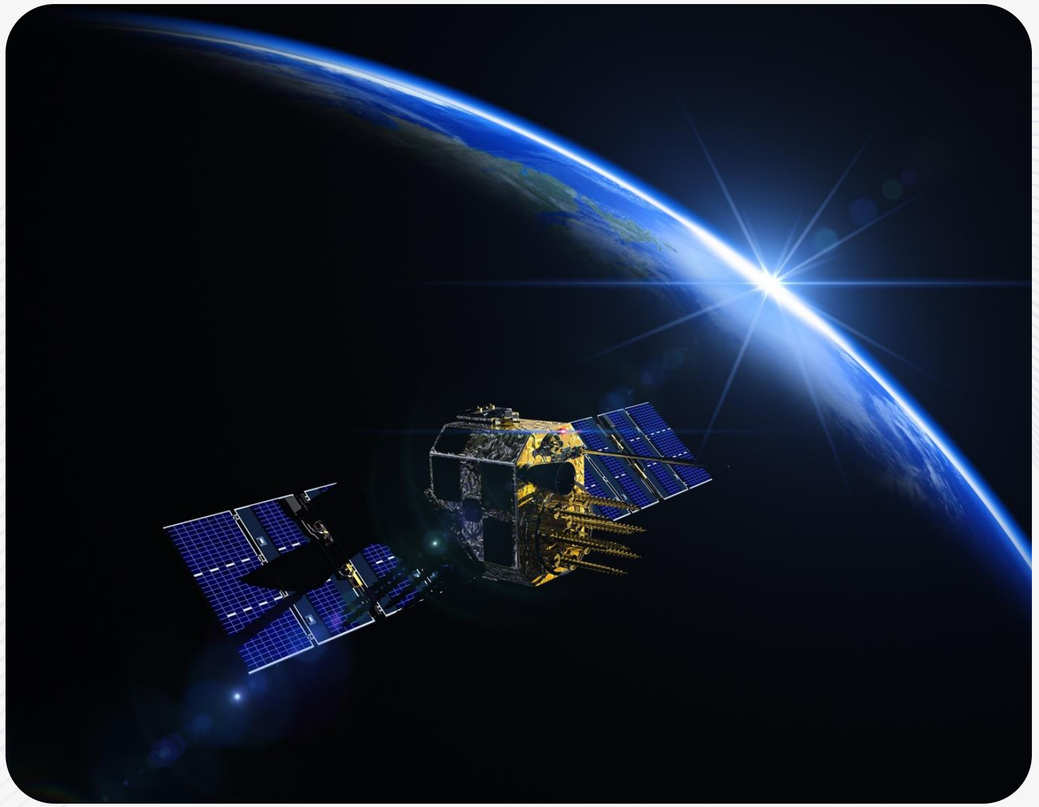
TELESPAZIO
a LEONARDO and THALES company

