

# Autonomous Indoor & Outdoor Safety Tracking and Communication System

Pedro A. Ruiz



#EUGreenWeek

19–22 OCTOBER 2020

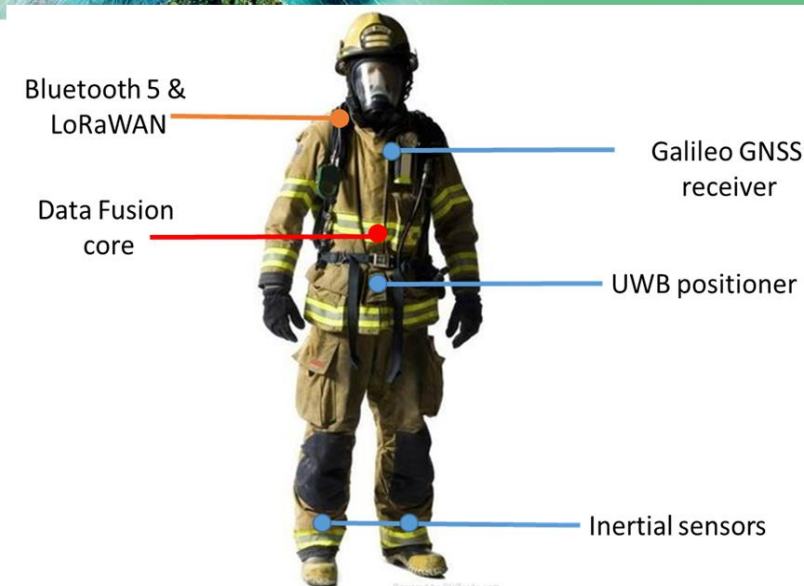
**A NEW BEGINNING  
FOR PEOPLE AND NATURE**





# Autonomous Indoor & Outdoor Safety Tracking and Communication System

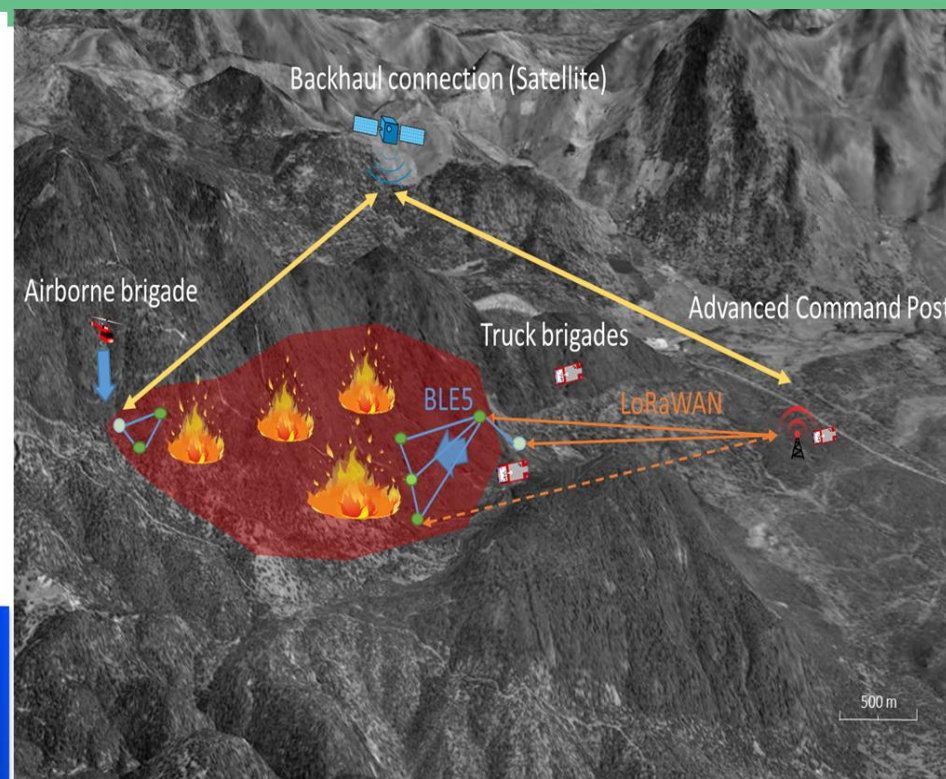
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No availability of mobile networks

