitly excluded from the scope administrative offence that may be imposed”*:

- *«it is not possible to comply with the defined levels of accuracy and reliability, for reasons that are attributable to equipment suppliers»;*
- *«inaccuracies occur in the information provided directly through the equipment terminals, over which operators have no direct intervention and/or control»*,

therefore proposes adding a new paragraph to Article 17 of the Draft Regulation with the following wording:

«2- The following are excluded from the scope of the previous number:

a. Compliance with the accuracy and reliability criteria, as set out in the Annex.

III; for reasons that are attributable to data directly obtained via equipment terminals8 », «8 That is, as is the case with the IMEI (point 2.4 of Annex I)».

ANACOM's Understanding

Regarding the arguments presented by NOS, it is worth highlighting, in addition to what is stated in the understanding of subchapter 2.11, that the sanctioning norm contains within itself an option, intended the pursuit of the public purpose it oversees, and therefore it is not up to ANACOM to make an exception in the Regulation of the sanctioning framework established by the legislator in paragraph v) of paragraph 3 of article 178th of the LCE.

In this context, Article 17 of the Regulation will not be amended as proposed.
by NOS.

2.13 Entry into force

APRITEL considers it essential to define « *a time window from the date of publication of the Regulation* » for its implementation, which in its view will allow operators a adequate planning and completion of developments necessary to meet the new provisions, arguing that this implementation period should not be *“less than 18 months from from the approval of the Regulation, taking into account all the changes that are recommended”*.

COLT **considers** that *“the proposed date is too early and that there is a risk of some operators are unable to have their systems prepared to comply with the obligations that will finally be imposed”*, adding that he already has experience in similar implementations, *«for example in Switzerland, and based on that previous experience»* states that the date proposed by ANACOM is *“too premature and should be postponed in order to ensure that all operators are able to comply with the specifications included in this Regulation, and thus ensure the correct transmission of caller location information in calls to emergency numbers”*. He concludes by stating that *“June 1, 2025 is the most appropriate date to the entry into force of this Regulation, in order to ensure that all operators can fulfill this important obligation towards the population.”*

MEO **states** that the date of entry into force provided for in the Draft Regulation (1 February 2025) takes into account the estimate that the NG112 architecture will be implemented in the PASP in January 2025, but *“significantly underestimates the costs and impacts on operators of electronic communications in the implementation of this draft regulation”*, limiting itself to

ANACOM to “assume that that date is compatible with the time needed for companies implement the changes”. MEO considers that this period is insufficient and that it has costs high, therefore, after an internal analysis of the costs and impacts, it considers that the “term of reasonable implementation to be defined should be 18 months after the date of approval of the regulation».

For **NOS**, the date of entry into force foreseen in the Draft Regulation “raises deep concerns concerns, if all the changes included in the document are confirmed. In this sense considers that this “period should not be less than 12 months from the date of the decision approval of the Regulation, the period considered necessary to make the changes proposals for calls originating on 4G and 5G mobile networks», but this deadline should be extended for «at least 18 months, if all the changes provided for in this document are confirmed draft Regulation (namely the amendment of submission formats and elements of location in fixed and mobile legacy networks)».

NOWO considers that “ it is not feasible to meet the deadline of 1 February 2025 to make caller location information available to PASPs in the format set out of the Draft Regulation», since after consultation with its network technology provider fixed voice, found that only at the end of 2024 will a technical solution be available to provide response to those requirements” and that it would take “at least six months to implement, test and put into production the technical solution that meets the requirements, as soon as the supplier is able to make it available.”

NOWO also states that the provision of “location information to PASPs in the new format only makes sense if they are in a position to receive and use them, being indicated in the Justification Note for the Draft Regulation that this will only be possible when the NG112 architecture is implemented, which is expected to occur in January 2025”. Thus, according to NOWO, if delays occur in this implementation, without reviewing the date of entry into force of the future Regulation, operators would be required to make location information available in the new format to the PASP on February 1, 2025 without them being able to use it yet».

In this sense, this company requests that the “date of availability of location information from the caller to the PASP in the new format occurs six months after notification to the operators that the NG112 architecture is implemented and not before August 1, 2025». Requests

also that it must be *“determined that PASPs should be available, during this period, to carry out tests with operators, prior to the entry into production of the respective solutions techniques”*.

ANACOM's Understanding

Having considered the arguments presented in the statements of APRITEL, COLT, MEO, NOS and of NOWO, it is understood that the date of entry into force provided for in article 19 of the Draft The Regulation should be amended, in particular, to ensure:

- The adaptation and configuration, by companies, of networks and various information systems involved;
- The correct provision of information about the caller's location to the PASP more adequate;
- The need to carry out tests between companies and PASP.

Therefore, taking into account the objective and the benefits that the improvements provided for in the Regulation will have for the PASP and consequently for the provision of emergency services, it is understood adjusted to establish:

- A period of 12 months for the Regulation to come into force, counting from the date of its entry into force. publication in *the Official Gazette*; and
- An additional period of 6 months, to allow companies, if necessary, to have additional time to make information about the caller's location available to us terms provided for in the Regulation, specifically with regard to (i) the fixed public network, (ii) public *Internet* and (iii) the public mobile network, in the case of 2G and 3G networks.

This position is compatible with the pronouncement:

- From NOS, which considers a period of no less than 12 months to be appropriate for 4G and 5G networks and a period of at least 18 months for all networks;
- From COLT, which considers June 1, 2025 as the most appropriate date for entry into force of the Regulation; and

- From NOWO, which considers that the provision of information on the location of the caller, under the terms set out in the Regulation, must not occur before 1 August 2025.