Galileo EWSS

Bolstering Population Warning with Satellites



Charly FARADJI

Presentation at EENA 25 - Helsinki

AWARE
REVOLUTIONISING PUBLIC WARNING

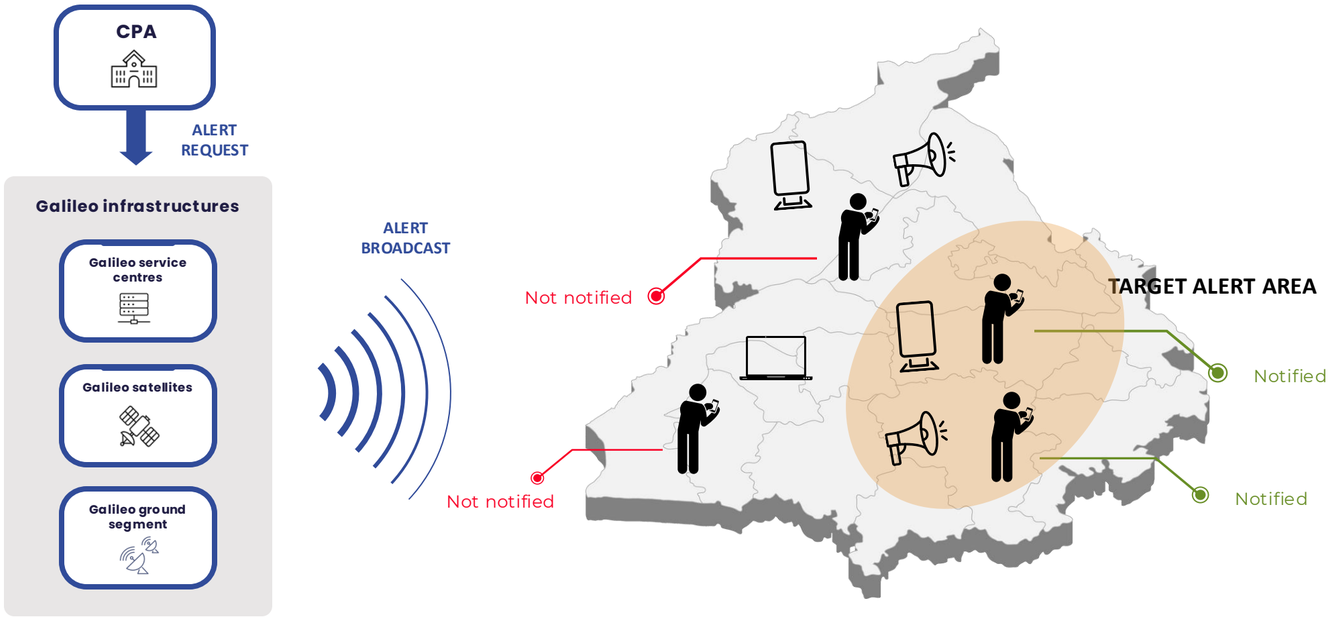
SUNSHINE

EUSPA
European Union Agency for the Space Programme

European Commission

GALILEO EWSS

Emergency Warning Satellite System, the upcoming service of the Galileo constellation to broadcast alert messages from space



- Civil Protection Authorities can send alerts directly to affected areas through Galileo
- Alerts are transmitted via the Galileo constellation of Medium Earth Orbit satellites
- The only emergency warning system resilient to networks disruption and power outage
- Can be integrated to existing national public warning systems

GALILEO EWSS



Click to play

Full version
(3 minutes)
available on YouTube

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GALILEO EWSS ANSWERS TO KNOWN LIMITATIONS OF POPULATION WARNING

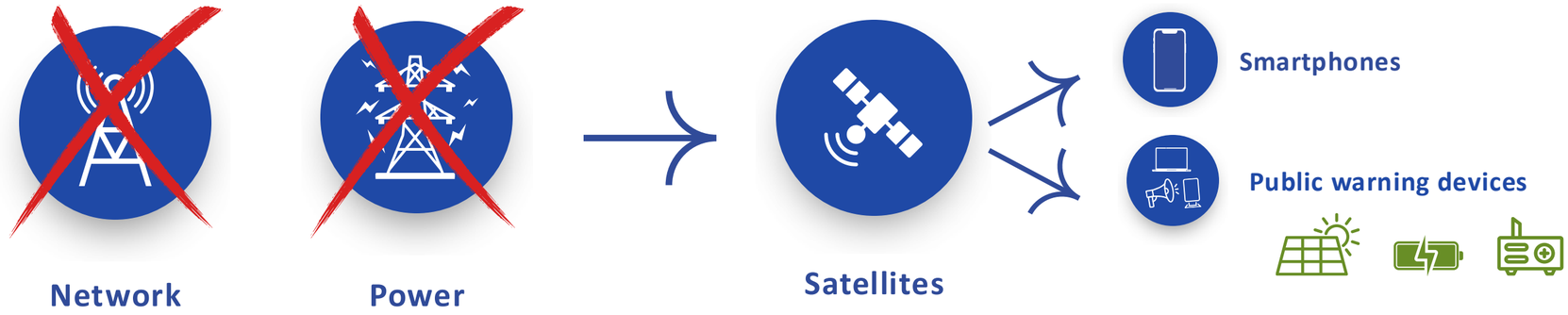
- Resilient to network
- Resilient to power

