SINNOGENES

## **Demo#1** (Maia, Portugal): Multi-technology industrial microgrid at Sonae Campus

Industrial park located in Maia, in Porto Metropolitan Area, that includes office buildings, a chipboard factory and the refrigeration systems of a logistics hub.

# SINNOGENES

Storage INNOvations for Green ENErgy Systems

The SINNOGENES project will implement a redox flow and thermal battery storage system, managed by an advanced microgrid energy management system with optimization tools and a RES dispatch center for local and external plant control, ensuring greater flexibility and autonomy for the industrial microgrid.

The integration of RES combined with energy storage will help maximize self-consumption, while increasing the system flexibility to optimize energy consumption, specially in industrial processes (power and heat).

## FOLLOW ON SOCIAL

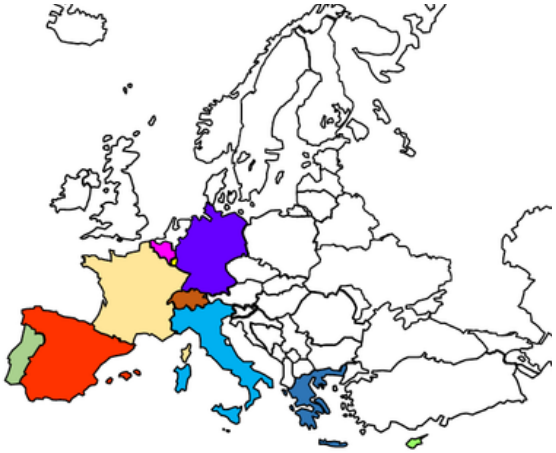
SINNOGENES

*Storage INNOvations for Green ENErgy Systems.*

Co-funded by the European Union

**This project has received co-funding from the European Union's Horizon programme under the Grant Agreement No. 101096992**

# Partners

## Demo #1 – Maia, Portugal


Demo #1 is located within a large industrial campus that hosts diverse activities with varying energy demands. This multi-energy system integrates multiple technologies, featuring a Vanadium Redox Flow Battery (VRFB), a lithium-ion battery a Photovoltaic (PV) system, supporting efficient and sustainable energy management across the site.

A **control system** is being developed to **manage and dispatch multiple energy assets across the industrial campus**. It will integrate various technologies, including a redox flow battery, and thermal energy storage, ensuring real-time supervision and seamless coordination. The system will also assess the flexibility of these assets for future services such as ancillary services and congestion management. Performance will be evaluated based on key pilot indicators, driving efficiency and sustainability in industrial energy management.

**Vanadium Redox Flow Battery**

- Max Power: 10 kW
- Stored Energy: 40 kWh

**Thermal Energy Storage**

- Innovative thermal energy storage system will be developed in the project, with new materials