This ensures that, on the date of entry into force of the Regulation, at least in the case of emergency communications made through 4G and 5G networks is made available to the PASP information on the location of the caller under the terms set out in the Regulation, ensuring as soon as the most accurate data from the network infrastructure is made available public mobile (sector or *arcband*), as well as the data made available by the mobile device in signaling of this communication.

This option will also have benefits for the PASP and consequently for the provision of services. emergency, by improving information about the caller's location, without compromising the needs of companies.

Regarding the additional period of 6 months, specifically with regard to communications emergency calls made through the public fixed network, the public *Internet* and the public mobile network, in the case of 2G and 3G networks, companies that require this period must continue to provide the most appropriate PASP with information on the location of the caller under the terms provided for in Regulation 112L, until the end of that 6-month period or even earlier if however, have the necessary conditions to make the said information available in the terms of the Regulation.

The possible impacts on the competent authorities were also taken into consideration. emergency services, namely, it will only be possible to take advantage of improvements in accuracy and provision of information on the location of the caller, as provided for in the Regulation, after its date of entry into force (i.e. 12 months after its publication in the Official Gazette of the Republic) and, in some cases, after the additional period of 6 months.

However, it is considered that setting a shorter period may not be sufficient for the companies to make the necessary adaptations and configurations to implement the provisions set out in the Regulation, which may have negative impacts on the provision of emergency services, namely, because it can increase the likelihood of errors in data made available to PASP. In this way, it is also intended to ensure that companies and

competent authorities for emergency services have time to carry out the necessary tests to ensure that the data provided for in the Regulation are being correctly made available to the PASP, also allowing, if necessary, that the companies correct any errors that are detected and repeat the tests, thus contributing to a more robust and reliable emergency service.

Additionally, it was taken into account that until the date of entry into force of the Regulation and, whenever where applicable, during the additional period of 6 months, companies continue to make available the information about the caller's location to the PASP, in accordance with Regulation 112L, as well as that the PASP continues to maintain the ability to obtain this information. Therefore, it is considered that the new deadlines will not have significant impacts on emergency services, taking into account the benefits, in the long term, that come from companies having the time necessary to carry out the aforementioned adaptations and configurations.

In this context, the date of entry into force provided for in Article 19 of the Regulation will be changed, under the terms referred to above.

3 Other comments

MEO considers it necessary to clarify whether « *the national specification for voice interconnection over IP will have to be amended in order to complement this new Regulation* », that is, *"if the issues related techniques such as 112 in voice interconnection over IP (specified in ANNEX 2) must be replaced by the reference to this new Regulation"*.

ANACOM's Understanding

It is clarified that the Reference Interconnection Offer (ORI), with regard to the services of emergency, provided for in Annex 2 - ORI IP Interconnection, cannot contradict what is stated in Regulation from its date of entry into force. In this sense, MEO must proceed with its adaptation in the molds that you consider most appropriate.

4 Conclusion

Thus, taking into account all the pronouncements received and your understanding of the same, set out in chapters 2 and 3 of this report, ANACOM essentially maintained the same meaning and the content of the Draft Regulation, with the following exceptions:

- Amendment to the wording of paragraph e) of Article 5 of the Regulation, establishing that the IMEI must be transported to the most suitable PASP whenever available, as it was duly referred to and substantiated in subchapter 2.8 of this report.
- Amendment of the wording of Article 7 of the Regulation, with the introduction of a new paragraph 2, establishing that the company code is unique per company regardless of the network where emergency communication is made, as duly mentioned and based on subchapter 2.3 of this report.
- Deletion of paragraph a) of Article 10 of the Draft Regulation and amendment of the wording of the paragraph i) of paragraph d) of Article 11.1 of the Regulation, establishing that the data supplementary information relating to telephone extensions must be made available if they are established by the companies, as duly mentioned and substantiated in the subchapter 2.6 of this report.
- Amendment to the wording of paragraph c) of paragraph 1 of Article 11 of the Regulation, establishing that the information on the location of the caller provided for in Annex II of the Regulation also must be made available in the case of VoWiFi, as duly mentioned and based on subchapter 2.10 of this report.
- Amendment of the wording of paragraph a) of paragraph 1 and paragraph 2, both of Article 12 of the Regulation, establishing that companies must coordinate with mobile device manufacturers to ensure the necessary configurations on the devices, as duly set out referred to and substantiated in subchapter 2.7 of this report.
- Amendment of the wording of paragraph a) of Article 13 of the Regulation, establishing that companies must ensure that the AML SMS is made available to the PASP, as set out in duly referred to and substantiated in subchapter 2.9 of this report.

- Amendment of the wording of Article 19 of the Regulation, establishing a 12-month period for the entry into force of the Regulation and an additional period of 6 months with regard to emergency communications carried out through public fixed, 2G and 3G mobile networks, and public *Internet*, during which companies must comply with the provisions of the Regulation 112L, as duly referred to and substantiated in subchapter 2.13 of this report.
- Technical amendment and clarification of points 2.2.2, 2.5, 3.1 and 3.4 of Annex I to the Regulation and in point 2.2 of Annex II to the Regulation, as duly referred to and based on subchapters 2.4, 2.5.2 and 2.10 of this report.

The identification of a technical document contained in Annex I of the Regulation and the amendment of the wording of some paragraphs of the Regulation, without, however, changing the meaning of its provisions.

Additionally, an amendment was made to paragraph 3 of Article 14 of the Regulation, clarifying provided that within a maximum period of two years from the date of entry into force of the Regulation, ANACOM will assess the established accuracy and reliability criteria, and not the assessment of its compliance, given that the aim is to assess these criteria and, if justified, proceed with its review.



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