



Brussels, May 2014

EENA Position Paper on the use of the Global Navigation Satellite System (GNSS) to determine caller location in the context of 112 emergency calls

This paper has been prepared by the European Emergency Number Association. It contains the high-level policy position of EENA in relation to using mobile device-based satellite navigation positioning for 112 emergency calls.

1. 65% of emergency calls made in the EU are from mobile devices

Among the approximate 320 million emergency calls made in the EU every year¹, about 65% originate from a mobile device².

2. Today's location accuracy and delivery time is far from sufficient

At present most European Member States are using Cell-ID solutions with an average accuracy of typically greater than 500 meters, showing substantial degradation outside urban areas (accuracy can go from 20 meters up to tens of kilometres). In addition, the location information is provided but often with delays of several minutes.³

3. At least 3.9 billion EUR are lost each year in the EU

It is estimated that 0.1% of emergency calls are critical incidents involving searches of more than 30 minutes because the mobile caller was unable to give the location of the incident while research has shown that a minute delay in terms of a rescue is estimated to cost 1300 EUR⁴. Even under the most conservative assumptions, at least 3.9 billion EUR are lost each year in the EU (necessary investments already included). Obviously, this should be added to the unnecessary loss of lives, suffering and property damage of our citizens.

4. GNSS positioning for emergency services is already in use in other countries

The United States have already introduced mobile phone-based positioning, that *inter alia* uses GNSS, as an alternative to the network-based solutions.

5. Handset-based technologies are widely spread and needed

More sophisticated network-based methods may provide greater accuracy, but GNSS technology tends to be superior for outdoors positioning, especially in areas of low cell density. GNSS-based and sophisticated network-based solutions can be also combined in a hybrid solution.

In 2012, smartphone penetration in Europe was already amongst the highest in the world (49%). In 2017, smartphone penetration will be near 80% in Western Europe.⁵ These smartphones are equipped with positioning technologies (GNSS) that are already widely used for private and public purposes.

6. European Emergency Services and industry representatives require the use of GNSS

During the EENA Conference in April 2014, 94.2% of respondents indicated that GPS/GNSS data from mobile devices should be used for locating callers.

¹ Estimate based on COCOM, EGEA and information provided by EENA emergency services' members

² Estimate based on COCOM reports and information provided by EENA emergency services' members

³ <http://ec.europa.eu/digital-agenda/en/news/implementation-european-emergency-number-112-%E2%80%93-results-seventh-data-gathering-round>

⁴ http://www.eena.org/ressource/static/files/2013_05_22_-caller-location-survey-final.pdf

⁵ http://gsmamobileeconomyeurope.com/GSMA_Mobile%20Economy%20Europe_v9_WEB.pdf



Brussels, May 2014

7. Europeans should use their public infrastructures for their safety

EGNOS and Galileo are European public infrastructures for satellite navigation that are under civil and public control. The open service is free of charge and it improves accuracy and robustness of position, thus European citizens should have the right to use their own satellite navigation infrastructure for 112 caller location, on top of using GPS or other location solutions. It is therefore necessary that mobile devices are compatible with EGNOS and Galileo (in addition to any other relevant system). Whilst EGNOS and Galileo compatibility is already required by the European Commission for eCall, it should also be mandated in the context of 112 calls.

8. The European Commission should take the appropriate measures

The forthcoming "Directive on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment"⁶ sets out the essential requirements that radio equipment needs to fulfil when being put on the EU market, including the "access to emergency services".

EENA invites the European Commission to adopt a delegated act to introduce GNSS capability, and in particular European GNSS capability, in mobile devices so that they support the transfer of accurate and reliable caller location information for 112 Emergency Calls. The societal benefits in so doing would be enormous.

This position paper is supported by the following signatories:

Category	Number of signatories	Number of countries represented
Emergency Services & Publ. Authorities	54	24
Research Institutes, Universities, Independent researchers	7	7
Private Companies	24	not relevant
International Associations, Federations and Bodies	3	not relevant
Total:	88	not relevant

See detailed list of signatories in Annex 1

About EENA:

EENA, the European Emergency Number Association, is a Brussels-based NGO set up in 1999 dedicated to promoting high-quality emergency services reached by the number 112 throughout the EU. EENA serves as a discussion platform for emergency services, public authorities, decision makers, researchers, associations and solution providers with a view to improving the emergency response in accordance with citizens' requirements. EENA is also promoting the establishment of an efficient system for alerting citizens about imminent or developing emergencies.

The EENA memberships include 998 emergency services and public authorities' representatives from 71 countries, 69 solution providers, 9 international associations/organisations, 150 Members of the European Parliament and 58 researchers.

