# **xR4DRAMA** project presentation

Extended Reality For DisasteR management And Media plAnning

XR4DRAMA

General information

➢ **Coordinator**: CERTH-ITI

➢ **Project website:** http://www.xr4drama.eu/

➢ **Consortium members:**
  ▪ 2 Research Institutes
  ▪ 3 ICT technology industries
  ▪ 1 Media production company
  ▪ 1 Crisis management organization

➢ **Duration**: November 2020 – April 2023

Coordinator
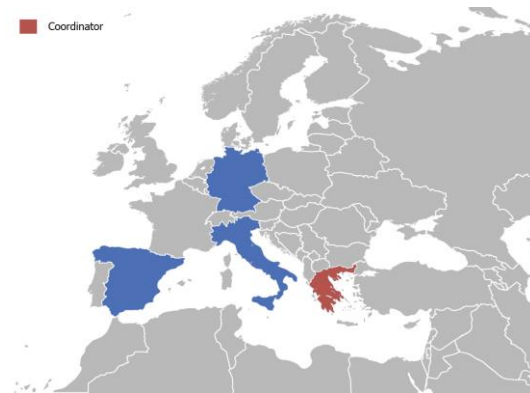
xR4DRAMA for situation awareness

Goals

Situation awareness

Situation awareness is crucial for humans to best execute tasks, plan things and take the appropriate decisions. xR4DRAMA aims at enhancing situation awareness through, especially, XR technologies in order to:

- facilitate the sourcing of all relevant information needed to plan necessary actions
- create an „as if on site" experience of an environment (e.g. in VR) to anticipate the planned event or an incident as thoroughly as possible;
- create a joint understanding of an environment (a "distributed situation awareness") to be shared by team members, allowing for smoother communication and consultation;
- provide the possibility to continuously update the representation of the location during the evolving incident/event in order to understand and potentially re-assess consequences of specific decisions.

xR4DRAMA concept

xR4DRAMA focuses on collecting and representing data from outdoors environments as well as assets from the authorities, media production teams and from the Web, in interoperable, collaborative, state-of-the-art AR/VR and mobile environments, where end-users will be able to connect, operate and interact on different situation awareness scenarios.
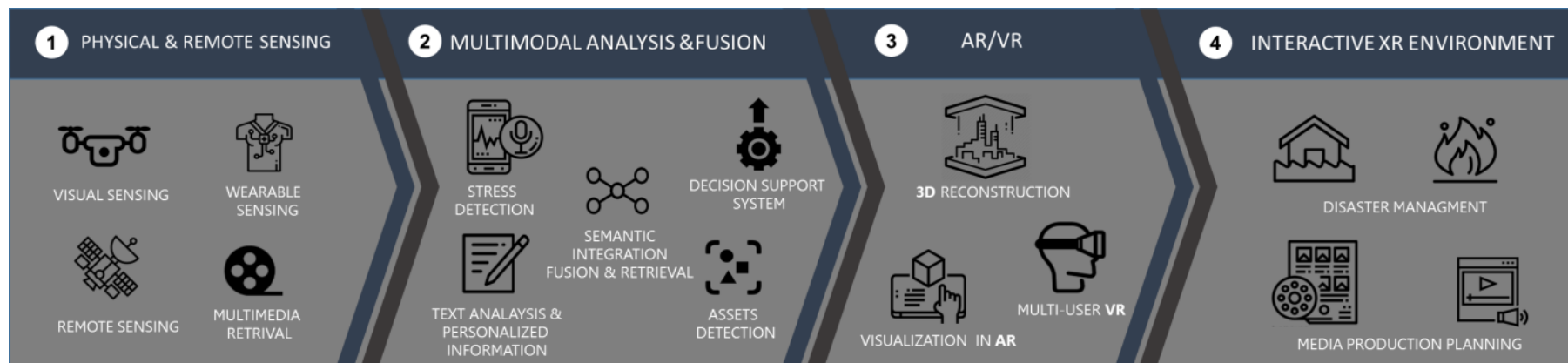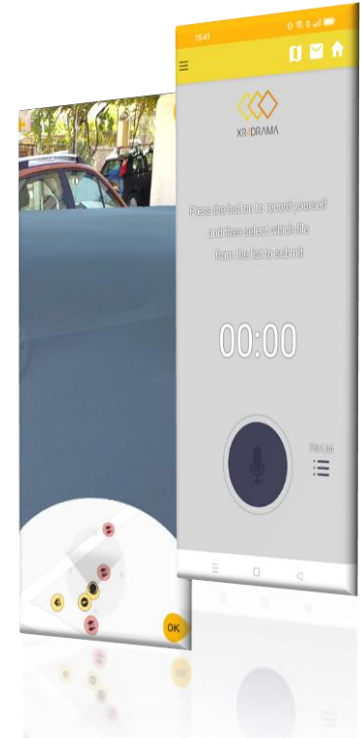
xR4DRAMA use cases

