

UNITY-6G OFFICIALLY LAUNCHED

January 29, 2025
Castelldefels, Spain

UNITY-6G has just been launched to develop a sustainable and scalable AI-native architecture tailored to the diverse demands of 6G networks

The UNITY-6G project, officially launched on January 1, 2025, has just kicked off its ambitious journey with a meeting hosted by the Telecommunications Technology Center of Catalonia (CTTC) in Castelldefels, Spain. This groundbreaking initiative, funded by the Smart Networks and Services Joint Undertaking (SNS JU) and Switzerland's State Secretariat for Education, Research, and Innovation (SERI), aims to address critical challenges in energy efficiency and sustainability for networked services. Over the next 36 months, UNITY-6G will harness cutting-edge technologies and the expertise of a world-class consortium to shape the future of connectivity.

DRIVING INNOVATION FOR A SUSTAINABLE FUTURE

UNITY-6G will focus on creating energy-efficient, integrated network infrastructures that converge heterogeneous domains, including integrated networks (non-terrestrial, non-public (e.g., Wi-Fi) and terrestrial (e.g., Open RAN)), IoT and distributed computing. " *UNITY-6G embodies a transformative step toward achieving energy-efficient, sustainable networks,*" said Dr. Engin Zeydan, UNITY-6G Coordinator. "By integrating *cutting-edge AI technologies with innovative network architectures, our consortium is dedicated to shaping the future of connectivity and tackling global challenges such as energy efficiency while promoting environmental sustainability in a broader sense.*" The project will leverage AI, machine learning, and distributed ledger technologies to enhance data security and build trust between stakeholders. It also aims to reduce the environmental impact of networked services.

The project will also address critical areas such as advanced resource allocation for integrated network resiliency, network service lifecycle management, and dynamic reconfiguration of network instances. By analyzing trade-offs between availability, resilience, performance and

energy efficiency, UNITY-6G seeks to define new metrics for integrated network optimization and sustainability, setting a benchmark for future networks.

A STRONG CONSORTIUM OF EUROPEAN LEADERS

To ensure the diverse skills and technical expertise required to achieve the project's ambitious objectives, UNITY-6G has assembled a robust consortium of 20 partners from 11 European countries. Led by UNITY-6G Coordinator, Dr. Engin Zeydan (CTTC), the partners were strategically selected to address the technical demands of the project and maximize the successful exploitation of its outcomes. The UNITY-6G consortium consists of two mobile network operators, three equipment and hardware/software vendors, a satellite operator, a smart-grid operator, two universities, five research centers, and six well-established SMEs.

KEY USE CASES TO TRANSFORM CONNECTIVITY

UNITY-6G will address four innovative use cases:

1. Sustainable networks for disaster handling,
2. Semantic-aware 6G networks for real-time XR/holographic communications,
3. Real-time 6G network evaluator based on digital twinning for sustainable networks,
4. Multi-RAT O-RAN enabled NPN for supporting time-sensitive applications for Industry 4.0.

all of which align with the project's goals of delivering reliable, efficient, and scalable solutions for real-world challenges.

EUROPEAN COLLABORATION FOR GLOBAL IMPACT

As one of 16 projects selected in the SNS JU's 2024 funding call, UNITY-6G represents Europe's commitment to sustainable innovation in next-generation networks. The project aligns with the European Green Deal and Sustainable Development Goals, contributing to a digitally connected, energy-efficient future. The outcomes of UNITY-6G are not only expected to benefit the European economy but also set the stage for global 6G standards and applications that will strengthen European industrial leadership and contribute to Europe's technological sovereignty.

ABOUT SNS JU

The European Smart Networks and Services Joint Undertaking (SNS JU), established in 2021 by EU Council Regulation No. 2021/2085, is a partnership between the European Commission

and the 6G Smart Networks and Services Industry Association (6G-IA). Combining public and industry interests, it is as a platform for collaboration and innovation in next-generation networks and services. Its two-pillar approach—supporting 5G deployment and advancing 6G research—ensures continuity for EU stakeholders while providing financial backing to top researchers, SMEs, and industry players to strengthen the EU supply chain. The initiative also promotes alignment with Member States on 6G research and fosters global cooperation to establish 6G standards. For more information about the SNS JU, please visit: <https://smart-networks.europa.eu>

For more information about UNITY-6G and its groundbreaking work, visit www.unity-6g.eu.

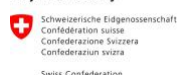


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