⁶ <http://www.europarl.europa.eu/oeil/popups/ficheprocedure.do?reference=2012/0283%28COD%29&l=en>



Brussels, May 2014

Annex 1: Detailed list of signatories supporting this position paper

Associations, Federations, Standardisation organisations				
Country	Organisation	Surname	First name	Position
Europe wide	Federation of the European Union Fire Officer Associations - FEU	Joyce	Finian	General Secretary
Europe wide	International Association of Emergency Managers - IAEM Europa	Lane	David	IAEM Europa representative to the EENA.
Europe wide	Public Safety Communications Europe Forum	Blaha	Manfred	President

Emergency Services and related public authorities				
Country	Organisation	Surname	First name	Position
Austria	Österreichisches Rotes Kreuz, Landesverband Kärnten	Fuchs	Florian	Landesleitstelle-Technische Leitung
Austria	Berufsrettung Wien	Lausch	Friedrich	Oberrettungsrat Interim. Leitstellenleiter
Belgium	Ministry of Interior	Biebauw	Thomas	Communicatie Project 112
Belgium	Ministry of Interior	Bonte	Joke	
Belgium	Minsitry of Health	Lambiet	Olivier	Attaché, Direction Générale Soins de Santé
Belgium	Police fédérale - Commissariat général - Direction de l'information policière opérationnelle - Département des Opérations (CGOO)	De Decker	Bob	Commissioner
Belgium	112 Brussels	Wyns	Max	IT director
Bulgaria	Ministry of Interior	Gramatikov	Stoyan	Head of Directorate "National 112 system"
Croatia	National Protection and Rescue Directorate	Tadic	Mladen	Senior desk officer in 112 system
Czech Republic	112 Emergency call center of Moravia-Silesia REgion	Němčík	Jiří	Chief
Czech Republic	Fire Rescue Service	Malkovský	Zdeněk	
Finland	Emergency Response Centre Administration	Nieminen	Marko	Head of 112 Service
Germany	Berlin Fire Fighters	Baumann	Andre-Michael	



european emergency number association

Brussels, May 2014

Germany	Berlin Fire Fighters	Sirtl	Andreas	
Greece	Medical Services Headquarters, National Centre of Emergency Care (EKAB)	Pyrros	Demetrios	Coordinating Director
Iceland	112 Iceland	Gislasson	Tomas	
Ireland	HSE National Ambulance Service	Carolan	Will	Control Supervisor & Paramedic
Ireland	East Region Communications Centre / Major Emergency Management / Special Projects, Dublin Fire Brigade HQ	O'Dwyer	Greg	Third Officer
Italy	Ministero dell'Interno	Marzoli	Marcello	Dipartimento dei Vigili del Fuoco, del Soccorso Pubblico e della Difesa Civile
Italy	118 Call Centre of Turin	Bariona	Marioluca	
Italy	AREU - 112 call centre of Varese	Dassi	Gabriele	
Italy	Italian National Fire and Rescue Service Northern Italy Training Center - Dalmine (Bergamo, Lombardia)	Gnecchi	Gianmario	
Italy	Squadra Volontario VVF.	LUCA	Antonio	Capo
Italy	Brescia Centrale Operativa Soccorso Sanitario 118	Torriani	Marco	Infermiere
Italy	Presidency of the Council of Ministers	Marrazza	Marco	
Kosovo	EMA, MIA, Kosovo Government	Koqinaj	Nehat	Head of Planning and Exercises Emergency Preparedness Department
Latvia	Emergency Response Centre of the State fire and rescue service	Petrova	Baiba	Senior specialist
Latvia	State Emergency medical Service	Pule	Laura	Emergency medical doctor
Lithuania	Lithuanian 112 Emergency Response Centre	Maroscikas	Tadas	Deputy Director
Lithuania	Electronic Communications Department, Communications Regulatory Authority	Mickus	Darijus	Head of Network and Access Division