- Extreme geographic accuracy
- Extended geofencing area

- Pre established instructions

- Fast time to alert

- No difference between operators



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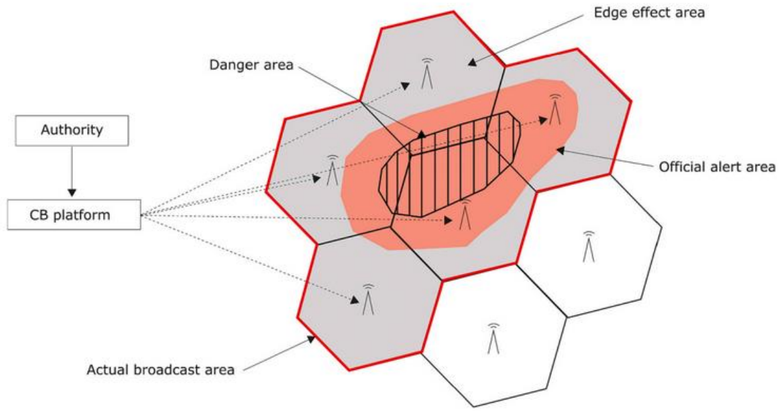
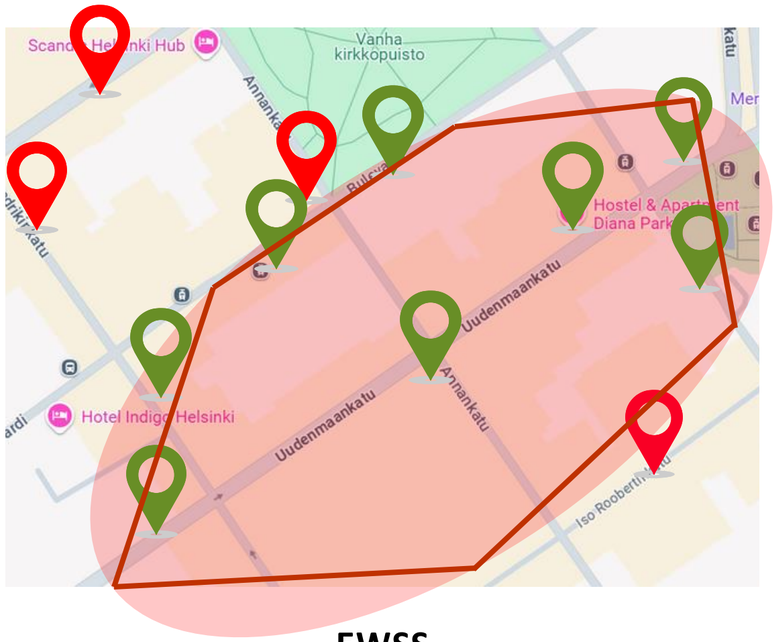


Fig. 1. Spatial functioning of cell broadcast.

Cell Broadcast

Measured accuracy of hundreds of meters*



EWSS

Accuracy of GNSS : few meters

*Ackowledgement :

