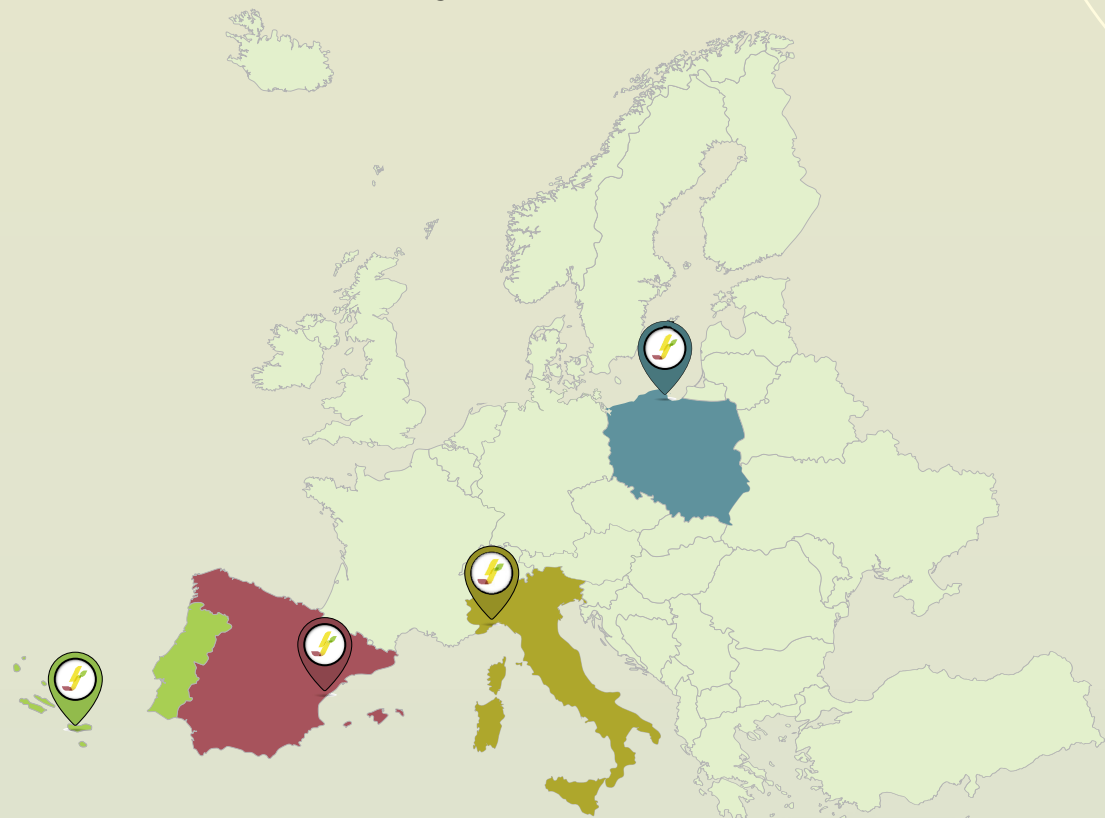


ABOUT JOULIA

JOULIA aims to accelerate the energy transition in the industrial sector with two innovative electric heating processes that enhance flexibility, energy efficiency, and renewable energy integration. The project will showcase induction and microwave heating technologies for rubber vulcanisation and glue activation in multilayer pipe production, optimised through digital models and process simulations. Key focus areas include health and safety, predictive maintenance, scalability, and replicability, while the project also aims to foster awareness, develop business models, and provide tailored training to support industry adoption.

With 16 partners across 7 EU countries, JOULIA will drive decarbonisation in energy-intensive industries, enhance sustainability, and strengthen industrial resilience and competitiveness.



7 Countries

2 Demosites

4 Years

Rubber and Plastic Sector:

At **ART**, JOULIA will retrofit a **Rotary Curing Press (Rotocure)** with induction heating, ensuring uniform heat distribution up to **220°C**, **500-700 kg/h** production, and **25%** lower energy consumption.

At **K-FLEX**, **microwave heating** will replace conventional adhesive activation in multilayer pipe production, enabling precise glue activation up to **100°C** and **40%** energy savings.

Techno-economic studies, supported by **ART** and **K-FLEX**, will assess insulation rubber and rubber granule vulcanisation.

Food Sector:

Replication studies will focus on induction heating in **animal feed production** and **microwave - assisted biscuit production**, with support from **FNC**.

Ceramic Sector:

Replication studies will focus on **thermal sintering of enamel** via induction heating and **grit particle coating** via microwave, with **TORRECID** providing industrial support.

JOULIA WILL COLLABORATE AND INNOVATE TO

1

Develop highly efficient and safe electric technologies and equipment that replace fossil based heating systems in the rubber and plastic sector.

2

Develop and implement digital tools to improve the electric processes flexibility and to increase their safety and reliability with predictive maintenance.

3

Carry out a complete validation and demonstration program up to TRL 7 of the advanced electric heating technologies in 2 different industrial demosites.

4

Establish a roadmap for the replication of JOULIA solutions, considering economic viability, as well as the technical and regulatory obstacles in a large-scale deployment.

5

Assure a successful communication, dissemination and exploitation of the project, through strategic and business-oriented commercialization plans.

CONSORTIUM



artigo



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