



FIDAL PROJECT OPEN CALL 2 PRESENTATION



fidal-he.eu



FIDAL PROJECT



Co-funded by
the European Union

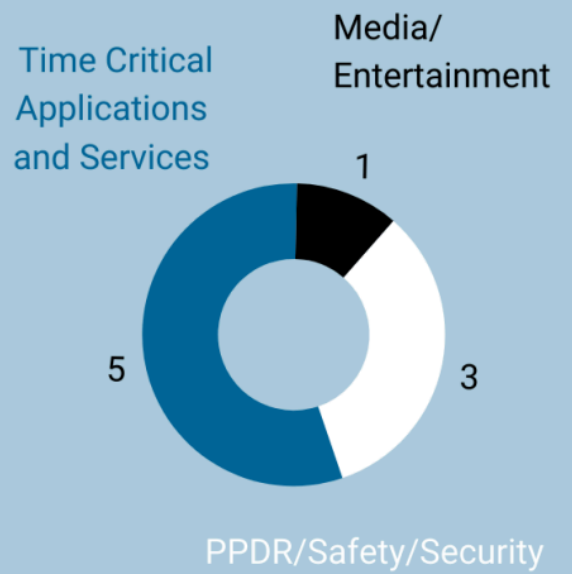


Grant Agreement N.
101096146

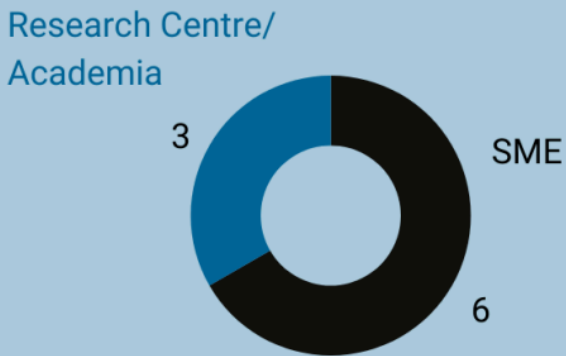
Represented countries



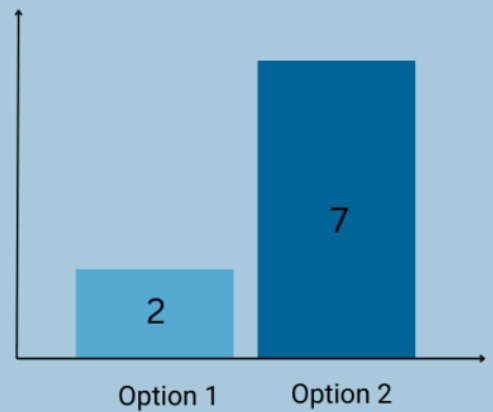
Vertical Distribution



Organizations Type



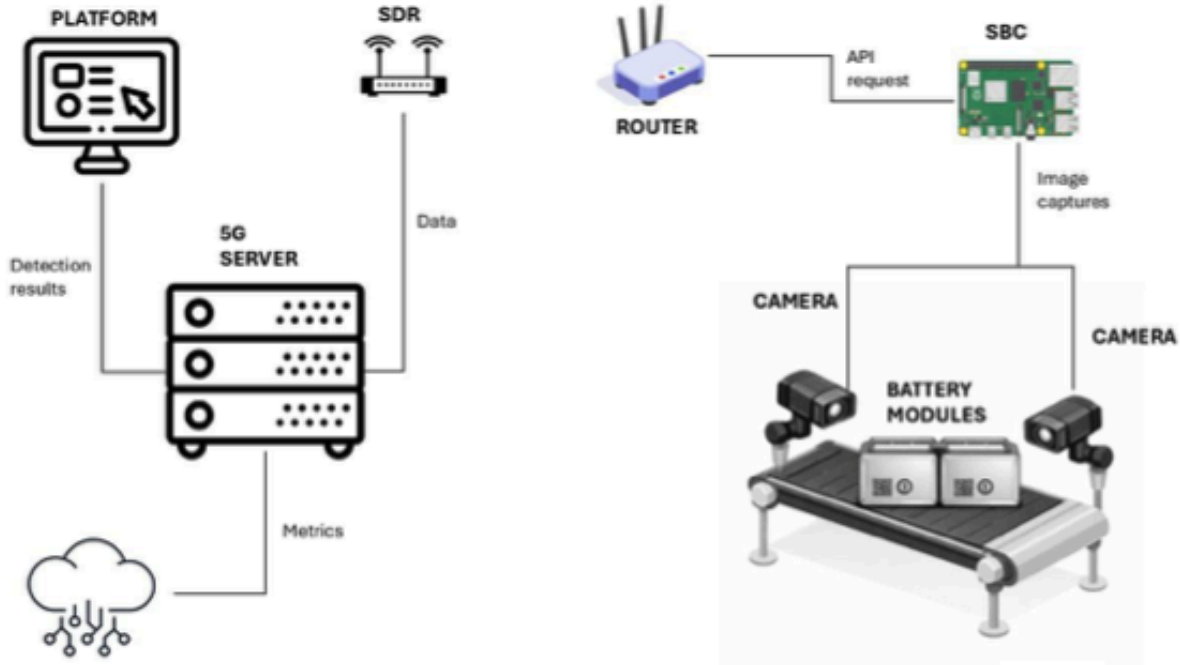
Options Distribution



Option 1 = funding up to EUR 150.000
Option 2 = funding up to EUR 250.000

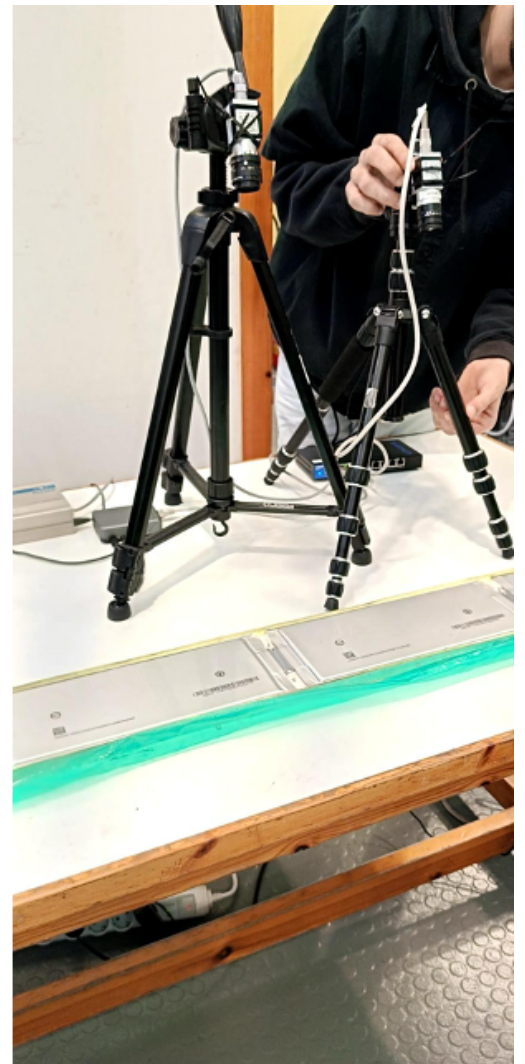
Patras Testbed

5G4ZDM