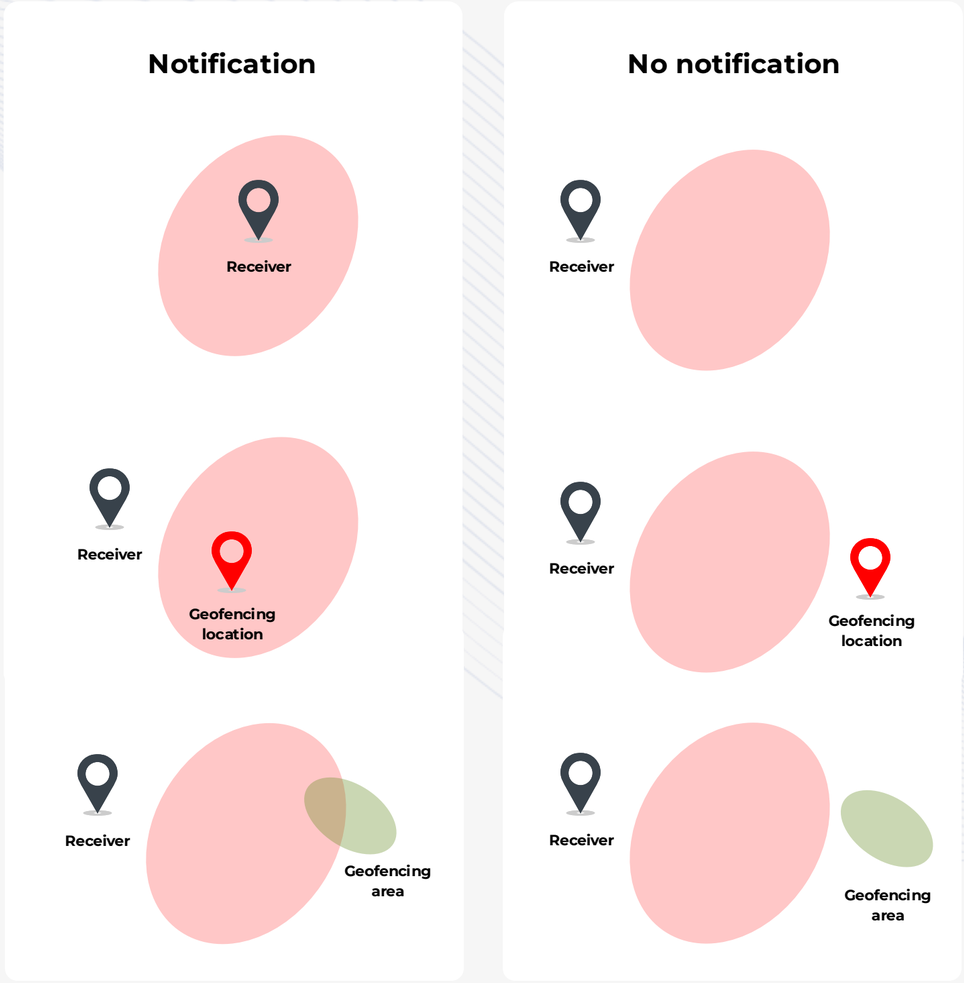
Spatial (in)accuracy of cell broadcast alerts in urban context: Feedback from the April 2023 Cannes tsunami trial

Esteban Bopp , Johnny Douvinet , N. Carles , Pierre Foulquier , Matthieu Péroche

Computers, Environment and Urban Systems, 2024, 107, pp.102055.

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	Free text	Instructions libraries
	• Specific local instructions for geographic information • Case by case adaptability	• Established by experts outside crises • Membre states can choose between international or national libraries • Possibility to combine two set of instructions
	• Instruction construction in crisis situation increasing time-to-alert and potential errors • Do not always respect WRM model	• Do not include specific local information ◦ Compensated by secondary elipse concept