Different technologies: Bluetooth 5, LoRaWAN

Satellite -> Backhaul connection



## Objectives:

- Enhanced positioning and tracking system with EGNOS/Galileo service
- Develop a set of tracking and alerting application protocols for fire services
- Increased safety trust of firefighters and fire chiefs
- Reduce the impact of fires on the environment, health and economy

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Interreg  
España - Portugal

Fondo Europeo de Desarrollo Regional



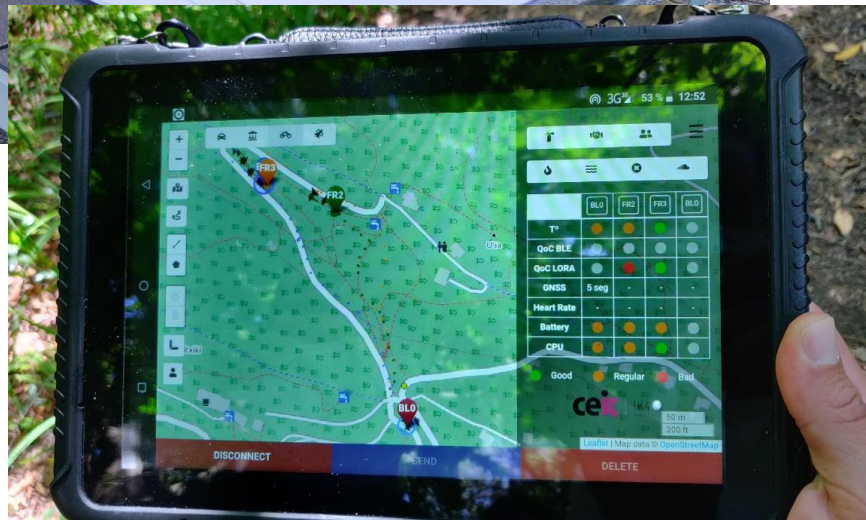
LUCHA CONTRA EL  
CAMBIO CLIMÁTICO





# Current status

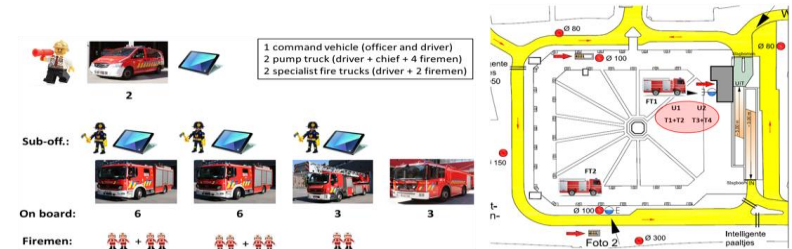
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## Field Test Scenarios

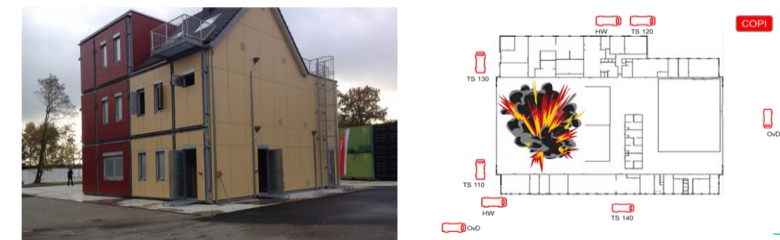
Parking lot



Forest



Industrial





# Unique Selling Points

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- European technologies for positioning: Galileo & EGNOS
- Maximum availability of positioning -> We test it in harsh conditions, without GNSS signal, the position continues being available (through inertial and UWB sensors )
- Both firefighters and brigades feel safer, enabling operation of firefighters beyond line of sight.
- Fast deployment: No calibration needed, network is autoconfigured, no previous infrastructure needed
- Ergonomics: Easily integrable in firefighters equipment
- Efficient cost, using commercial electronics. Could be also deployed in drones and integrate new sensors
- One solution for rural and urban environment.

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