Brussels, May 2014

Luxembourg	Rescue Service Administration	Schleich	Gilbert	
Norway	Directorate for emergency communication	Helland	Trond	Technical project manager
Norway	Oslo Police	Mjoen	Arne	Police Superintendent
Norway	National Emergency call project	Rosvold	J Kristian	
Poland	Crisis Management Center, Emergency call centre of Warsaw	Superczyński	Paweł	Deputy Director
Romania	Special Telecommunications Service			
Serbia	Ministry of Interior	Podgorac	Vladimir	System Engineer
Slovak Republic	Section of Crisis Management Ministry of Interior	Krchnavá	Daniela	
Spain	112 Emergency Call Centre of Catalonia	Clop	Natàlia	Organization Manager
Spain	112 Emergency Call Centre of Catalonia	Ruiz	David	Tècnic de Suport de Sales Operatives (TSSO)
Spain	Agencia de Protección Civil, Consejería de Fomento y Medio Ambiente, Castilla y Leon	Sánchez	Carlos Marcos	Coordinador de Servicios
Spain	1-1-2 Extremadura	González Rojo	Juan Carlos	Director
Sweden	SOS Alarm	Palm	Per	
Sweden	AmbuAlarm Prehospital and Disaster Medicine Centre Region Västra Götaland	Rotter	Pontus	Development Manager
The Netherlands	Netherlands Police National unit Operations Division	van Hunnik	Chris	superintendent procesmanager 112
The Netherlands	Ministry of Security and Justice DG Police/Emergency Room C2000 & 112	Willems	Dennis	Policy Advisor 112
The Netherlands	Ministry of Security and Justice, NCTV/NL Alert	Kubben	Paul	
The Netherlands	Fire and Rescue Services of Amsterdam	Pfundt	Loek A.J.	Strategisch adviseur Innovatie

The Netherlands	Netherlands Police National Unit	van Alphen	Willem J.	Tactical Processmanagement 112
Turkey	Ministry of Interior	Akgül	Niyazi	Electrical&Electronics Engineer
United Kingdom	Department of Health	Beresford	Simon	
United Kingdom	Avon and Somerset Constabulary, Corporate Learning and Development, Police HQ, Portishead	Edwards	Emily	ICT trainer
United Kingdom	London Ambulance Service	Heward	Andy	Operations Manager
United Kingdom	East of England Ambulance Service NHS Trust	Webber	Richard	Project Lead for Clinical Capacity Review
United Kingdom	BT	Harris	Phil	OA/DA/999 Architect
United Kingdom	CFOA National Resilience National Resilience Offices The Fire Service College	Orr	Jamie	Fire Control Projects Support Team

Research Institutes, Universities, Independent researchers				
Country	Organisation	Surname	First name	Position
Cyprus	University of Technology	Lambrinos	Lambros	Assistant Professor Department of Communication & Internet Studies
Finland	Laurea University of Applied Sciences	Rajamäki	Jyri	
Germany	University of Paderborn	Pottebaum	Jens	Senior Researcher
Greece	Center for Security Studies (KEMEA)	Leventakis	George	Senior Adviser
Portugal	University of Trás-os-Montes e Alto Douro	Paredes	Hugo	Assistant Professor
Spain	University of the Basque Country (UPV/EHU)	Fajardo	Jose Oscar	
Sweden	Karolinska Institutet Department of Clinical Science and Education	Bohm	Katarina	Deputy Head of Department

Private Companies			
Organisation	Surname	First name	Position
Aculab	Colville	Ian	
ASTRID	Verachtert	Kurt	
AtoS	Gomez Susaeta	Iratxe	Solution Manager GEMMA HTTS&SB/CNS/EMM
Avaya	Fletcher	Mark	
Avaya	Bornheim	Markus	Consulting Systems Engineer EMEA
Avaya	Brookes	Adrian	
Beta 80 Group	Bocchini	Oscar	
Beta 80 Group	Bergonzi	Luca	
Airbus Defense and Space	Rahman	Naweed (Ray)	Solutions Architect
Creativity Software	Lee	Richard	CEO
Ericsson	KING	ANDY	Global Principal Solutions Architect - Government
FDM Software	Colin	Ed	
Frequentis AG	Kampichler	Wolfgang	Corporate Research
Geoceler	Puertas	Francisco	
Innoseven Technologies	Kvedaras	Rokas	Director
Insta Defsec Oy	Koski	Aapo	Senior SW Architect
Intelligence for Environment & Security - IES Solutions	Delprato	Uberto	CEO
Merkator	Carton de Wiart	Geneviève	
Motorola Solutions	Mertka	Bill	Solutions Manager - Next Generation Public Safety Technologies Integration LOB - Global Solutions & Services (GSS)
Nice Systems	Terry	Darren	
NT Service	Šilanskas	Egidijus	Commerce director
Regola	Parigi	Marco	Account manager
SecEm Consulting	Forsell	Peter	
Thales Alenia Space BUNVC Navigation & Integrated Communications	GAGNOU	Bruno	Sales Director
Voxbone	Heuschen	Anne-Valerie	



Brussels, May 2014

Winterb Consulting Services	Winterbottom	James	Director
Xlab	Mulej	Luka	