GALILEO EWSS ANSWERS TO KNOWN LIMITATIONS OF POPULATION WARNING

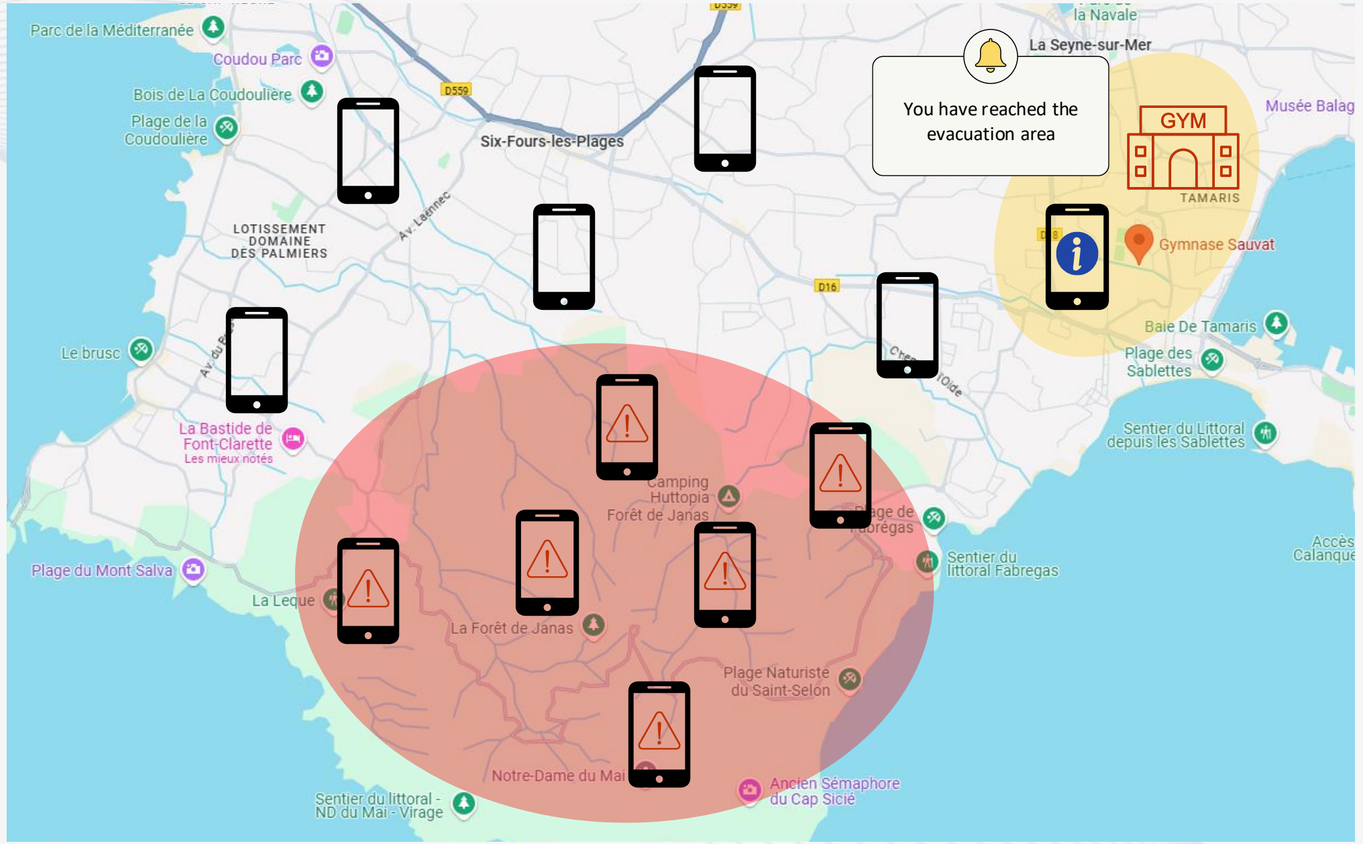
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Alert notification
Primary instructions

Safe place acknowledment
“You have reached the evacuation area”

