WE LOOK AFTER THE EARTH BEAT

GNSS and E112 EC Hearing – May 2014

05/05/2014 Ref.:

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The origin of the question...



- Today, it's widely recognized that provided caller location is not accurate enough
 - No requirement on accuracy for E112 emergency calls
 - Clear requirements have been in place in the US for a while
- Focus on smartphones
 - Most (ca. 2 third) of emergency calls are from cell phone
 - The penetration of smartphone (e.g. with GNSS capability) is higher every day
- 🛰 The facts
 - ➤ A better accuracy would save many lives
 - A better accuracy would allow significant financial savings
 - GNSS technologies for phones exist, they're being used, and they're easy to deploy







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- TAS France (Toulouse) is the highest concentration of navigation engineers in Europe
 - Prime of EGNOS
 - Prime of Galileo WP2 (Ground Segment) and involved in other WPs (system and Space Segment)
 - Involved in many critical R&D projects for navigation (EGEP, FP7, H2020...)
- Location Based Services
 - More than 15 years experience in providing location solutions

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- Deeply engaged in E112 actions
- TAS is extremely active at standardization level
 - From 3GPP to the creation of an dedicated group at ETSI (TC-SES/SCN)

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ETSI





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A-GNSS : the right answer for E112 positioning (many Field Trials already performed)

Outdoor



Indoor



Light indoor



Outdoor highway





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The E-AGNSS technologies – How it works !

From assisted GNSS to a full hybridized solution.





Full Hybrid Solution for better Indoor penetration



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Method (GNSS or A- GNSS)	Accuracy provided	TTFF	Availability	Source	Company
EA-GPS - Outdoor	3.1m (1σ)	7,4s (1σ)	100%	Inclusion	Thales Alenia Space
EA-GPS Deep Urban Canyon Urban	14,5m (1σ)	19s (1σ)	100%	Inclusion	Thales Alenia Space
EA-GPS Light Indoor	6,4m (1σ)	10,2 s (1σ)	100%	Inclusion	Thales Alenia Space
EA-GNSS (GPS+Galileo+Glonass) outdoor with Fine time assistance	2,9 m (1σ)	1,8 s (1σ)	100%	Himalaya	Thales Alenia Space



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The obvious benefits

🛰 Societal benefits

- Many lives could be saved
- Police intervention could be quicker for critical situations increasing security of citizens
- Support to industry (experience from the USA with E911)
- 🛰 Financial benefits
 - There is huge factor (>100) between the savings achievable and the costs of implementation at MNOs level
 - Savings are spread out between the different actors



- Other benefits
 - Supporting the use of precise and reliable GNSS location will *de facto* help developing the overall downstream market

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- ➤ Without a mandate...
 - No reason for MNOs and phone manufacturers to absorb extra costs
 - Each country is going to develop its own solution, with the risk of non-compatibility inter countries
 - Already happening in the UK with an SMS solution
 - Also happening via several APPS
 - > Overall E112 better quality will be delayed
- The benefice of a regulation
 - Harmonization over all Europe
 - Warranty that the service will be implemented in a timely manner
 - Prevent from any anarchic non-compliant deployment
 - Each MS will take benefit for lawful interception (service improved)



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- It is sound to say that European Emergency service should rely on European technology
 - It is the tax payer opinion
 - Europe has the control of the system
 - The example of Russia where Glonass is mandatory
- main Performances
 - ➤ Galileo will allow better performances
 - Multi constellation is the key to better location
- ➤ Political aspect
 - Strong support to European industry
 - Knowledge of Galileo architecture
 - Many European location provider ready to deploy their solutions
 - European supremacy
 - Chipset / phone manufacturers need "incentives" to use Galileo (being potentially the 4th constellation)

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- Yes, European citizens deserve the best E112 service as possible
 - A-GNSS is one of the solutions, it's there and easy to deploy, it allows great performances
 - ➣ The benefits are significant
 - At social level,
 - At financial level, allowing huge savings for tax payers
- Yes, Galileo should be favorized !
- >> Yes, all mobile devices should be addressed !

The above will only happen through a regulation



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Thank you for your attention !

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