Disaster management

Support first responders by:

- Training them

- Monitoring their status

- Providing with important information needed for dealing with a disaster situation (e.g. flood)

- Scenario: Flood management in Vicenza

  - Pre-emergency phase

  - Emergency phase (just before and during the event)

xR4DRAMA use cases

Media production

**Support broadcasters, production companies and other media houses by:**

- Increasing their situation awareness of a site
- Optimizing their preparation for a smooth and safe production
- Scenario: Media Production on the island of Corfu
  - Documentary presented from various locations
    - *Phase 1*: Preliminary planning
    - *Phase 2*: Information update by Location scout
    - *Phase 3*: Detailed production planning on the basis of Situation awareness

Smart sensors & backend technologies

Physiological & environmental sensors
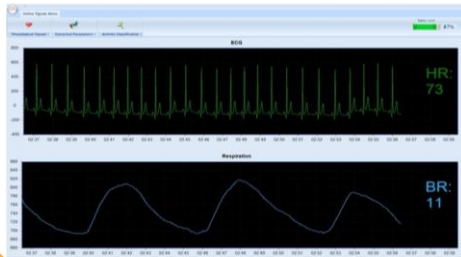
Backend modules

- Web data collection
- Drone footage integration
- Remote sensing
- Audio & text analysis
- Stress level detection
- Visual analysis
- Semantic integration
- Decision support system
- Text generation
- GIS
- 3D reconstruction

End user applications

For people in the control room:

1. VR Authoring tool
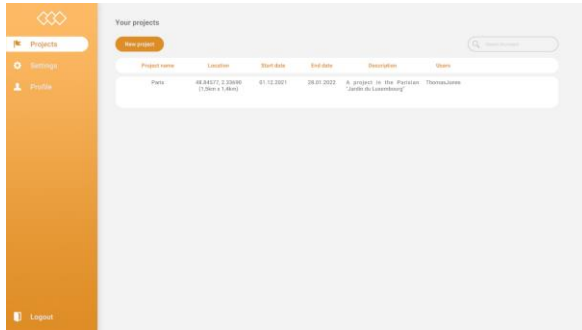2. Collaborative VR app

For people in the field:

1. AR application
2. Mobile awareness app for citizens

VR Authoring Tool

- Main entry to the xR4DRAMA platform
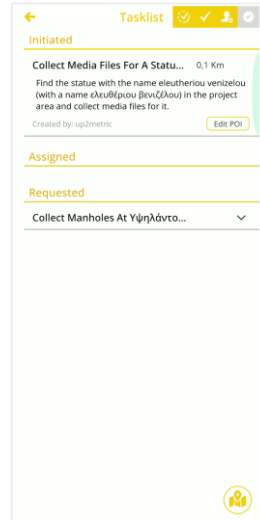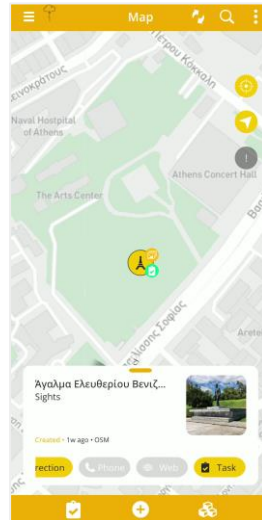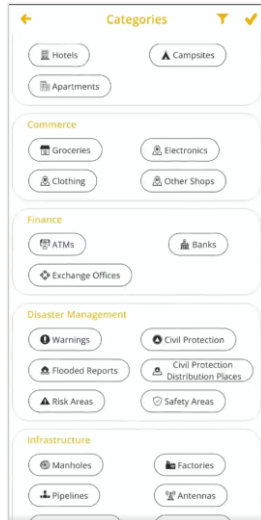 - Creation and view of projects