5G4ZDM sub-project addresses defect detection in EV battery manufacturing through a 5G-enabled computer vision solution. It uses a customized Vision Transformer (ViT) to analyze high-resolution weld images with high accuracy and speed, enabling real-time detection of minute defects.

Leveraging FIDAL's advanced 5G infrastructure, the system ensures reliable, low-latency, and high-throughput communication for time-critical manufacturing processes.



Patras Testbed

5GRESCUE

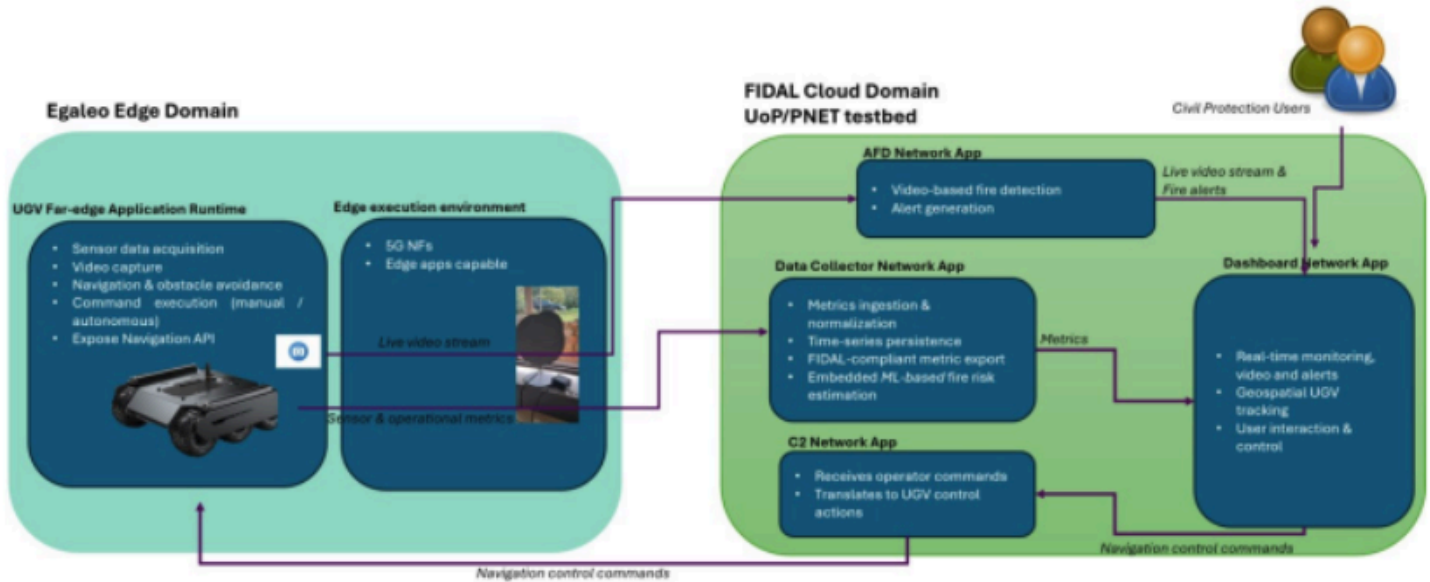


Figure 2: Final application architecture of the 5G-RESCUE solution.

