



# INTRODUCING HEROGRID!

Smart energy harvesting and transition for a reliable European electricity grid based on DLR model for HTLS powerlines.





# HEROGRID – ABOUT THE PROJECT

**HEROGRID** is a **European research and innovation project** funded under the Horizon Europe Programme – Project 101192630. Its main goal is to develop and validate a **new concept of Dynamic Line Rating (DLR) designed for High-Temperature Low-Sag (HTLS) powerlines**, using a **self-powered IoT sensor network**.

The project responds to one of the key challenges in Europe's clean energy transition: how to **increase electricity transmission capacity without building new infrastructure**.

**HEROGRID** proposes to achieve this by enabling smarter, data-driven operation of existing powerlines through **real-time monitoring, AI-based modelling, and energy-autonomous sensing technologies**.



# HEROGRID – ABOUT THE PROJECT



## KEY INFORMATION

**Project number:** 101192630

**Project name:** Smart energy harvesting and transmission for a reliable European electricity grid based on Dynamic Line Rating (DLR) model for High Temperature Low-Sag (HTLS) powerlines

**Project acronym:** HEROGRID

**Call:** HORIZON-CL5-2024-D2-01

**Topic:** HORIZON-CL5-2024-D2-01-04

**Type of action:** HORIZON-RIA

**Budget:** 2.494.207 €

**Project starting date:** 1 October 2025

**Project duration:** 36 months



# HEROGRID – OBJECTIVES

**HEROGRID** aims to develop and validate a **new concept of DLR** for **HTLS** powerlines, using **self-powered IoT devices** to improve the efficiency and reliability of electricity transmission across Europe.

To achieve this, the project will focus on three main **technological areas**:

1. **New AI-based DLR models** specifically designed for HTLS powerlines, enabling accurate real-time monitoring and predictive control of grid performance.
2. **Novel IoT sensor nodes** capable of operating under the high-temperature and environmental conditions typical of HTLS lines.
3. **Energy harvesting systems** that ensure full power autonomy of the sensors, combining **piezoelectric** and **thermoelectric harvesters** with an integrated power management system.



# HEROGRID – KEY BENEFITS



Power losses  
reductions



Lower grid operation  
and maintenance  
costs



Increased  
transmission  
capacity



Predictive analysis  
of demand  
and congestion



# CONSORTIUM



# HEROGRID – CONSORTIUM

With **6 partners** from 4 European countries, the **HEROGRID** consortium brings together complementary expertise across the entire value chain — from fundamental **research** and **energy harvesting technologies** to AI-driven modelling, **system validation** and project management.





**THANK YOU FOR  
YOUR ATTENTION!**

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