



CELTIC-NEXT



Proposers Brokerage Day

18th September 2024, London

Pitch of the Project Proposal

AWARE: Advanced **W**ireless **A**I and **R**obotics for
Enhanced Cognitive Communication Continuum



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- **Main Benefit:**

- Revolutionizes user interaction with environments through advanced 6G networks

- **Added Value:**

- Enables resilient connectivity for robotics and smart services, enhancing situational awareness

- **Participation Incentives:**

- Engage in cutting-edge technology development
- Collaborate with leading experts and organizations
- Access to new markets and applications in 6G and robotics



Organisation Profile



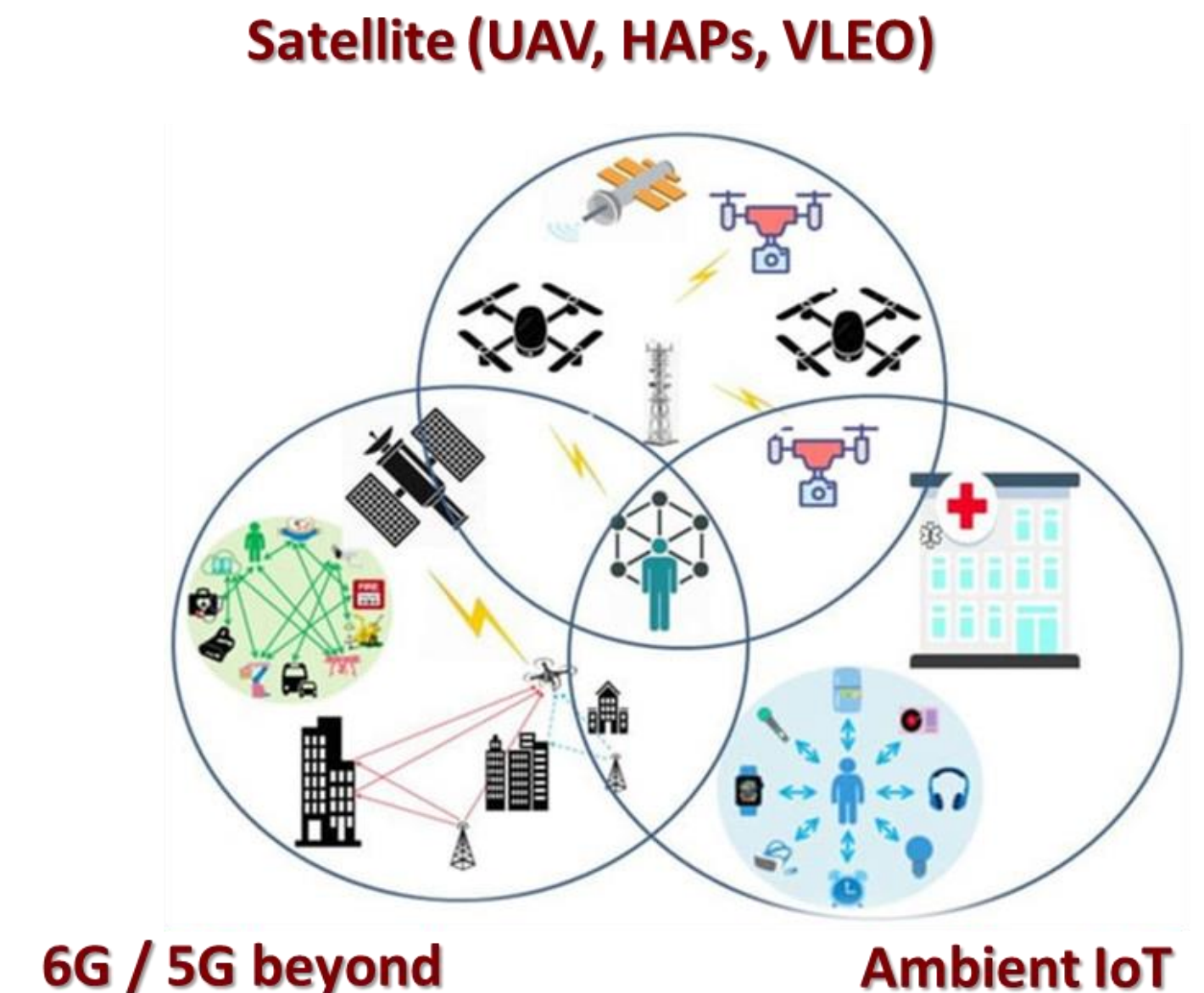
- **Organization Name:** Beyond Vision
- **Overview:**
 - Expertise in Electronics, Mechanics, AI, SW, Robotics
 - Experience in developing innovative solutions
 - Strong focus on research
- **Key Achievements:**
 - Several National and European projects
 - Manufacturer of UAVs for industrial applications

Vision: To create a unified 6G network that enhances user awareness and supports advanced robotics

Motivation: to enhance 5G network architecture and connectivity through the use of satellites for resilient coverage, particularly in emergency communication scenarios within dynamic environments

Content:

- Development of 3D networking for robust communication and sensing capabilities.
- Integration of Cognitive Communication Continuum (CCC) for intelligent network adaptation.





Proposal Introduction (2)



Expected Outcomes

- **Development of a Robust 6G Architecture:** Creation of an end-to-end AI/ML-based framework for integrated sensing, communication, cognition, and positioning.
- **Enhanced 3D Networking Capabilities:** Facilitation of precise positioning and navigation services, supporting applications such as UAVs and AMRs.
- **Intelligent Context-Aware Services:** Deployment of services that adapt to user needs and environmental conditions, particularly in emergency scenarios.

Impacts

- **Improved Emergency Response:** Enhanced communication reliability in dynamic environments, enabling faster and more effective emergency management.
- **Expansion of Smart Services:** New applications and services that enhance user awareness and interaction with their surroundings.
- **Advancements in Robotics:** Strengthened capabilities for safe autonomous systems operating in complex environments.

Project Schedule [Duration: 36 months] **Year 1:** Research and Development/ **Year 2:** Prototyping and Testing (Months 13-24)/ **Year 3:** Deployment and Evaluation (Months 25-36)



Partners



•Countries Involved:

• Portugal:

- **oneSource**: Emergency response platform provider, focusing on developing integrative components and multi-modal devices.
- **University of Lusofona**: Academic partner specializing in indoor localization/navigation for UGVs/AMRs.
- **Beyond Vision**: Specialists in drone manufacturing, enhancing advanced sensing and perception capabilities, and facilitating 5G and LEO connectivity over drones.

• Germany:

- **Huawei**: Experts in 6G network architecture for robotics and automation, contributing to the integration of 6G-enabled sensing and communication in robotic systems.

Expertise and Profiles Needed

- Organisations with expertise in: AI/ML, Robotics and Autonomous Systems, Mobile Network Operation, Network Architecture and Standardisation, Emergency Response Solutions, Sensing and Positioning Technologies

Types of Partners Sought

- **Academic** institutions for testbed set up and research collaboration
- **Industry** partners with related innovative technologies and interest in sustainable end-to-end service development
- **Stakeholders** in emergency management and response systems

Contact Info

For more information and for interest to participate please contact:

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Join the Consortium Building Session Thursday 19th at 14 CEST

[Join meeting](#)

Join by meeting number

Meeting number (access code): 2742 698 2597

Meeting password: gJKm9rRyU27