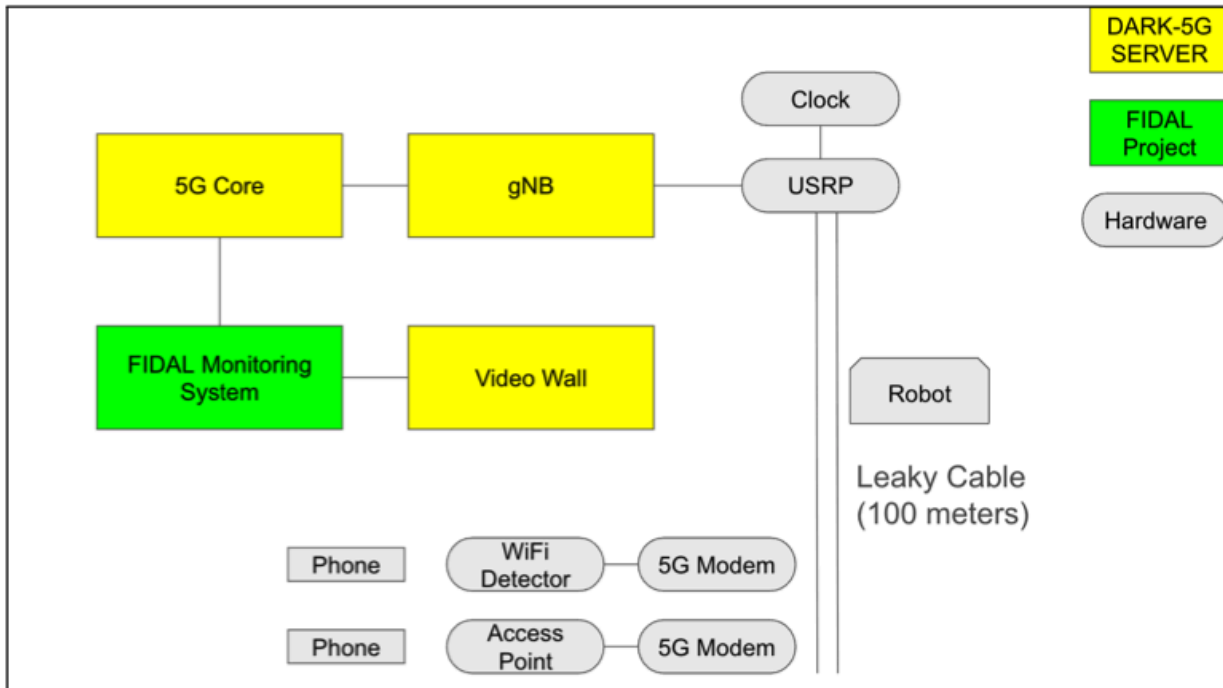
5G-RESCUE, is a project aimed at making Unmanned Ground Vehicles(UGVs) more affordable and practical for emergency response teams.

UGVs are highly useful in hazardous environments because they can perform critical tasks without putting human lives at risk. However, their adoption has been limited due to high costs and complex software requirements. To address this, 5G-RESCUE proposes a low-cost UGV system built with commodity hardware (such as a Raspberry Pi 4) and enhanced with 5G and far-edge capabilities.