Collaborative VR app

- Tool that allows users to view the location in an immersive environment
  - Allows collaboration between the team members inside VR
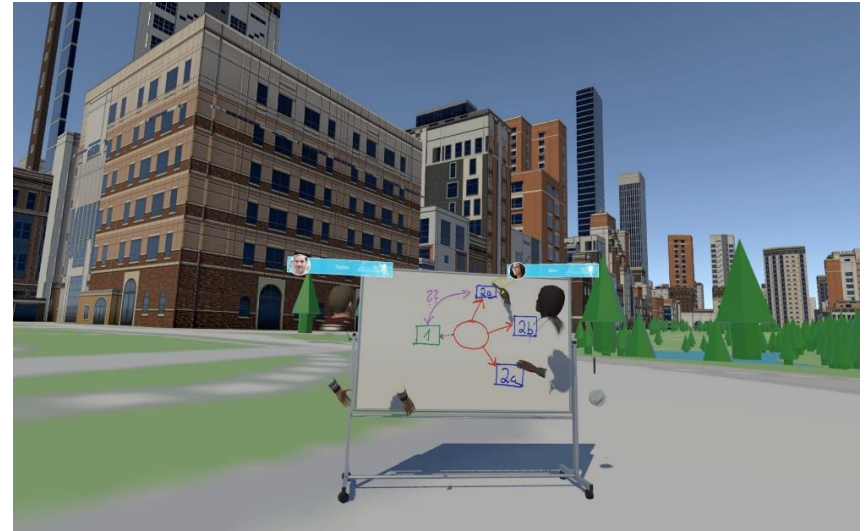
AR application

- Mobile application that organizes and facilitates the work in the field

- Updates (in real-time) the control room with the data collected in the field

Citizen app

- Mobile application for the citizens in the disaster management use case
- Citizens will be able to:
  - send messages (e.g. text, audio) to report critical issues
  - receive useful information from the control room, such as alerts, risk zone warnings, etc.
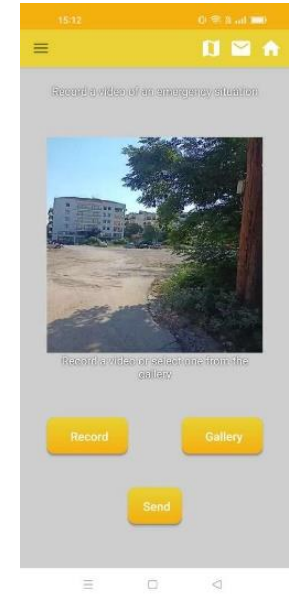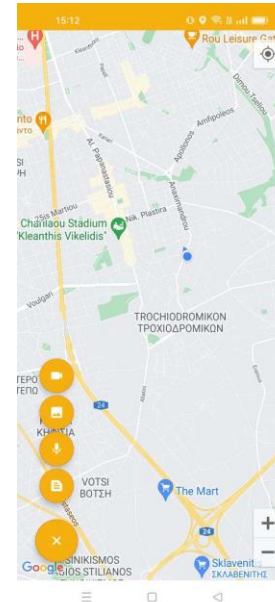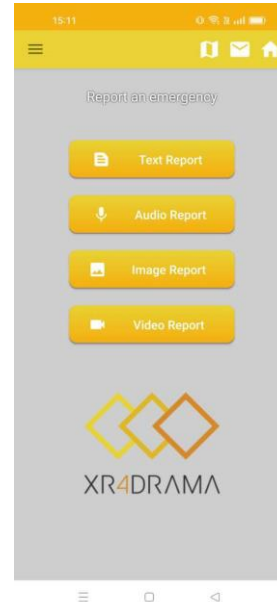
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