



EENA Operations Document

eCall TPSP and Emergency Services Authorities Agreement template

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1 Executive Summary

Managing eCalls directly from cars and from Third Party Service Providers (TPSPs) will be a challenge in the coming months for all emergency service authorities. To that end, EENA has created an Agreement template between the aforementioned TPSPs and emergency services authorities, which will form the basis for informed discussions and negotiations between the two parties.

EENA believes that an agreement between both parties is needed in order to clearly establish procedures and requirements for how eCalls are handled by the TPSPs and how they are sent to the emergency services authorities. This document provides a template of the agreement to be signed by the authority in charge of emergency services and the TPSP. Key considerations have been given the responsibilities of both parties and whilst they may differ from Member State to Member State, there is sufficient flexibility in the template Agreement for any required changes. EENA encourages the emergency service authorities to consider and use this reference document as the starting point for discussions and to begin this process at the earliest opportunity.

2 Introduction

eCall is a pan-European initiative with the purpose to bring rapid assistance to motorists involved in a collision anywhere in the European Union¹. It has also been addressed during the European projects HeERO phase 1 and phase 2. Details about the HeERO projects can be found directly on the HeERO project website² and on previous EENA documents³.

The Pan European eCall uses the 112 number to send data and to establish the voice channel between the passengers of the vehicle and emergency services.

Drivers can also decide to contract a private eCall service supported by Third Party Service Providers (TPSP). In this case, the automatic or manually activated eCall arrives first to the Third Party Service Provider's call centre and then, in case of real emergency, data and voice are forwarded to the most appropriate Public Safety Answering Point (PSAP). We can consider an organisation to be a recognised TPS eCall provider only when their services have been accepted by the emergency service authorities.

Pan-European and TPS eCall are services that will coexist. TPS eCall is not replacing the public 112 pan-European eCall which as already stated is based on the 112 emergency number.

Throughout this document, some comparisons with the Pan-European eCall will be made. As opposed to pan-European eCall, directly using the European emergency number 112 and ruled by European technological standards of data transmission, TPS eCalls will probably have some differences since the technological choice is left to each single TPSP. This document tries to address this topic and add some suggestions to the existing technical definitions.

In this document, EENA proposes a template agreement which would be signed by a TPSP and its TPS eCalls to public emergency services in the defined and agreed geographic area(s).

To do so, the references adopted by this document are two documents in particular: eCall minimum set of data (EN 15722)⁴ standard and eCall – Operating requirements for third party support (EN 16102)⁵ standard. These documents are available on most of the EU Standard Documentation marketplaces⁶.

For this reason, this document will not discuss technical details described in the standards, but only address and comment the current available processes. This document also does not address potential future evolutions of the standards.

¹ <http://ec.europa.eu/digital-agenda/en/ecall-time-saved-lives-saved>

² <http://www.heero-pilot.eu/>

³ http://www.eena.org/uploads/gallery/files/operations_documents/2014_10_24_3_1_5_eCall_Update_v2.0_FINAL.pdf

⁴ Intelligent transport systems – eSafety – eCall minimum set of data (MSD)

⁵ Intelligent Transport systems – eCall – Operating requirements for third party support

⁶ <http://standards.cen.eu/dyn/www/f?p=CENWEB:5>



3 List of abbreviations and definitions

CLI	Caller Line Identification
ERO	Emergency Response Organization
IVS	In Vehicle System
MSD	Minimum Set of Data
PLMN	Public Land Mobile Network
PBX	Private Branch eXchange
PSAP	Public Safety Answering Point
SLA	Service Level Agreement
TPS	Third Party Services
TPSP	Third Party Service Provider
TSD	TPS-eCall Set of Data

Most appropriate PSAP: PSAP defined beforehand by national authorities to cover emergency calls from a certain area or for emergency calls of a certain type

Emergency call: An emergency call is a call from an individual or a system recognised by the PSAP organisation, which is routed to the most appropriate PSAP.



4 Agreement template

4.1 Why an Agreement is needed

Since TPS eCalls are not regulated at the same level of detail as pan-European eCall, it is important, for both the TPSP and the public authorities to state clearly what are the terms and conditions for proposing and accepting such service. The template agreement will highlight the most significant aspects that both parties need to keep in mind when providing citizens with such service.

4.2 Who should sign the Agreement

The Agreement should be signed by the public authority responsible for emergency services and the individual TPSP.

The organisation of emergency services varies from country to country. In countries with a decentralised emergency services organisation, the TPSPs may end up signing different agreements with each PSAP. EENA strongly recommends that all countries have a single procedure valid for all emergency services to avoid discrepancies inside the country and that this information should be centralised by a single public authority organisation.

