

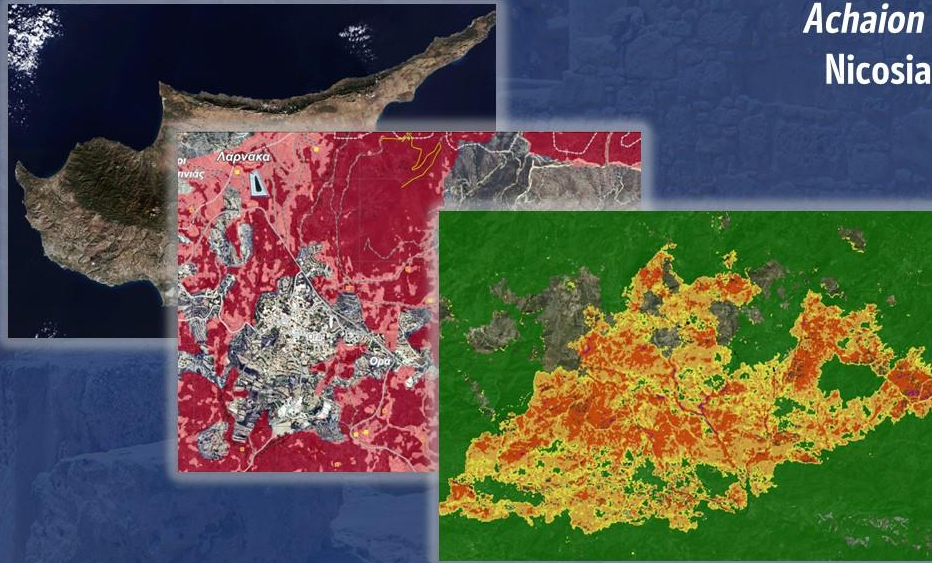
Satellite-based Services for Disaster Risk Management

17th May 2023

9:30 - 15:30 EEST

HILTON NICOSIA

Achaion 1, Egkomi
Nicosia, Cyprus



In cooperation with the Department of Electronic Communications |
Deputy Ministry of Research, Innovation and Digital Policy





Advanced Mobile Location

Demetri Pyrros, President, European Emergency Number Association, EENA

What is EENA?

The European Emergency Number Association (EENA)

Discussion platform and best practices sharing for 112, emergency services, public authorities, researchers, solution providers and all other actors of the public safety sector.

Brussels-based organisation set up in **1999**



OUR MISSION is to
improve the safety and
security of the people.

How can citizens get the best help possible if they find themselves in an emergency? At EENA, this is the question we continuously try to answer.

More information (creation of EENA, our vision, our values, our finances) can be found [here](#) on our website.

Advanced Mobile Location (AML)



More information on AML is available [here](#).



112
EMERGENCY CALL

Locating emergency communications

Locating emergency calls

Why is it problem?

- People calling emergency services are not always able to describe their location:



Unfamiliar area



Psychological shock



Don't know the name of the street



Remote area (countryside, mountains...)

Locating emergency calls

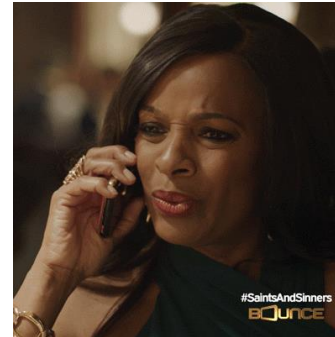
Why is it problem?

- People calling emergency services are not always able to describe their location:



Language issues

Callers don't want to give their location



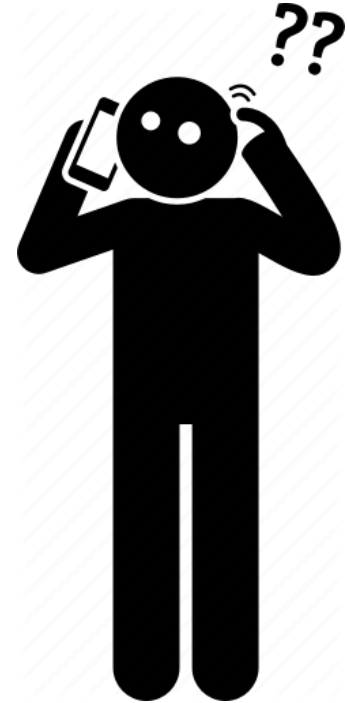
Calls dropping



Children calling

The problem: locate emergency calls

- Average accuracy of location information provided without AML: 2km (up to 30km in the mountain).
- In 2015, in the United Kingdom:
 - About 36,000 incidents per year involved searches of 30+ minutes because a mobile caller is unable to give location



The solution...