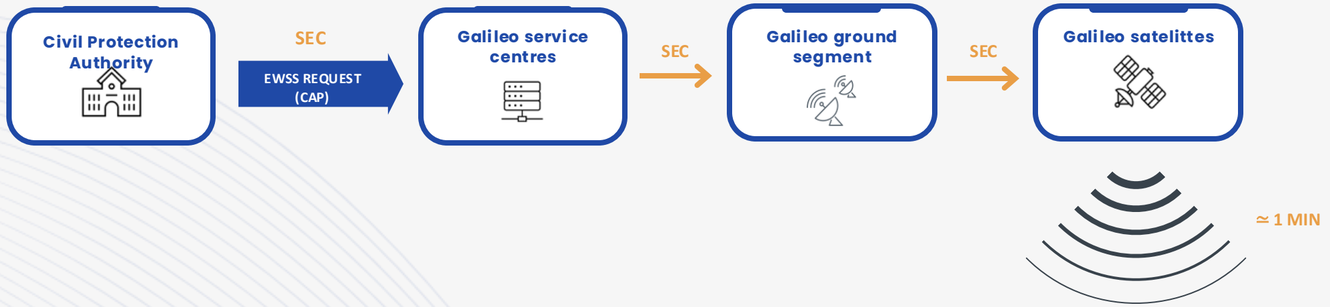
No notification

Primary elipse

Secondary elipse

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Total time from CPA request to notification **few min**



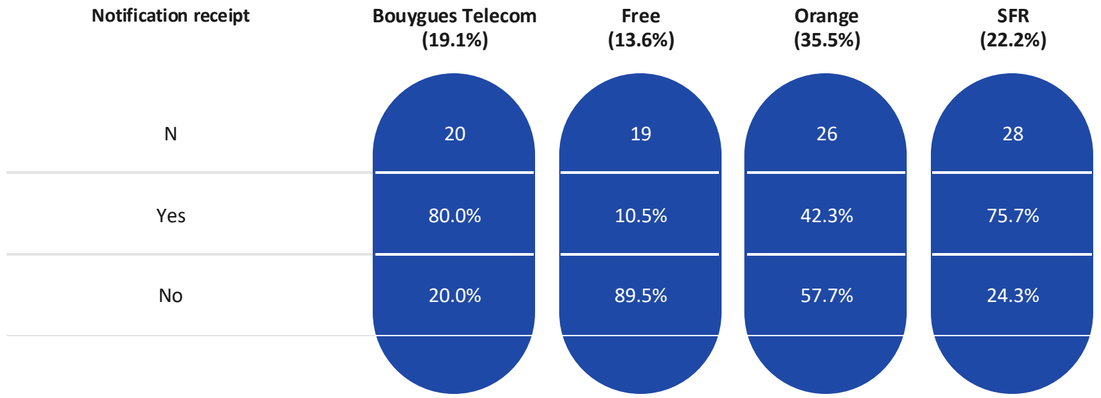


GALILEO EWSS ANSWERS TO KNOWN LIMITATIONS OF POPULATION WARNING

- **Resilient to network**
- **Resilient to power**
- **Extreme geographic accuracy**
- **Extended geofencing area**
- **Pre established instructions**
- **Fast time to alert**
- **No difference between operators**

Cell Broadcast

CB notification reception rate according to the telephone operator in the reference area (the percentenge given in the first line correspond to each operator's share of the French market)*



EWSS

Using Galileo constellation (European Global Navigation Satellite System)
= chipset included in all cellphones sold in Europe since 2022

**Ackowledgement :*

E. Bopp et al. Computers, Environment and Urban Systems 107 (2024) 102055

NEXT STEPS - COMING UP SOON

TODAY

Feb 25 — Spain
Mar 25 — Estonia
Apr 25 — Austria
Apr 25 — Norway
Apr 25 — EUSPA EWSS Workshop 1 Prague
Q3 — EUSPA EWSS Workshop 2 Prague
Q1 2026 — Service Declaration

EUSPA - EWSS Pilot Phase

Sep 25 — **Demo 1** Slovenia “Floods”
Nov 25 — **Demo 2** France “Urban Emergency”
TBD — **Demo 3** Europe “Industrial Catastrophe”

