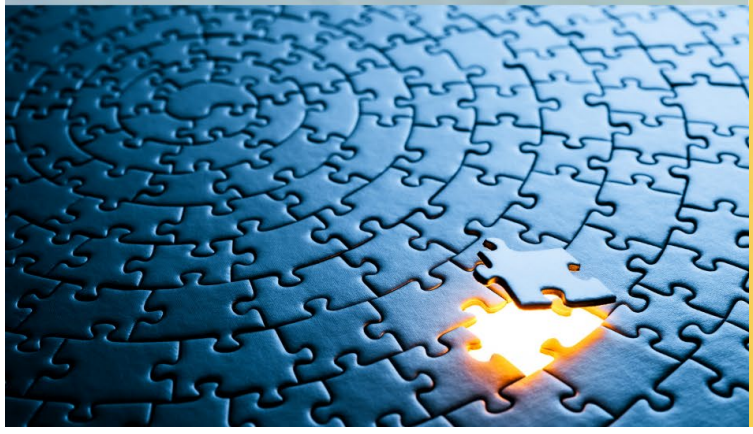
Project Consortium

24 partners & 10 European countries

NOKIA — Project manager

orange — Technical manager

b<>com · cea · CyberEthicsLab. · T · EDF · ERICSSON · EURESCOM Innovation through Collaboration · JOHN DEERE · KU LEUVEN · MD CREATE · UNIVERSITY OF OULU · ONE T · Politecnico di Torino · Qualtek · realwireless. · SIEMENS · TIM · uc3m Universidad Carlos III de Madrid · WINGS ICT SOLUTIONS



Contact details

Follow us on social media!

@sustain-6g

https://sustain-6g.eu/

@sustain-6g-project

info@sustain-6g.eu

SUSTAIN-6G

SUSTAIN 6G

SUSTAIN-6G project has received funding from the Smart Networks and Services Joint Undertaking (SNS JU) under the European Union's Horizon Europe research and innovation programme.

Grant Agreement Number 101191936

6GSNS

Co-funded by the European Union

SUSTAIN 6G

SUSTainability Advanced and Innovative Networking with 6G European Lighthouse project

https://sustain-6g.eu/

Project Objectives
6 sustainable goals

For 6GMethodology 6G Systems

1. Identify and understand sustainability needs and values
2. Define methodologies for sustainability definition and assessment
3. Enhance integration of vertical UCs with 6G and enabling technologies to jointly reduce footprint and maximise handprint
4. Enhance 6G technologies to reduce footprint and increase handprint
5. Validate, evaluate, and demonstrate sustainability value
6. Impact generation, sustainability guidelines and strategic roadmap

Objectives of SUSTAIN-6G: Advancing Sustainability in 6G Systems

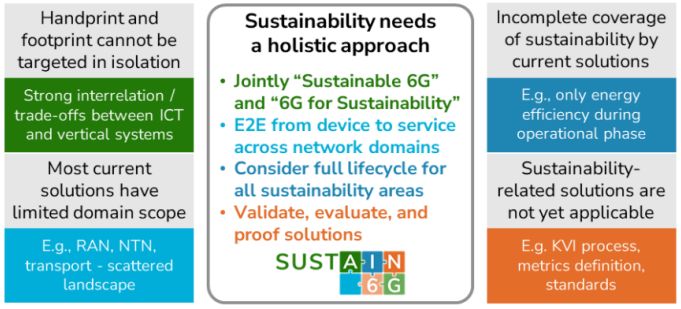
Project Motivation
6 dimensions

Sustainability with a holistic approach

TO OVERCOME THESE SHORTCOMINGS, SUSTAIN-6G WILL LEAD THE WAY TOWARDS A HOLISTIC PERSPECTIVE OF SUSTAINABILITY IN THE CONTEXT OF 6G.

The current work in research and standards towards sustainability in 6G systems has a set of key shortcomings:

- **Comprehensive Sustainability Approach:** Addresses six dimensions of sustainability (environmental, societal, and economic) across both "Sustainable 6G" technology and "6G for Sustainability" in vertical scenarios.
- **End-to-End Perspective:** Covers the entire network scope, from devices (e.g., sensors, vehicles, handhelds) to services (e.g., augmented reality, forecasting).
- **Lifecycle Consideration:** Includes all stages of assets, from design, planning, and deployment to operation, phase-out, and disposal.
- **Standardized Metrics:** Develops processes to define sustainability metrics and evaluate trade-offs and gains effectively.



Objectives of SUSTAIN-6G: Advancing Sustainability in 6G Systems

Project Scope
6 cross-points

Methodology for 6G Systems

ALIGNING WITH GLOBAL SUSTAINABILITY GOALS

SUSTAIN-6G integrates global sustainability goals, regulatory frameworks, and sector-specific requirements to guide technology collection and stakeholder needs across agriculture, e-health, and energy sectors.

ESTABLISHING SUSTAINABILITY METRICS AND PROCESSESY

Standardized metrics and methodologies, including ECO-design concepts, are developed to assess and enhance sustainability quantitatively and qualitatively in 6G systems.

6G AS A SUSTAINABILITY ENABLER

By addressing vertical sector needs, SUSTAIN-6G leverages 6G technologies to enable more sustainable practices in agriculture, energy, and e-health through innovative connectivity and data solutions.

ADVANCING SUSTAINABLE 6G TECHNOLOGIES

The project expands on promising technologies across network domains, including energy-efficient RAN, optical networks, AI-native solutions, and responsible AI for sustainable 6G systems.

PROOF-OF-CONCEPT AND VALIDATION

Through PoC collaborations, SUSTAIN-6G evaluates the sustainability impact of solutions and methodologies, ensuring practical implications for various verticals.

CONSOLIDATION AND GUIDELINE DEVELOPMENT

Insights and proven practices will be compiled into guidelines, roadmaps, and standards to embed sustainability into 6G and vertical ecosystems, fostering socio-economic and environmental improvements.