4.3 Contact and boundaries data

Once the TPSP has received an emergency call, and the call has been filtered to determine if it is an emergency, the most appropriate PSAP has to be contacted. The TPSP will need a method to determine the PSAP that is in charge of handling emergency calls for the location of the incident. It is important to note that the TPSP may not be located in the same geographic area, or even the same country as the PSAP. An example could be a French car, customer of a French TPSP, having an accident in Spain. The TPS eCall would reach the French TPSP, who would then need to reach the PSAP in Spain responsible for sending emergency services to the scene of the accident.

As described in the example, the TPSP would not be able to dial a three digit emergency number (such as 112) to reach the Spanish PSAP because they would instead reach the French PSAP (based on the location of their call center). This is why the E.164 long phone numbers are necessary for the TPSPs to be able to reach the most appropriate PSAPs.

To assure the correct distribution of calls the following information is needed:

- 1) PSAPs have to give TPSPs their territorial competences/geographic boundaries and types of emergency calls they are responsible for.
- 2) PSAPs must make their E.164 (fixed line) long number available to TPSPs. For data transmission, if any, PSAPs have to give the necessary connection information to TPSPs.

This process, despite looking simple, may become complex, due to different ways of managing emergency calls in each European country or even inside a single country. In particular, some countries (e.g. Germany, Spain) have multiple independent regional PSAPs whilst other countries (e.g. Italy) have a current fragmented situation, which means TPSPs would need to sign Agreements with multiple emergency response organisations.

In these countries, the TPSPs may end up signing different agreements with each PSAP. This decentralised approach may have an impact on the type and quality of service as well as having several Agreements in place. Therefore, EENA strongly recommends centralising this information by a single public authority organisation in each country.

Once the TPSP forwards the call to the most appropriate PSAP, the emergency service has to recognise that this call comes from a TPSP. To achieve this:



- 1) PSAPs must create a method to recognize each individual TPSP with whom they have signed an agreement. In order to achieve this, the TPSP has to use the same caller line identifier (CLI) or a set group of lines for all calls made to the PSAPs.
- 2) The PSAP will have to configure their system to make the best use of this information (e.g. creation of dedicated PBX queues to recognize TPSP CLIs and differentiate them from the rest of the callers).

4.4 Template Agreement

This chapter is dedicated to the agreement template, which includes requirements for both subjects that are needed to run the process. This template should be used as a guide to build a final document to be shared between TPSP and public authorities. It may be amended as appropriate.

Agreement for the provisioning of Third Party Service eCalls

This service provisioning agreement is made as of **MM:DD:YYYY** by and between:

XXXX, the Public Authority, represented by **NAME SURNAME**, with registered office at **ADDRESS**

And

XXXX, the Third Party Service Provider (TPSP), represented by **NAME SURNAME**, with registered office at **ADDRESS**.

In case of any dispute the legislation of the country of the Public Authority shall apply. The data protection legislation of the Public Authority's country shall also apply.

Commencement and Duration:

This Agreement shall come into force upon the signature of the Parties and has a duration of 1 year. This agreement shall be evaluated 3 months before its expiration date.

In the case of repeated breach of the conditions set in this agreement, either party may terminate the agreement by providing sufficient cause and within an agreed timeframe.

Responsibilities of the TPSP:

- The TPSP receives from the public authority the contact data and information about the territorial boundaries of the emergency services organisations inside the country.
- The TPSP commits to take all reasonable steps to secure the relevant data and make good responsible use of this data in line with the applicable legislation and standards
- The TPSP commits to keep the privacy of all data related to emergency services and emergency calls.
- The TPSP must be able to fulfill the eCall service with 24-hours, 7-days availability.
- The TPSP must provide a single contact point available 24 hours, 7 days.
- The TPSP must ensure its staff is fully trained to handle eCalls.
- The TPSP must make best efforts to prevent irrelevant alerts from being forwarded to the emergency services.
- The TPSP shall cover all costs of the cooperation between the TPSP and the PSAP, if any.
- The TPSP must use particular call line identifiers when connecting to the PSAP. These numbers shall be advised to the PSAP. Any alteration of these originating numbers should be notified to the PSAP with at least 15 days notice prior to the change.
- The TPSP must be compliant with the operating standards defined in the annex 1 of the agreement.
- The TPSP must forward the eCall following the procedure described in the annex 2 of the agreement.
- The TPSP commits to accomplish the SLA's in the annex 3 of the agreement.

