6G-VERSUS

6G Vertical Trials for Sustainability

6G-VERSUS showcases the profound sustainable, economic, and societal impact of 6G technology driving the transition toward a more prosperous and sustainable future.
Through six cutting-edge **6G** vertical pilots on 6G testbeds **6G-VERSUS** demonstrates real-life use cases for 5 verticals.

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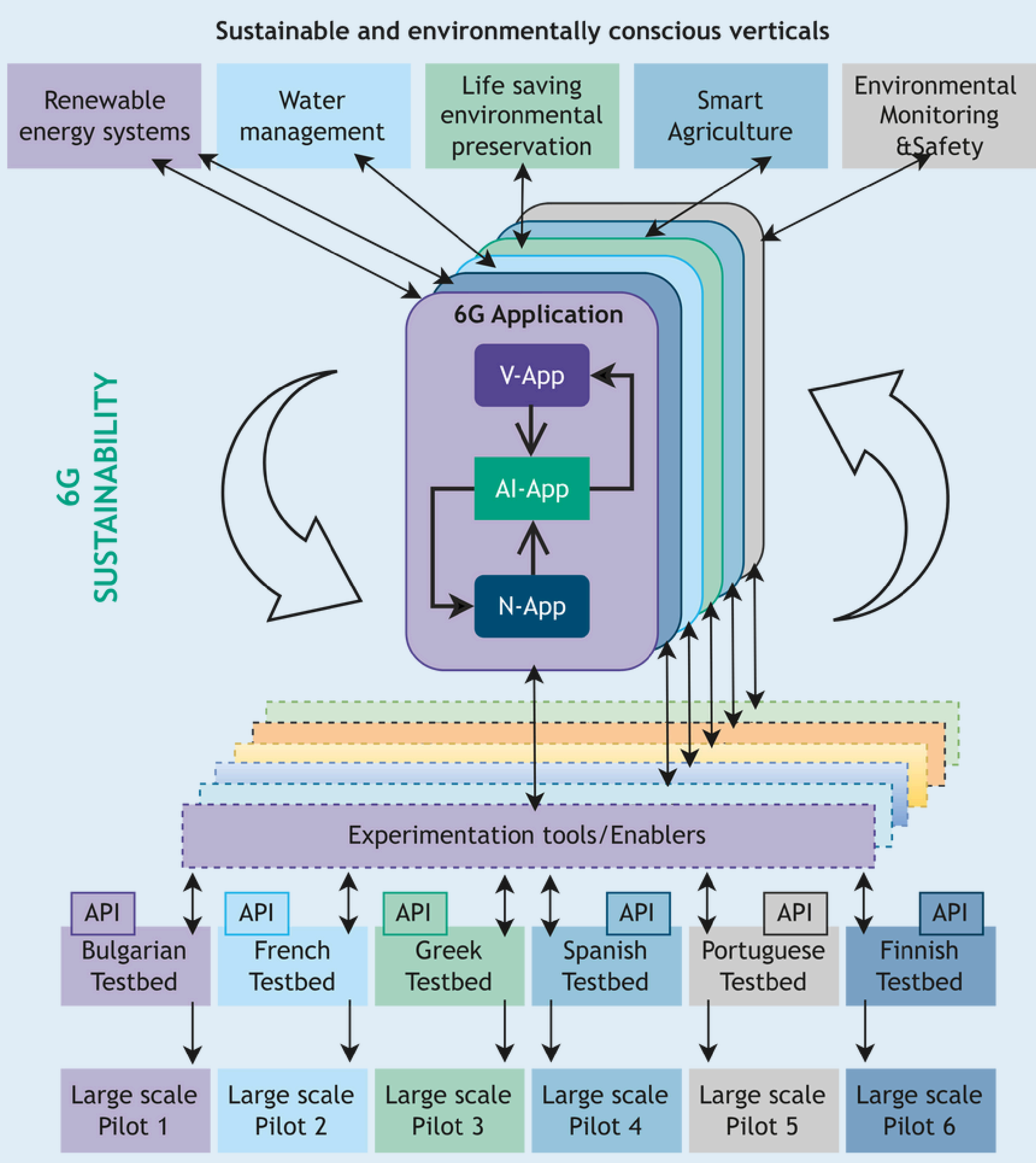
Objectives

- **Design and Develop a 6G-Enabled Application Framework for the triplet of V-app, AI-app and N-app**
- **Conduct 6G Trials to Assess AI, Network and Application Performance, concentrating on the principles of 'sustainable 6G'.**
- **Integrate Advanced 6G Applications across 6G-SNS and non-SNS testbeds (6G-SANDBOX, 6G-BRICKS, 6G-XR).**
- **Evaluate the societal and environmental impact of 6G trials to ensure alignment with sustainability goals and societal needs and create new business models.**
- **Maximize the impact and adoption of 6G-VERSUS results through extensive dissemination, communication, capacity building, standardization efforts, and exploitation measures.**

Concept



A novel methodology transforms use cases into 6G applications by integrating:

- Vertical Apps (V-App),
- Network Apps (N-App),
- AI-assisted Apps (AI-App).

The 6G applications core is a triplet of distributed yet fully interacting software components that enable AI-assisted vertical services and optimization in the resource use.

In particular, the triplet enables network resources to be monitored, allocated, and reconfigured in line with the vertical application needs (V-App → N-App), while also allowing the application to adapt its behaviour and service placement based on network state and constraints (N-App → V-App).

