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.

'sustainable 6G'.





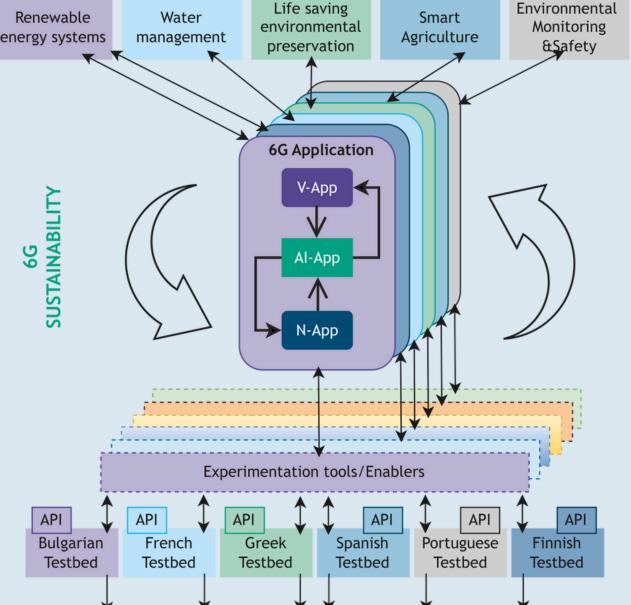
Objectives



Design and Develop a 6G-Enabled Application Framework for the triplet of V-app, Al-app and N-app

- Conduct 6G Trials to Assess Al, Network and Application Performance, concentrating on the principles of
- 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



Large scale

Large scale

Large scale Large scale

Pilots

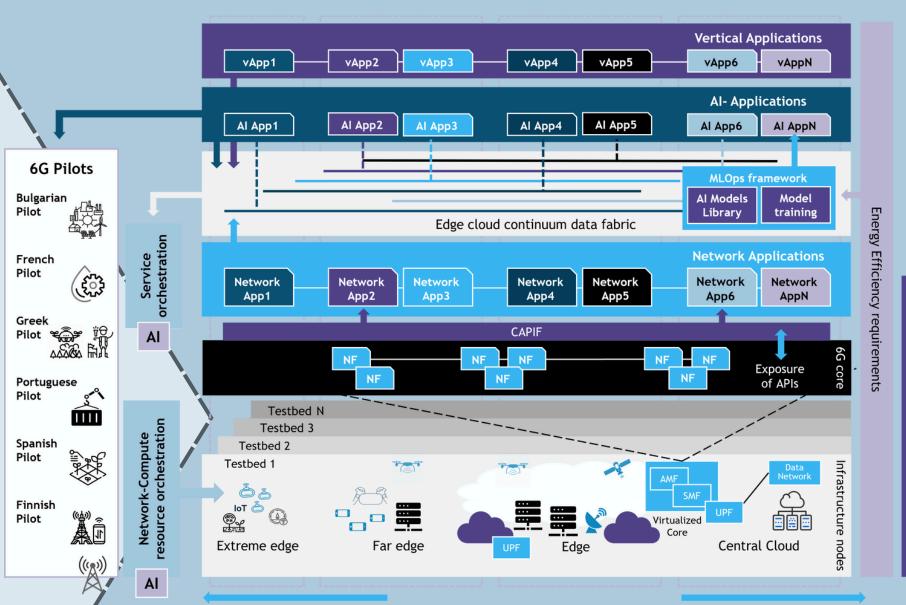
Sustainable and environmentally conscious verticals

6G-VERSUS introduces a novel methodology, in which the project will transform existing use cases into 6G applications by integrating:

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

The uniqueness of the proposed trials lies in redefining a typical use case as a 6G Application— a triplet of distributed yet fully interacting software components that together enable an AI-assisted vertical services and an optimization in the use of the 6G Resources.

Architecture



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.

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



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