Patras Testbed

DARK5G

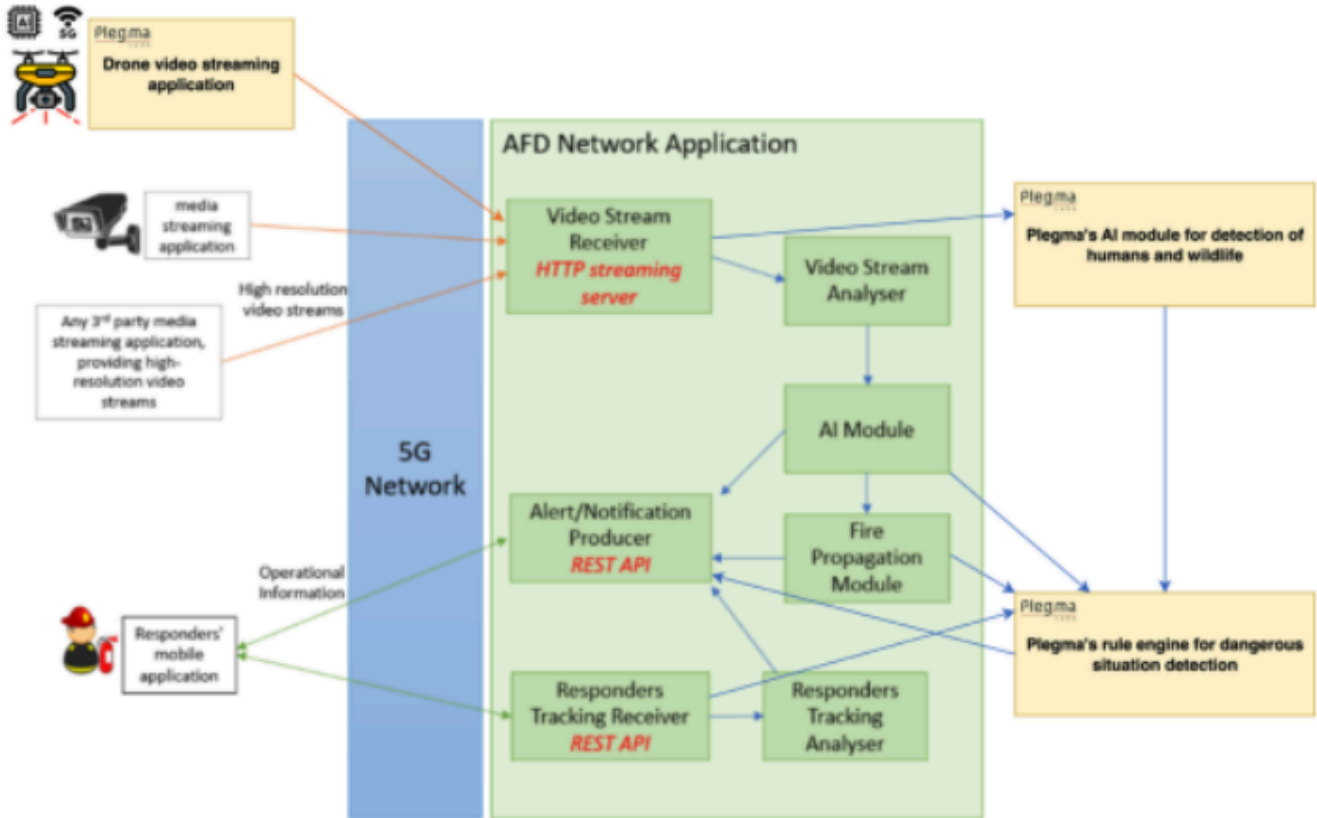


Conventional wireless services often struggle to provide reliable connectivity in challenging environments such as underground infrastructures (highway tunnels and subways), especially during disaster scenarios. This lack of communication can significantly hinder rescue efforts and endanger lives. To address this critical issue, we propose a novel approach that leverages 5G technology and leaky feeder cables. By integrating these technologies, we aim to provide reliable and robust communication in these challenging environments, even during disaster situations. Leaky feeder cables are inherently resilient to external factors, making them an ideal solution for ensuring uninterrupted connectivity.



