5G-EPICENTRE

5G EXPERIMENTATION INFRASTRUCTURE HOSTING CLOUD-NATIVE NETAPPS

FOR PUBLIC PROTECTION AND DISASTER RELIEF

The 5G-EPICENTRE project aims to lower barriers to 5G adoption and market entry for European SMEs to conduct rigorous experimentation of their products and applications aimed at the public safety market, through the provision of an open, federated, end-to-end experimentation facility

Re5hapinG the PPDR Community

The 5G-EPICENTRE Platform

5G is considered to be the next decade mainstream broadband wireless technology and can leverage the efficiency and effectiveness of everyday high demanding operations such as Public Protection and Disaster Relief (PPDR). LTE-Advanced systems as well as 5G are both considered as a mission critical PPDR technologies able to address the needs of mission critical intelligence. The 5G-EPICENTRE Platform is the product of the homonymous project funded by the European Union within the Horizon 2020 funding programme and offers an environment for open, end-to-end experimentation focusing on software solutions that serve the needs of PPDR. The Platform allows coding and testing of mobile solutions over a fully featured 5G network, supported by experimentation analytics driven by Machine Learning and a wide array of Network Applications.

Use Cases

- Multimedia Mission Critical Communication and Collaboration Platform
- Wearable, mobile, point-of-view, wireless video service delivery
- Multi-agency, multi-deployment Mission Critical Communications & dynamic service scaling
- Fast situational awareness and near real-time disaster mapping
- Ultra-reliable drone navigation and remote control
- Augmented Reality and AI wearable electronics
- IoT for improving first responders' situational awareness and safety
- AR-assisted emergency surgical care

Tangible Benefits

1. Improved mission-critical capabilities for PPDR operations with 5G technology
2. Customized software solutions to meet PPDR needs on 5G-EPICENTRE Platform
3. PPDR marketplace for testing robustness of 5G-enabled solutions in extreme conditions
4. Demonstrating the benefits of 5G technology for PPDR end-users through experimentation and analytics.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Grant Agreement No 101016521

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Features

- PPDR-based trials of 5G-enabled systems to verify their robustness even in extreme conditions.
- End-to-end 5G experimentation tailored to the needs of the PPDR market players.
- Automation, continuous deployment and multi-access edge computing.
- Impact-driven dissemination, standardisation and exploitation.
- Developers can experiment with PPDR applications via the '5G Experiments as a Service' model.
- AI-assisted cognitive experiment coordination and lifecycle management.

Testbeds & Benchmarking

Aveiro

Suitable for Video & Throughput 5G scenarios

Ideal for:
- Studying the behaviour of a video
- Identifying the effect of traffic on the different layers

Berlin

Suitable for Drone Management scenarios

Ideal for:
- Studying the behaviour of drone-based PPDR solutions
- Analysing the radio interface, latency, and its influence on the handling of UAVs

Barcelona

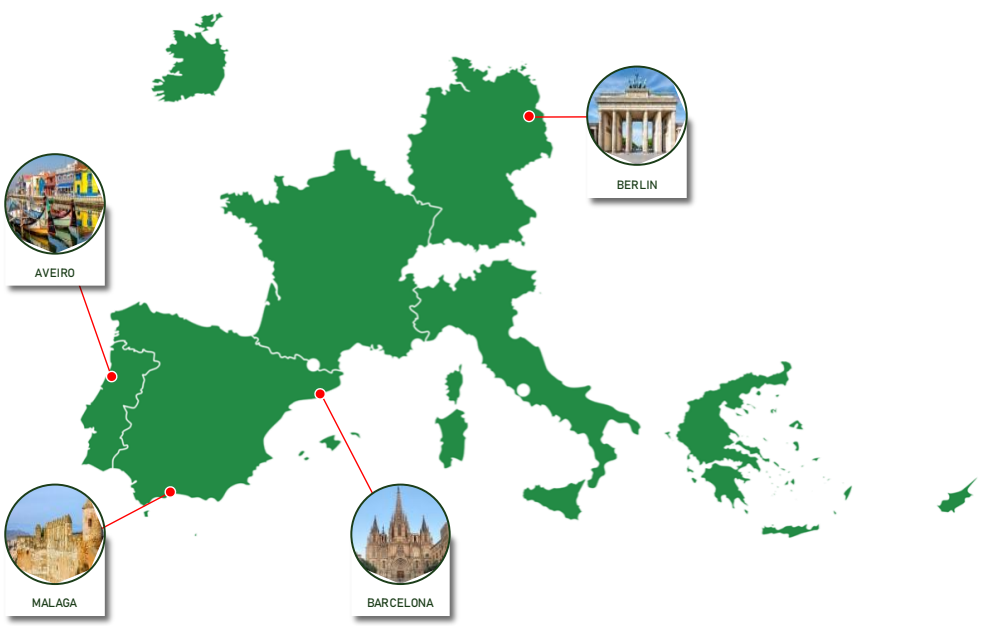
Suitable for Instantiation & Latency scenarios

Ideal for:
- Studying how a PPDR service can be instantiated, towards auto-recovery solutions
- Identifying the needs of these solutions, the time events, and the corrective measures that may have impact on the deployment time

Malaga

Suitable for QoS & Slicing scenarios

Ideal for:
- Studying the behaviour of PPDR solutions when a QoS management is available
- Identifying the needs of these solutions, the drawbacks detected during the project, and the corrective measures



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