

Press Release



Communication & Public
Relations Office, Promotion
and Development Sector

Telephone: 22894304
Email: prinfo@ucy.ac.cy
Website: www.ucy.ac.cy/pr



17 July 2025

The KIOS Center of Excellence at the University of Cyprus contributes to the development of sixth-generation (6G) networks and services

The KIOS Research and Innovation Center of Excellence at the University of Cyprus is participating in a pioneering research project titled 6G-VERSUS (6G Vertical Trials for Sustainability), funded by the European Union's Horizon Europe research and innovation program under the Smart Networks and Services Joint Undertaking (SNS JU). This project aims to demonstrate the profound sustainable, economic, and societal impacts of 6G technology by leveraging cutting-edge 6G research facilities across Europe.

The global push for sustainability demands innovative solutions that blend technological progress with strategic experimentation. Achieving these outcomes not only requires advanced technology, but also its effective application across diverse industries. Environmental challenges across multiple sectors underscore the need for transformative methodologies that integrate efficiency and sustainability.

The 6G-VERSUS project includes designed trials and pilots, to address pressing challenges in five environmentally conscious vertical industries. Each of the pilot clusters (PC1-6) outlined below focuses on a unique use case, showcasing the versatility and potential of 6G technology:

- **Bulgaria:** Testing an AI-driven optimization system for distributed renewable energy.
- **Greece:** Running a collaborative robotics pilot for search and rescue operations.
- **Spain:** Developing an immersive telepresence actuator for field operations.
- **Portugal:** Focusing on sustainable and secure port infrastructures.
- **France:** Exploring data-driven strategies for water and waste management.
- **Finland:** Piloting an energy self-sustainable 5G base station.

The project will introduce a novel methodology that transforms existing use cases into 6G applications, structured as Vertical, Network, and AI-assisted Apps. This triadic structure will optimize the data and control planes of 6G systems, facilitating seamless information flow and decision-making processes.

KIOS role in the project

The KIOS CoE research team at the University of Cyprus, led by Prof. Georgios Ellinas in collaboration with Assist. Prof. Panayiotis Kolios and Senior Research Associate Dr. Irina Ciornei will lead the Bulgarian use-case and will contribute to the innovative design, development, integration and testing of the AI-based 6G-triplet for sustainable smart grids.

The project's outcomes include (i) the development of a sustainable framework for applications that effectively utilizes the vertical, AI, and network app triplet within the 6G system; (ii) the development of trials leveraging the advanced features of sustainable 6G (such as resource optimization and energy efficiency); (iii) the enhancement and evolution of existing B5G testbeds (in terms of enablers, experimentation frameworks) and their adaptation to the capabilities of the 6G networks in order to fully support the 6G applications (vApp, AI-App, N-App) for the different verticals; and (iv) the clear demonstration, via the trials' results, of the societal, economic, business and market impact of the developed sustainable framework.

6G-VERSUS brings together 34 partners, including academic and research institutes, large industry players, telecom operators, NGOs and SMEs from 10 European countries. The project is coordinated by the University of Oulu, in Finland.



6G-VERUS is supported by the Smart Networks and Services Joint Undertaking (SNS JU) under the European Union's Horizon Europe research and innovation programme under Grant Agreement No 101192633.

Co-funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or SNS JU. Neither the European Union nor the granting authority can be held responsible for them.