Responsibilities of the Public Authority:

- The public authority must provide the territorial competences / geographic boundaries and types of emergency calls that are responsibility of all the PSAPs under its jurisdiction.
- The public authority must provide the E.164 (fixed line) long numbers for the different geographical areas. For data transmission, the public authority must provide the necessary connection information to TPSPs.
- The public authority commits to inform the TPSP in case of changes to contact phone numbers contained in the contact and territorial boundaries database. Any alteration of these originating numbers should be advised to the TPSP at least with 15 days notice prior to the change.
- The PSAP should detail all the costs associated with handling TPSP eCalls in a clear manner.
- The Emergency services organisations must ensure their call-takers, dispatchers and staff are fully trained to handle TPS eCalls.
- The public authority commits to forward the content of this agreement to all emergency services organisations under its jurisdiction.

1. ASSIGNMENT

NAME SURNAME
TITLE

NAME SURNAME
TITLE

TPS

PSAP

Annex 1 – Operating standards

The TPSP must comply with EN16102 standard and/or future versions that may be developed.

Annex 2 – Procedure for access

The incident information shall be provided by phone (speech contact).

- The notifying TPSP-agent shall speak the language(s) indicated by and in agreement with the PSAP when notifying an emergency call.
- If there is a voice connection between the TPSP and the occupants of the vehicle making the call, the TPSP shall be able to provide voice communication between the emergency services and the vehicle occupants, at least by setting up a conference call, if this is required by any of the parties involved.
- In case the vehicle occupants do not speak the indicated and agreed language, and if required by the emergency services organisations, the TPSP shall assist with language-interpretation; this may involve setting up a conference call if necessary.
- The information about the incident to be given by the TPSP to the PSAP shall be:
 1. Location: province, place, street / junction and heading. Coordinates shall be provided if requested by the PSAP.
 2. Description of the incident
 3. Injuries (e.g. number of wounded people, type of known/suspected injuries)
 4. Additional information relevant for emergency response organisations
 5. Vehicle data: Make, model, registration number (if available), year, fuel-type
 6. Callback phone number of the TPSP
 7. Callback phone number of the vehicle



Data may also be sent to the PSAP via an electronic data transmission (method to be determined by the Public Authority).

The TPSP should give additional information about the caller if the PSAP requests them.

Annex 3 –Service Level Agreement

When providing eCall services to emergency services organisations, TPSP has to follow these SLAs:

- Time to answer: maximum 12 seconds
- Average time needed for receiving the caller location: maximum 5 seconds
- Generation of voice call after the confirmation of TPS eCall triggering: 1 second
- MSD transmission time, after the establishment of the call: maximum 20 seconds

5 TPS supported eCall – Operating requirements standard (EN 16102)

5.1 TPS eCall generic architecture

The TPS eCall management by the TPSP is divided into two steps and described in the following sections. The picture below shows a very high level generic picture of pan-European eCall process versus TPS eCall process.