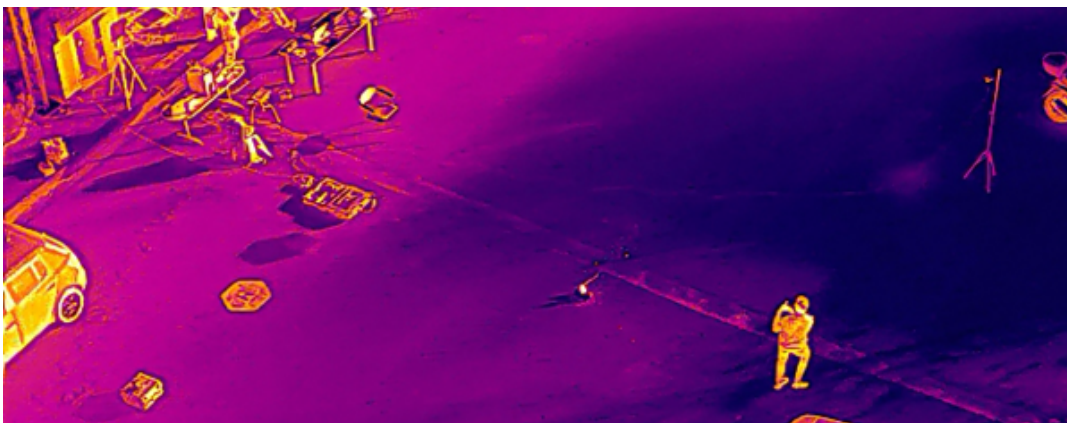
Patras Testbed

WOLF



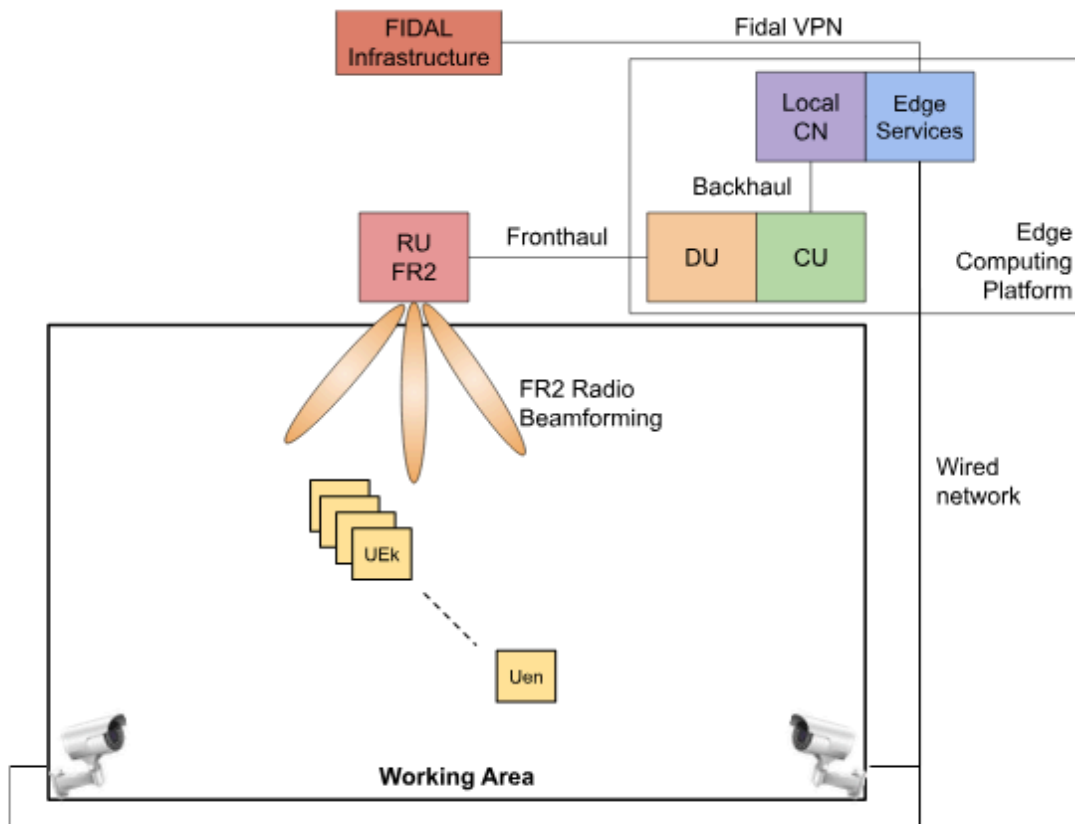
WOLF is a solution designed to enhance safety and situational awareness during wildfires in Public Protection and Disaster Relief (PPDR) scenarios.

Wildfires create rapidly changing and hazardous environments, where limited visibility and lack of real-time tracking make it difficult for first responders to locate people and wildlife at risk. WOLF addresses this challenge by deploying AI-enabled drones (UAVs) integrated with FIDAL's advanced 5G infrastructure, enabling real-time detection, tracking, and improved response coordination.