By embedding the AI-App as an intrinsic part of the triplet, the approach natively supports both network intelligence and application intelligence, enabling closed-loop optimisation, prediction, and policy decisions across connectivity and service layers. This well-defined triplet structure facilitates full integration of the three application types in a consistent manner, reducing integration effort and improving repeatability across pilots and trials.

Architecture

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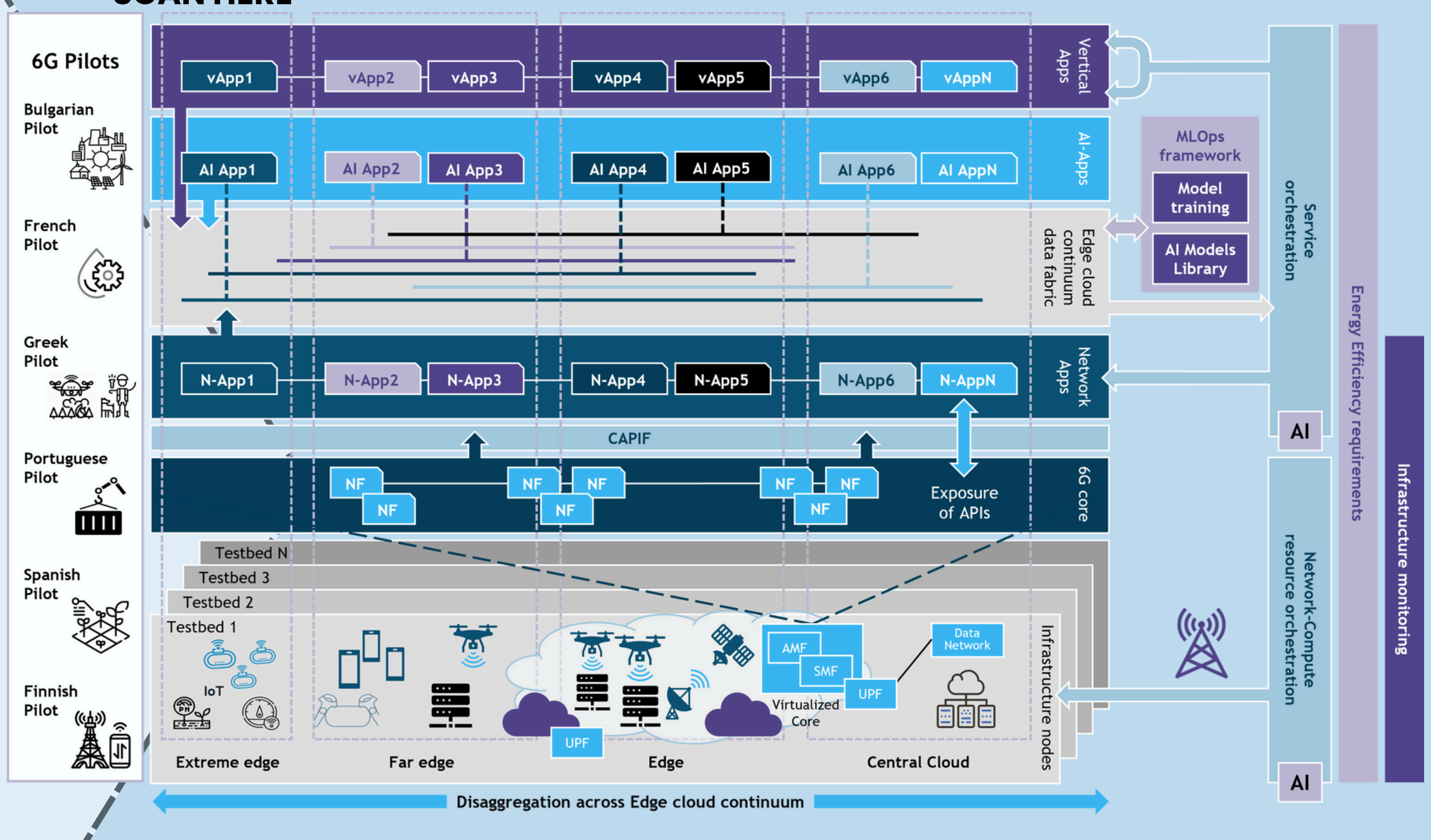

The 6G-VERSUS reference architecture is multi-layered, with the infrastructure layer at its foundation comprising six testbeds spanning the Edge-to-Cloud continuum, hosting computational resources, measurement tools, and end-user devices.

Pilots

6

Bulgarian Pilot: Utilizes AI to monitor and control distributed renewable energy sources, optimizing energy production and distribution.

French Pilot: Implements data-driven strategies for water and waste management in critical infrastructures, enhancing efficiency and reducing environmental footprint.

Greek Pilot: Employs collaborative robotics for Search and Rescue (SaR) operations, improving response times and safety of disaster response efforts, minimizing human risk and environmental impact.

Portuguese Pilot: Focuses on creating sustainable and safe port infrastructures, contributing to economic growth and environmental conservation.

Spanish Pilot: Develops immersive telepresence actuators for field operations, reducing the need for physical travel and its associated carbon emissions.

Finnish Pilot: Innovates with a self-sustainable 5G base station, paving the way for energy-autonomous communication networks.

34 Partners | 10 countries

13 academic and/or research organizations
10 industrial partners
9 SMEs
2 NGOs

Follow us!

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