**AML = Advanced Mobile
Location**



Advanced Mobile Location



Automatically activated when an emergency call is placed

Advanced Mobile Location



Once AML is activated, the phone automatically determines the location (using GNSS and Wifi)

Advanced Mobile Location

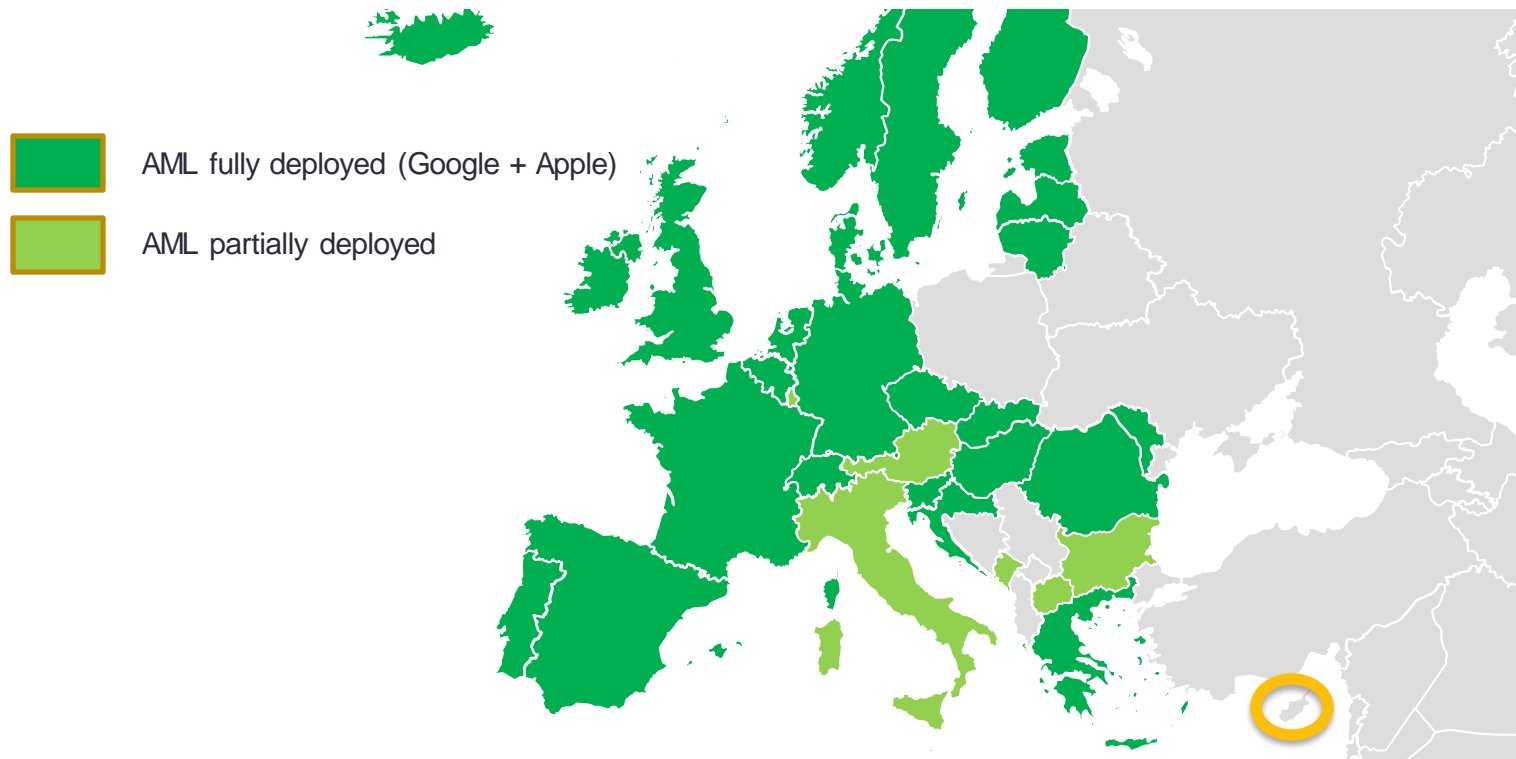


All is automated: no action is required from the caller

Alternative transmission channel: HTTPS



Where is it activated?



Recent evolutions

- Working when the user is roaming on Android phones
- Can also work for Text-to-112
- Additional information (such as vertical location) provided in HTTPS messages
- Mandatory in the European Union:
 - For handsets to be equipped with AML
 - For emergency services to make use of this technology
- Being standardised at ETSI (see [ETSI TS 103 625](#))

So, how does it
look like?