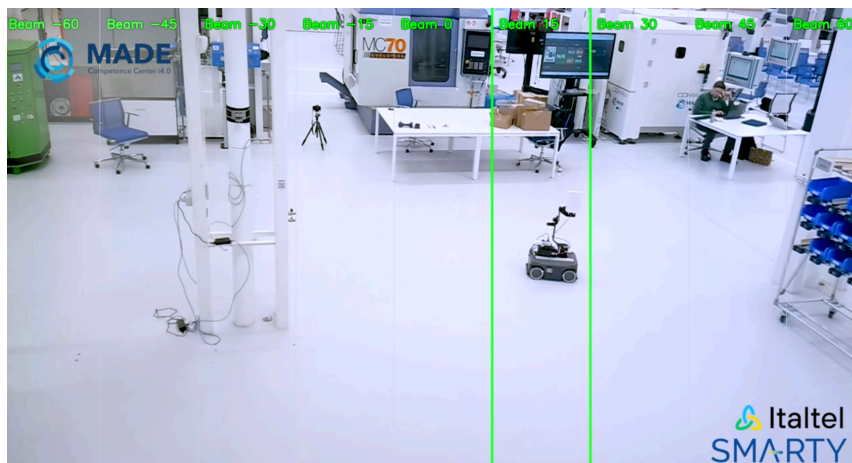


UMA Testbed

5G-SHIELD

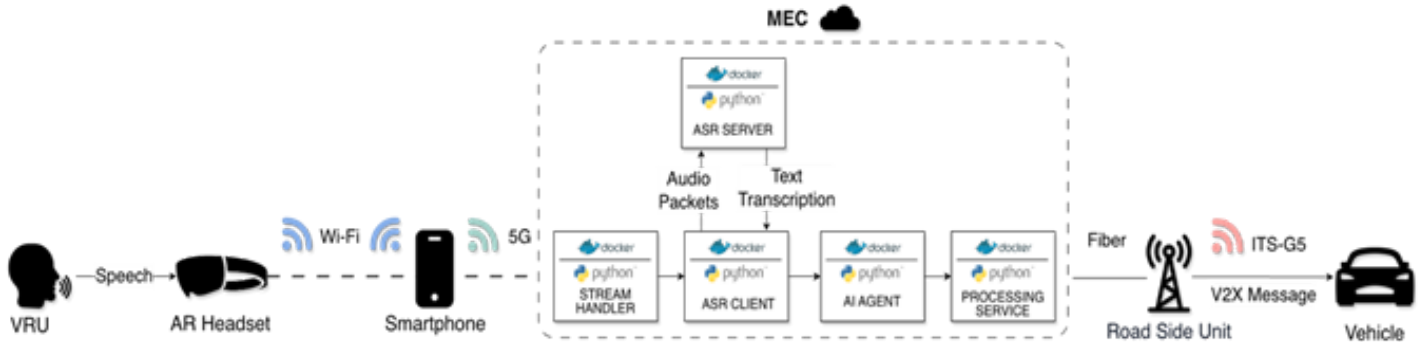


5G-SHIELD goal is to implement a presence awareness concept within an Industry 4.0 environment. This is achieved by creating a "time-aware" and "position-aware" testbed that leverages a private 5G network to ensure the safety of human workers collaborating with Automated Guided Vehicles (AGVs). The architecture's success hinges on the seamless integration of three key technologies: i) Ultra-Reliable Low-Latency Communication (URLLC) enabled by millimeter-wave (mmWave) spectrum, ii) high-precision 5G positioning achieved through the fusion of radio signals and machine vision data, and iii) edge computing for local data processing and AI-driven analytics.