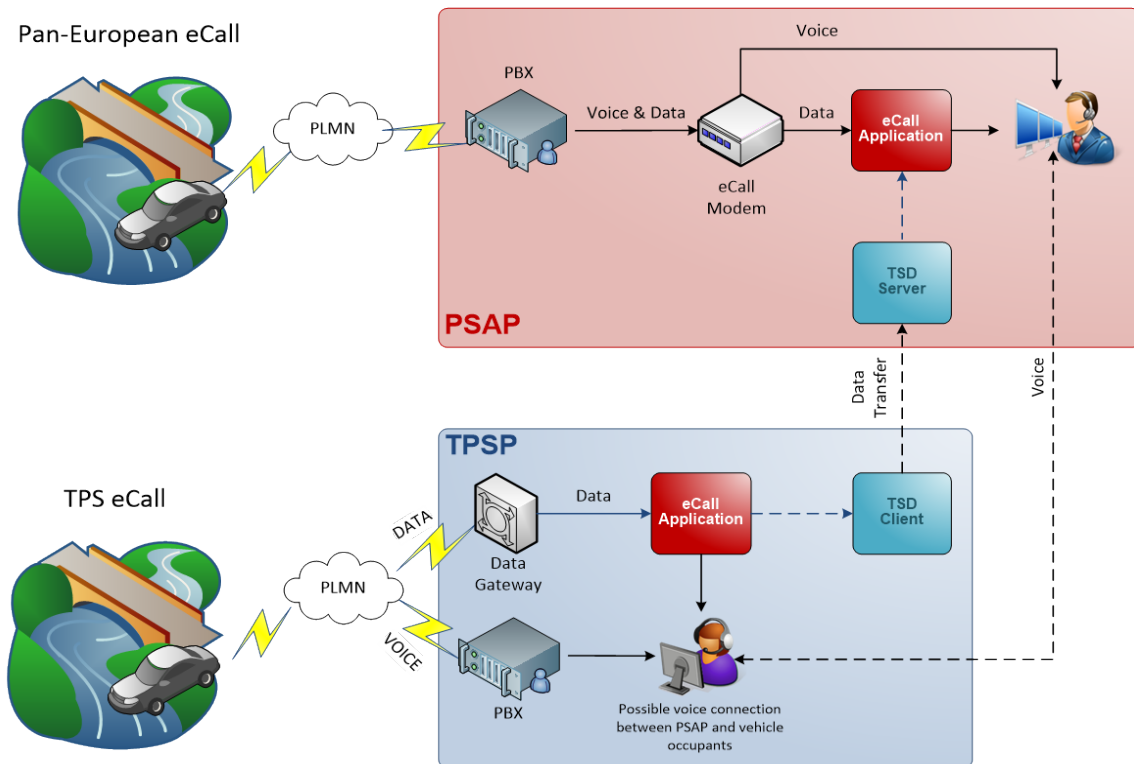


Figure 1: Pan-European and TPS eCall process comparison

5.2 What is covered and not covered by the EN 16102 standard

5.2.1 From vehicle to TPSP premises

EN 16102 addresses technologies and methods of delivering data and voice, from the vehicle to the TPS Call Center premises. EN 16102 bases its own data set on EN 15722 (MSD format), **however** EN 16102 does not describe or suggest the technology to be adopted for data and voice transmission from the vehicle to the TPS.

Technological choices of data and voice transmission are left to the car manufacturers and TPS providers, provided they can achieve the same level of detailed information as the regular pan-European eCall. This means that TPSP may use whatever technology it chooses to collect information included in a MSD-like package sent by a vehicle requesting intervention and make it available to PSAPs. To reach this goal, the TPSP must take all technological measures to be equipped with MSD and voice reception, deal with any retransmission request from a car to TPSP premises and the forwarding of same to the respective PSAPs.



5.2.2 From TPSP premises to 112 PSAP

In relation to the delivery of a TPS eCall to the PSAPs, the current version of the EN 16102 standard does not prescribe a single methodology; it rather states that “TPS providers must forward TPS eCalls (data and voice) to the *most appropriate PSAP*” and provides different technological examples on how to do it.

Regardless of the method described in the EN 16102 standard, the current document also states clearly that this obligation includes the capability of the TPSP to correlate the TPS eCall voice part with its correspondent data part **before** forwarding it to the *most appropriate PSAP*.

TPS providers are allowed to add any valuable information to the original MSD transmission from the vehicle. In this case, the final package will be called TSD (TPS-eCall Set of Data). Whenever a TSD is generated from a TPSP, the terms and conditions for managing this extra data need to be agreed beforehand between the TPSP and the emergency services.

On the other hand, if the TPS device installed inside the vehicle is not capable of providing the entire MSD package, with all the mandatory fields, the TPSP must be able to complete the missing information by its own sources, in order to provide a complete mandatory MSD to the PSAP.



6 Conclusions

The relationship between TPSPs and emergency services organisations has always been important, to create a full process of emergency response to be able to serve citizens properly. The introduction of eCall as a way of emergency request, in all its forms, emphasises this relationship as in-vehicle calls have a large impact on several existing business activities; they also open new scenarios for business opportunities that should not compromise or override the very purpose of emergency calls, which is to save lives.

Emergency response organisations in general and PSAPs have the responsibility of managing the safety of citizens with very tight performance levels. They can benefit from any kind of help a TPSP may provide, such as reaching a wide number of citizens with appropriate requests and while filtering inappropriate calls that could be generated by drivers in need of non-emergency assistance.

The TPSP on their side, need to be aware that service performance levels proposed to PSAPs may need to match very demanding standards, as they should act to enhance current PSAP activities, rather than acting as an overload of work for them.

The template presented in this document should help public authorities and TPSPs alike to be aware of what is requested to manage the emergency response process in the best way. Standards documentation such as EN 16102 used as a reference in this document should also be addressed by both emergency services organisations and TPSPs to establish a method of communication between the peers. It is anyway important to keep in mind that emergency communications are evolving and Next Generation standards will possibly introduce improvements in the way emergency services organisations and TPSPs interact.

Quality standards also play an important role when certifying KPIs and QoS parameters. EENA itself manages a quality certification especially dedicated to PSAPs. TPSPs as well should take into consideration to apply to this certification process, which will increase the chances of being able to respond to the requirements for compliance submitted by PSAPs.

7 References

Heero Project: <http://www.heero-pilot.eu/>

eCall EENA Operations Document:

http://www.eena.org/uploads/gallery/files/operations_documents/2014_10_24_3_1_5_eCall_Update_v2.0_FINAL.pdf

Relevant standards: http://www.heero-pilot.eu/ressource/static/files/ecall_table_of_standards.pdf