Project Description Document

Launching the deployment of NG112

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1 Introduction

1.1. Information about NG112

Next Generation 112 (NG112) has the potential to transform emergency response, creating a more accessible, efficient and flexible system which takes full advantage of the technology at hand. The implementation of NG112 would address numerous difficulties faced by emergency services, including how to accurately locate a caller who cannot explain where they are and how to effectively warn the public of nearby threats and crises. In addition, NG112 can help to address the needs of the over 80 million Europeans with disabilities[1], for whom the current emergency system may not be accessible.

The NG9-1-1 architecture is already being implemented in North America. In 2016, sixteen states had already adopted a plan towards implementing NG9-1-1[2] and the NTIA[3] and NHTSA[4] recently announced $110 million of new funding for their NG911 Grant Program[5]. But in Europe, Next Generation emergency communications are almost non-existent. Meanwhile, industries like Smart Cities and Internet of Things continue to grow. Sources predict that the combined markets of the Internet of Things will more than double between 2017 and 2021[6] and the global Smart Cities market could reach over $1944 billion by the end of 2023[7]. In Europe, the *Smart Cities and Communities European Innovation Partnership* aims to invest 1 billion euros in 300 smart cities by 2020[8]. Other technologies such as 5G are seeing considerable investment, with the European Commission earmarking 700 million euros of funding for the Public Private Partnership on 5G[9]. With the growth of these industries, it is the ideal time to take advantage of these technologies to improve the safety of citizens.

EENA has been committed to moving forward with this project and has been working on NG112 for almost a decade, defining how data can be delivered to Public Safety Answering Points (PSAPs). The specifications[10] are mature and have been successfully tested. Early in 2019, the 3rd edition of the NG112 communications plugtest event[11] co-organised with the European Telecommunications Standards Institute (ETSI) took place.

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[1] European Disability Forum
[2] 911.gov
[3] National Telecommunications and Information Administration
[4] U.S. Department of Commerce and the National Highway Traffic Safety Administration
[5] National Telecommunications and Information Administration
[6] Forbes
[7] Reuters
[8] EIP-SCC
[9] European Commission
[10] EENA Long Term Definition Document
[11] ETSI EENA NG112 Plugtest 3rd edition

The three editions (2016[12], 2017[13] and 2019[14]) demonstrated that NG112 technology is mature enough to fulfil a complete NG112 call, i.e. routing the call to the most appropriate PSAP, locating the caller and managing the call. EENA is therefore in the ideal position to move forward and launch this project.

For information, some of the features that NG112 can bring to the PSAPs are listed below:

1. Emergency calls can be set up from different types of devices in a *full IP* environment.
2. *Video calls* can be established between a citizen and emergency services.
3. People in distress can communicate using *real-time text* with the emergency services.
4. *Total conversation* (i.e. voice, video and real-time text communications at the same time) is possible. This is a functionality highly demanded by the community of hearing-impaired citizens.
5. *Accurate caller location* is available to the emergency services.
6. *Advanced calls routing* location and additional criteria can be used to route emergency calls to the most appropriate PSAP.
7. *Enriched additional data* can be sent with the call.
8. *Reverse 112*: alerts are sent from emergency services to citizens using different media.

Transition models to NG112[15] are based on the fact that NG112 can co-exist with the current legacy 112. Gateways exist to bridge between the two technologies. For this reason, the NG112 architecture can be implemented in a parallel test environment that could be used in a real environment in the near future. This project therefore has the potential to make a real impact on the safety of citizens.

1.2. Information about EENA

The European Emergency Number Association (**EENA**) is a **Brussels-based NGO** that was established in 1999. EENA's mission is to contribute to the improvement of safety and security of citizens. To that end, the work of EENA focuses on **improving emergency response services provided to citizens**, principally when the pan-European emergency number (112) is used. As an NGO, EENA is an independent and impartial organisation and does not seek to represent the interests of any one organisation, technology or product.

Tactically, this manifests itself with the creation of several engagement platforms (conferences, workshops, working groups, web meetings) to bring the **supply-side (vendors, manufacturers, integrators)** and the **demand-side (FRs, ESOs, Government Ministries, Regulators etc)** together with a view to discussing legal, technical and operational matters in a thought-leadership and impactful style.

The EENA memberships include more than 1500 emergency services representatives from over 80 countries world-wide, 100 solution providers, 11 international associations/organisations, more than 200 Members of the European Parliament and more than 90 researchers.

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[12] NG112 Communications Plugtest event 1st edition report
[13] NG112 Communications Plugtest event 2nd edition report
[14] NG112 Communications Plugtest event 3rd edition report
[15] EENA Document NG112 Transition Models

2 Objectives

The concrete aim of this project is the showcase how voice and data can be delivered to PSAPs in a full IP environment using the international standards. The final objective is to launch the deployment of NG112 and promote the NG112 components. In doing so, EENA aims to help to improve the quality of emergency response, taking advantage of the relevant available technologies to make emergency services as accessible and effective as possible. The ultimate objective of this project is to help save lives.

Duration of the project: 12 months

3 Use Cases

The following list of use cases provides some examples of how the value of NG112 can be demonstrated. The list is not exhaustive and if participants would like to test additional use cases, they can describe them in their candidature email.

(1) Emergency voice calls are set up from a smartphone in a full IP environment. This includes call routing based on location (and possibly based on additional policies) and the delivery of caller location information.

(2) Emergency video calls are set up from a smartphone.

(3) Real-Time Text emergency communications are set up from a smartphone.

(4) Intelligent home speakers are used to launch an emergency call in a full IP environment. The emergency call is routed to the most appropriate PSAP and handled by emergency services including location information data.

(5) A public warning message ("reverse-112") is sent to the home speaker based on its location (registered address or real-time location).

4 Stakeholders

To participate in this project, candidates are asked to create consortia. Each consortium must ensure that they can test a full NG112 call between a user equipment and a PSAP based on international standards.

Different types of stakeholders may be needed to implement the NG112 architecture:
- Device providers
- Telecommunication providers to support the communications
- NG112 architecture components

- CAD providers
- Emergency services organisations

5 Project outputs

The expected outputs of the project are:

- Demonstrate NG112 capabilities and functionalities

- NG112 architecture implemented in at least 2 countries in a test environment that could be used as real environment in the near future

- Project report & webinar describing the project, the challenges, the lessons learnt and the future recommendations, to be published by EENA and by the project participants.

- Communication activities to ensure maximum awareness of the project and the opportunities for emergency services and private stakeholders.

- Press coverage of the project and benefits of NG112 in order to ensure maximum impact.

6 Project timeline

The **announcement of the project** and the invitation to interested potential participants will be done in April 2019. The project has a duration of 12 months.

Regular status updates provided by the project participants are proposed to **take place every month** via conference calls.

The **proposed project timeline** is outlined in the table below.

Timeline	Action
10th April 2019	**Announcement of the project & invitation to participate.** Companies & Emergency services
15th June 2019	Deadline for applications
25th June 2019	Selection of project participants

Timeline	Action
28th June 2019	Kick off (Conference Call)
June 2019 - February 2020	Implementation Update conference calls (at least monthly)
April 2020	Presentation of the project's results – EENA Conference – end of the project