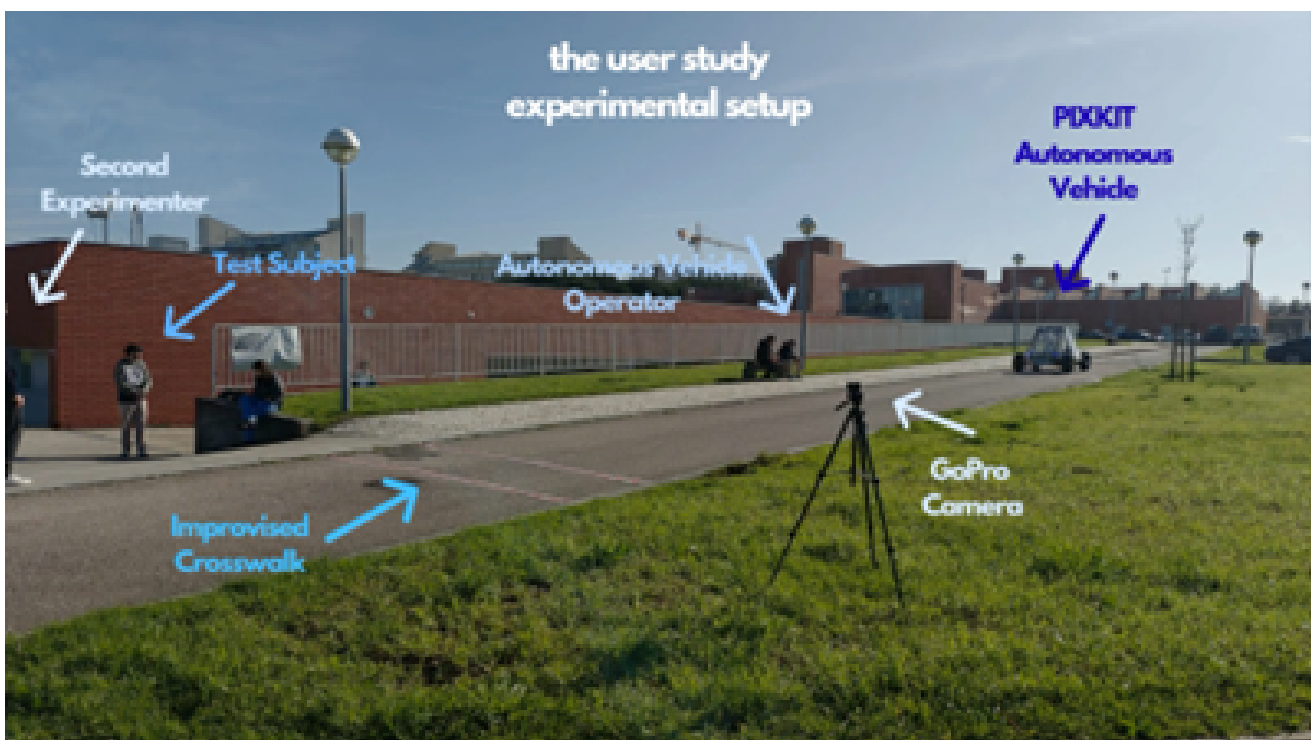


UMA Testbed

SafeXCity

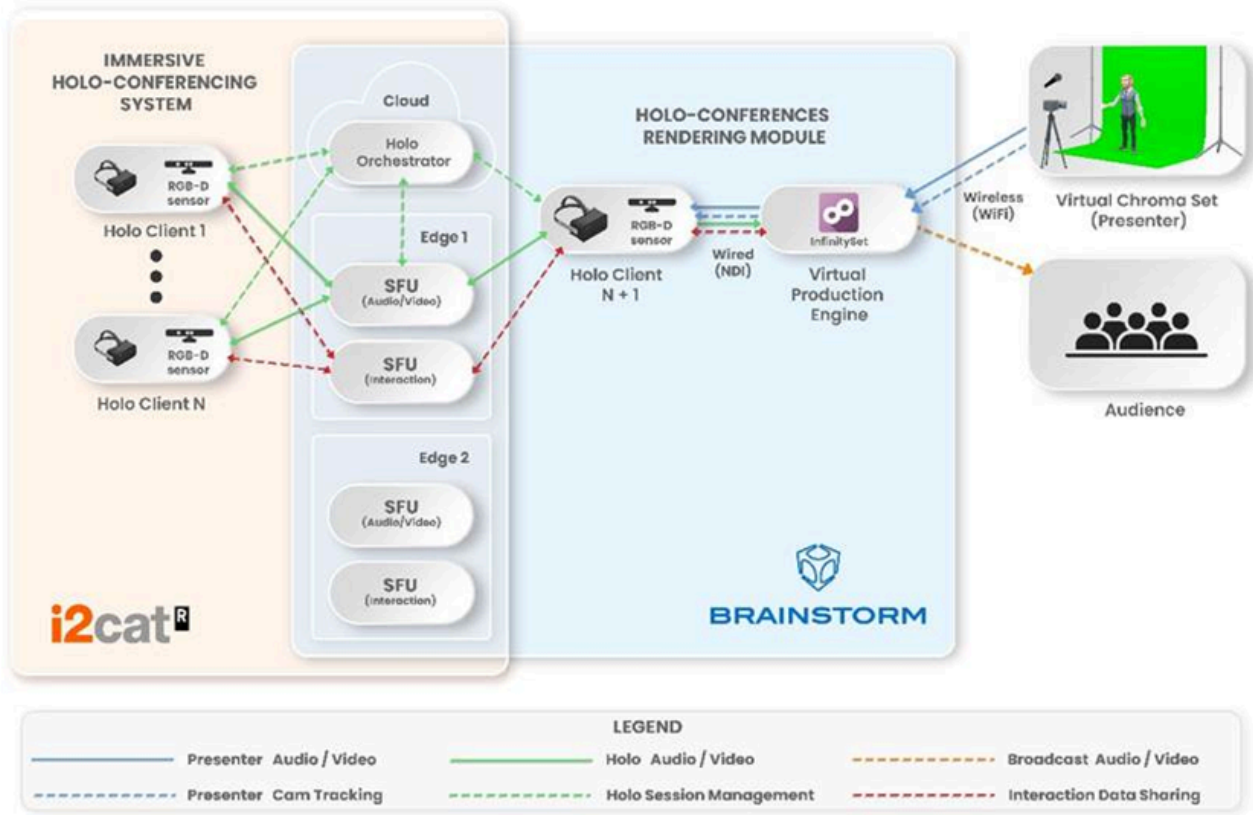


The **SafeXCity** project improved safety for vulnerable road users (pedestrians and cyclists) using real-time systems combining connected vehicles, V2X, sensors, mixed reality, and edge computing. Tested in Aveiro with 20 participants in real urban conditions, it showed that AR and voice interfaces had similar usability, with AR reducing workload and voice increasing trust. The project confirmed that V2X, private 5G, and edge computing can enhance safety through fast, responsive communication