AWARE - Fixed devices & monitoring

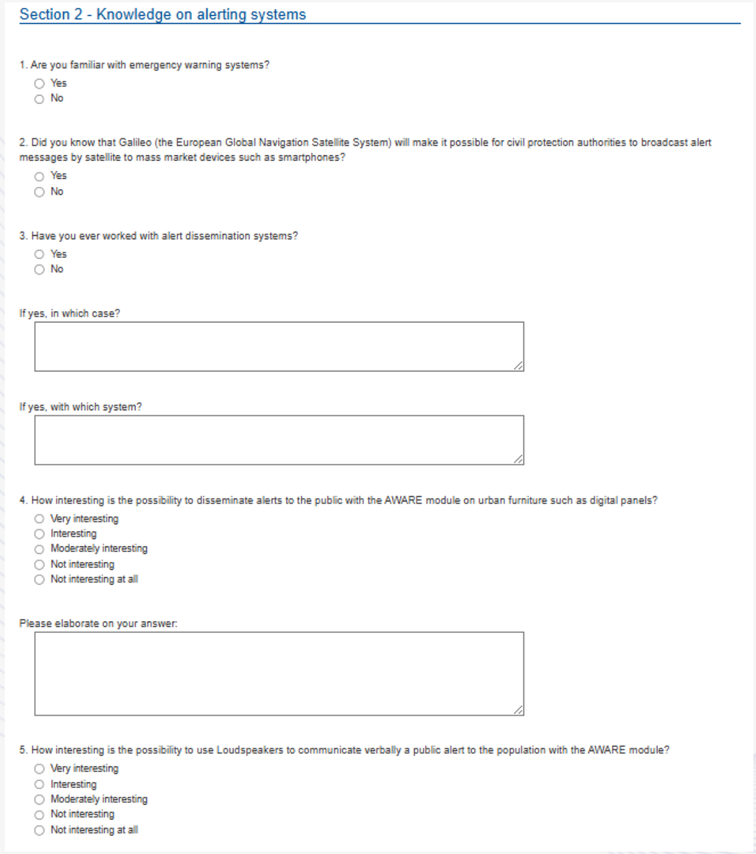
Oct 25 — Training & demonstration 1
Dec 25 — Training & demonstration 2
Mar 26 — Training & demonstration 3
Apr 26 — Simulation Exercise 1
Jun 26 — Training & demonstration 4
Sep 26 — Simulation Exercise 2

SUNSHINE - Support to Civil Protection Authorities

Please help us to improve EWSS compatible devices and give your feed back through this EUSurvey !

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https://ec.europa.eu/eusurvey/runner/aware-stakeholder-consultation



Section 2 - Knowledge on alerting systems

1. Are you familiar with emergency warning systems?
- Yes
- No

2. Did you know that Galileo (the European Global Navigation Satellite System) will make it possible for civil protection authorities to broadcast alert messages by satellite to mass market devices such as smartphones?
- Yes
- No

3. Have you ever worked with alert dissemination systems?
- Yes
- No

If yes, in which case?

If yes, with which system?

4. How interesting is the possibility to disseminate alerts to the public with the AWARE module on urban furniture such as digital panels?
- Very interesting
- Interesting
- Moderately interesting
- Not interesting
- Not interesting at all

Please elaborate on your answer:

5. How interesting is the possibility to use Loudspeakers to communicate verbally a public alert to the population with the AWARE module?
- Very interesting
- Interesting
- Moderately interesting
- Not interesting
- Not interesting at all

eena
EUROPEAN EMERGENCY NUMBER ASSOCIATION

SUNSHINE

European Commission

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This project has received funding from the European Commission, Directorate-General for Defence Industry and Space (DG-DEFIS), under the contract EC-DEFIS/2024/OP/0010

AWARE

REVOLUTIONISING PUBLIC WARNING

EUSPA

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SCAN ME



This project has received funding from the European Union Agency for the Space Programme under HORIZON-EUSPA-2021-SPACE grant agreement No 101082555.

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