



I3 Interregional
Innovation
Investments
Instrument



Funded by
the European Union

ENSA

European Energy Storage Alliance for
Innovative Interregional Investments in
Renewable Energy Value Chains



**Call
I3-2025-INV1**

INVESTMENT NEEDS ADDRESSED

Up to ~25% of renewable electricity risks being curtailed in EU power systems due to mismatches between supply and demand.



Energy storage solutions are critical to further increase the share of renewables in the energy mix, stabilising markets increasingly affected by price volatility and negative prices.

SMEs, especially in less developed regions, lack both the capital and knowledge to scale-up and/or adopt storage technologies, making **interregional collaboration and EU-wide value chain integration** essential.

ENSA INTERVENTION APPROACH



1. Diffusion of **technological and market expertise** to bridge the knowledge and innovation gap across developed and less developed regions.
2. Scaling-up and demonstration of innovative energy storage technologies applications, and **commercial deployment to attract financing** for large-scale projects combining renewable energy production and storage.
3. Establishment and/or expansion of **quadruple helix ecosystems**, securing the strong involvement of territorial authorities for the development of a **collaborative investment portfolio**.

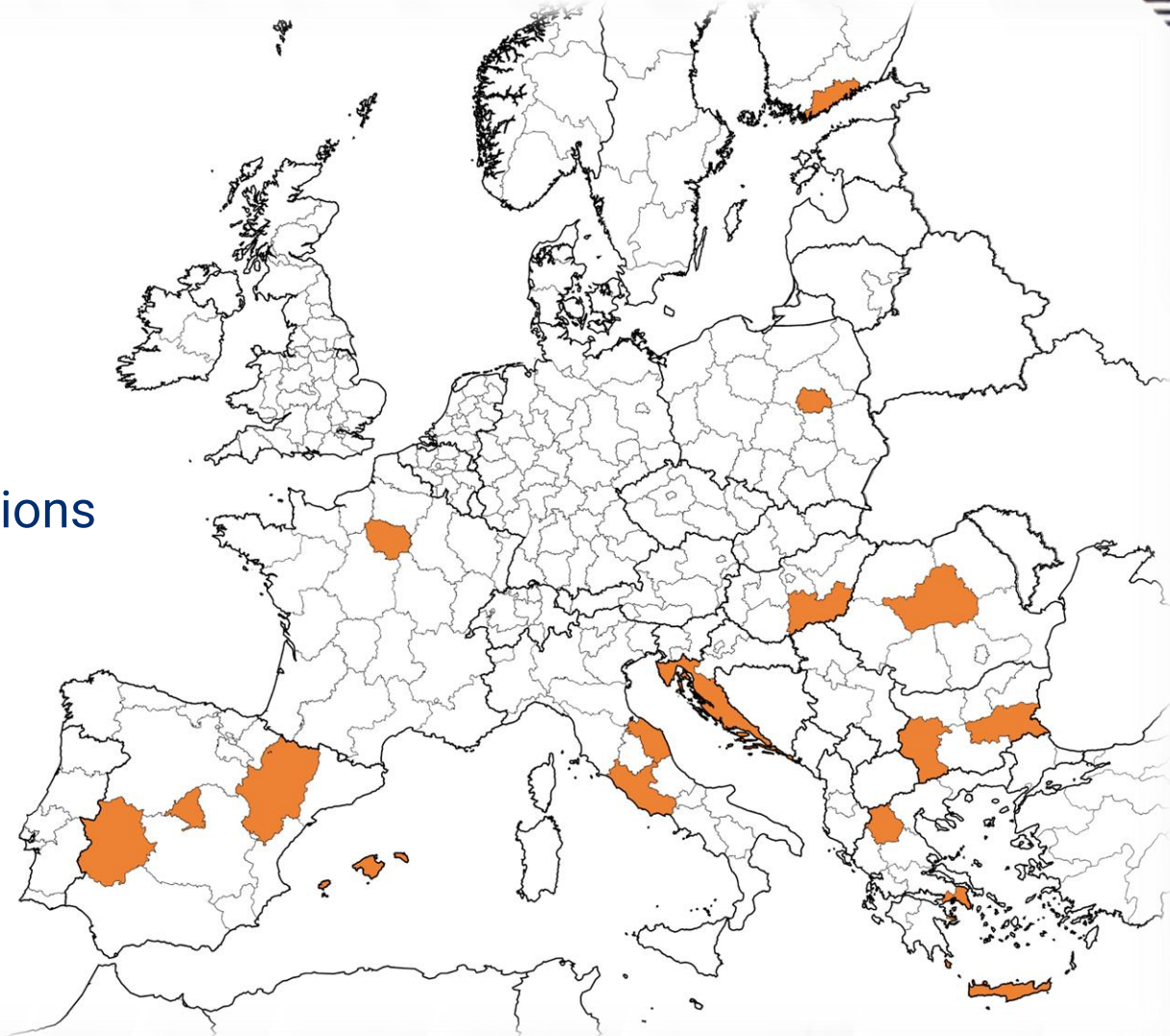


27 partners

- 11 EU countries
- 19 partners from less developed & in transition regions
- 7 partners from more developed regions