Telenor Testbed

HoloFID

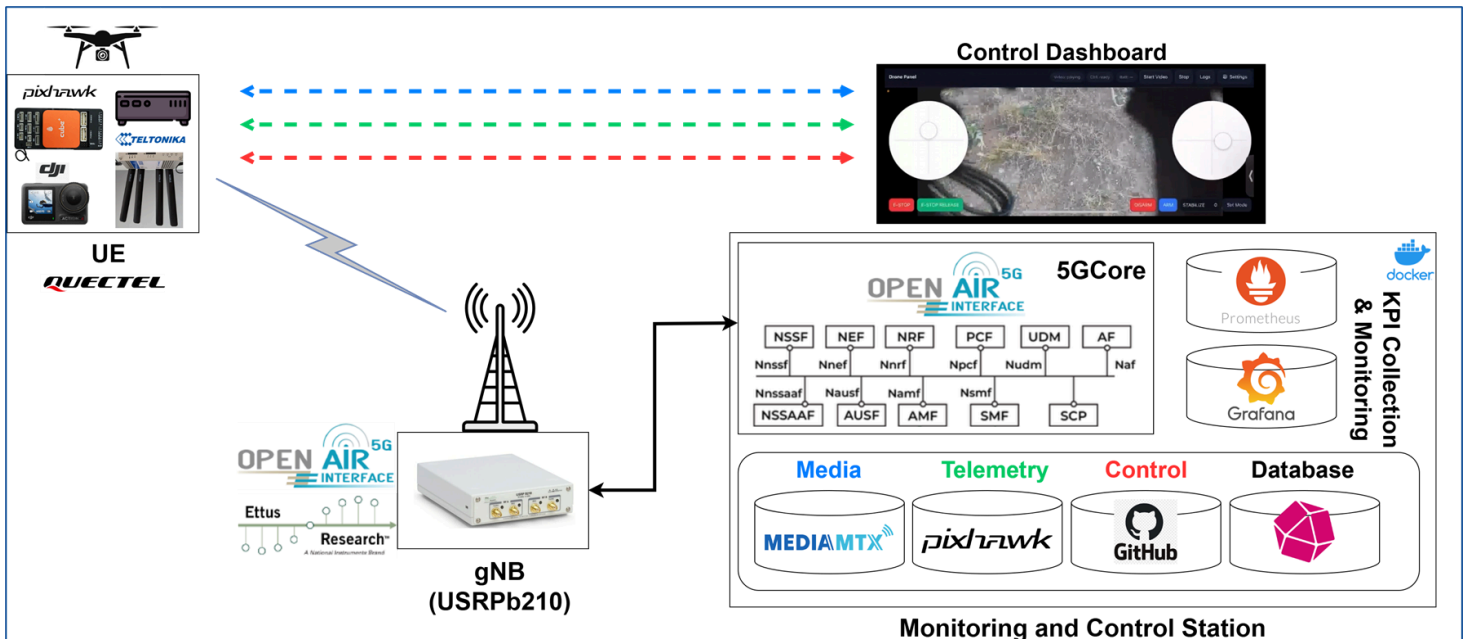


HoloFID offered an innovative Media Use Case by: (i) connecting an external 6G testbed by i2CAT to the Telenor testbed in FIDAL; (ii) integrating two commercial-ready XR platforms by i2CAT and Brainstorm to offer shared virtual concerts; (iii) designing and integrating novel APIs to enhance the scalability and reliability of XR services; and (iv) performing both intra- and inter-testbed trials to assess and validate the readiness and potential of the proposed technologies and use case

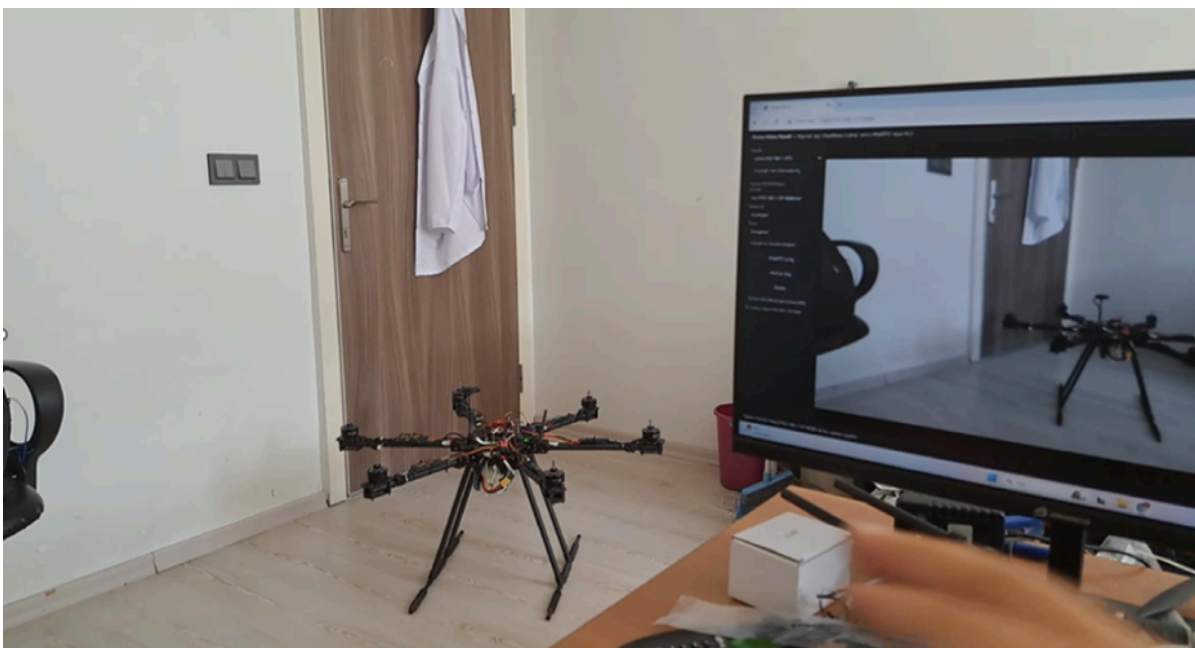


Telenor Testbed

ReDrone 5G



The ReDrone5G project aims to develop and implement an advanced system for real-time remote control of drones using 5G connectivity. By leveraging the ultra-low latency and high-bandwidth capabilities of 5G networks, we aim to transmit high-quality, low-latency video streams from drones to a central control station. This enables pilots to operate drones remotely based on live video feeds, effectively eliminating the need for them to be physically present near the drone's location and enhancing operational flexibility.



Fidal Partners

NOVA

eBOS
Engineered for Excellence
Driven by Passion for Innovation


ERICSSON

App Art


UNIVERSIDAD DE MÁLAGA

ORama 

OWO

isi
INDUSTRIAL SYSTEMS
INSTITUTE
ATHENA Research & Innovation
Information Technologies

PSC Europe
Public Safety Communication Europe


EKTACOM
L'EXPERTISE VIDÉO NUMÉRIQUE

i q


PIIU

AIRBUS

 **Telefónica**

 **telenor**

 **FORTH**
INSTITUTE OF COMPUTER SCIENCE

 **UNIVERSITY OF
PATRAS**
ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ

 **UBITECH**
ubiquitous solutions

 **NET**
EMERGING NETWORKS & APPLICATIONS

 **satways**