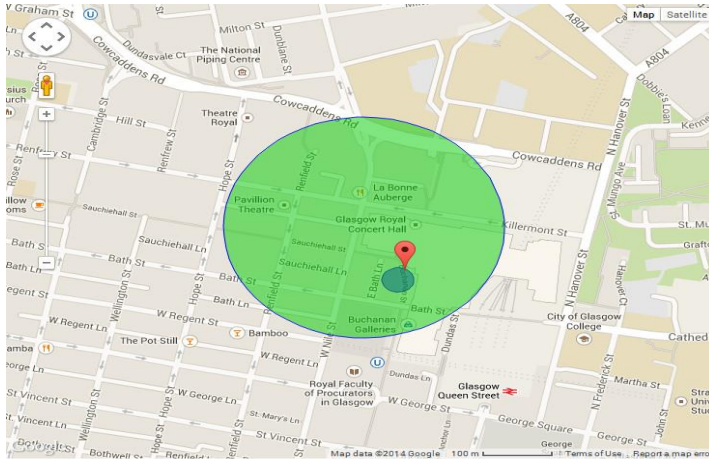
AML=1;lt=+55.74297;lg=-4.26880;rd=10;top=20130717175329;lc=95;pm=G;si=234302543446355;ei=356708041746734;mcc=234;mnc=30;ml=127



Content of an AML SMS

Comparison – urban area

Network-based location–
location radius of 195m.



Handset-based location– location
radius of 22m. (Wifi)





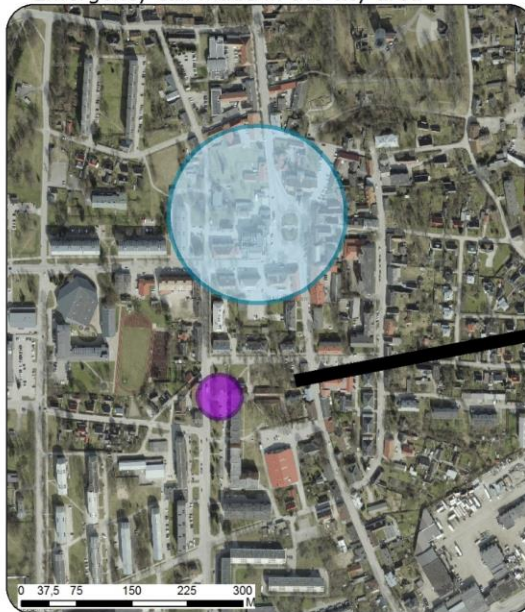
Some success
stories...

Success stories...

Children who told that the toaster was in fire but didn't know their exact address."

112 Estonia

Emergency call made in the city area

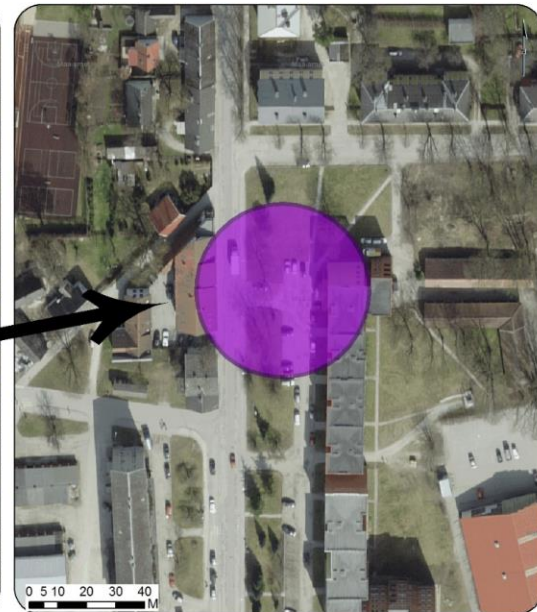


Legend

 Location provided by the MNO

 Advanced emergency location

Basemap: Ortophoto Estonian Land Board (23.01.2017)



Location radius provided by the MNO: 120 m

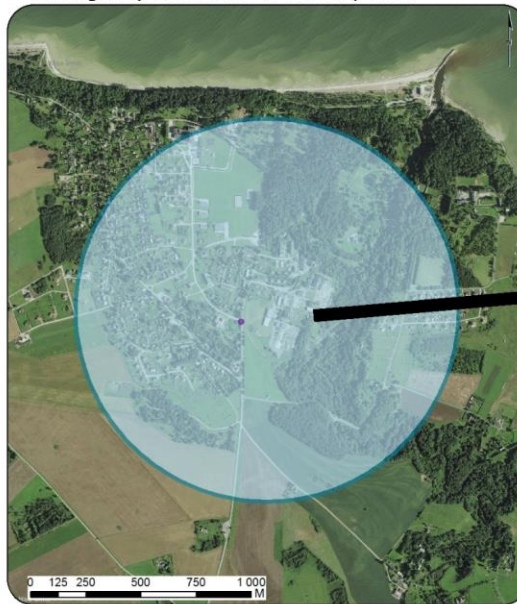
Advanced emergency location radius: 30 m

Advanced emergency location positioning method: WIFI

Success stories...

Car accident

Emergency call made in the city area



Legend

Location provided by the MNO

Advanced emergency location

Basemap: Ortophoto Estonian Land Board (23.01.2017)

Location radius provided by the MNO: 868 m

Advanced emergency location radius: 11 m

Advanced emergency location positioning method: GPS



Any question?

CONTACT

112
EMERGENCY CALL

Demetri Pyrros, MD, EMDM

President



@dpyrros



dp@eena.org



dpyrros

Thank you!