**Total budget:
€10.016.948**



9 Renewable energy operators and integrators

- ▶ **ALCORT** (ES)
- ▶ **ENDEF** (ES)
- ▶ **Solartech Investment Kft.** (HU)
- ▶ **Regioplan EOOD** (BG)
- ▶ **Zadar Energija** (HR)
- ▶ **Energy Tech Entera** (RO)
- ▶ **REPOM** (RO)
- ▶ **Forte Renewables** (PL)
- ▶ **Wattcrop** (GR)

6 Associations, clusters, and advisory organisations

- ▶ **APPA Renovables** (ES)
- ▶ **Cluster TEIB** (ES)
- ▶ **Innovela** (BE)
- ▶ **PROTASIS** (GR)
- ▶ **EXELIA** (GR)
- ▶ **MMBB Media** (IT)

27

9 Technology developers & research institutions

- ▶ **University of Western Macedonia** (GR)
- ▶ **Hellenic Mediterranean University** (GR)
- ▶ **ENEA** (IT)
- ▶ **Nanofaber** (IT)
- ▶ **Teraloop** (FI)
- ▶ **Green Innovation** (BG)
- ▶ **Cambio Energético** (ES)
- ▶ **INNOVO** (RO)
- ▶ **Epyr** (FR)

3 Regional energy and development agencies

- ▶ **AGENEX** (LP-ES)
- ▶ **SZ REDA** (BG)
- ▶ **AGRRA** (HR)

ENSA ENERGY STORAGE SOLUTIONS PORTFOLIO

- ▶ **SHORT-TERM storage solutions** suitable for grid frequency regulation:
 - Superconducting Magnetic Energy Storage
 - Magnetically levitated flywheel
- ▶ **MEDIUM-TERM storage solutions**, suitable for shaving demand peaks and balance supply and demand:
 - Sodium-Ion Battery and Electrospun Separator
- ▶ **LONG-TERM storage solutions** suitable for addressing seasonal discrepancies between energy production and demand:
 - Integrated Green Hydrogen Production and Metal-Hydride
 - High temperature ceramics
- ▶ **DIGITAL TOOLS** that directly increase the cost-effectiveness of storage solutions:
 - Integrated energy storage and smart management system
 - AI-driven optimisation platform for energy storage
 - Smart energy management system (BESS)



INVESTMENT PREPARATION AND DEPLOYMENT ACTIVITIES

- ▶ **Precommercial validation** (LCA, IP management, certification standards, cybersecurity assurance) and **go-to-market strategies** for the ENSA storage solutions.
- ▶ **Accelerator** and **Skills Development and Mentorship** programmes for SMEs to overcome barriers to innovation and value chain integration.
- ▶ **ENSA Innovation Network and 4 Innovation Hubs** to support matchmaking and synergies for interregional collaborative large-scale investments.
- ▶ **Open call for cascade funding** directed to SMEs for last-mile actions to reach TRL9 and contribute to the **ENSA investment portfolio**.
- ▶ **Institutional support** through the direct involvement of S3 CoPs, Thematic Smart Specialisation Partnerships, ERDF managing authorities and S3 competent bodies.



ADDED VALUE (WHY FUND ENSA)

- **Focus on market-ready storage solutions**

High TRL-level, responding to existing market demand.

- **Optimised technology combinations**

Investments tailored to territorial needs, use cases, and grid flexibility requirements.

- **“No one left behind” principle**

Bridging the innovation divide by focusing on less-developed regions.

- **Quadruple helix approach**

Value chain integration of R&D, industry, policy, and civil society.

- **Quantified impact**

Interregional investments valued at >€80M within 1 year (~2-3 energy storage projects) and €450M within 3 years (~8-18 projects, depending on size); 150 SMEs directly improving market competitiveness by acquiring access to innovative energy storage solutions; 500 SMEs benefitting from transfer of business planning and market knowledge.

