



# DigiRES

AI-powered Internet-of-Energy platform



[www.digi-res.eu](http://www.digi-res.eu)



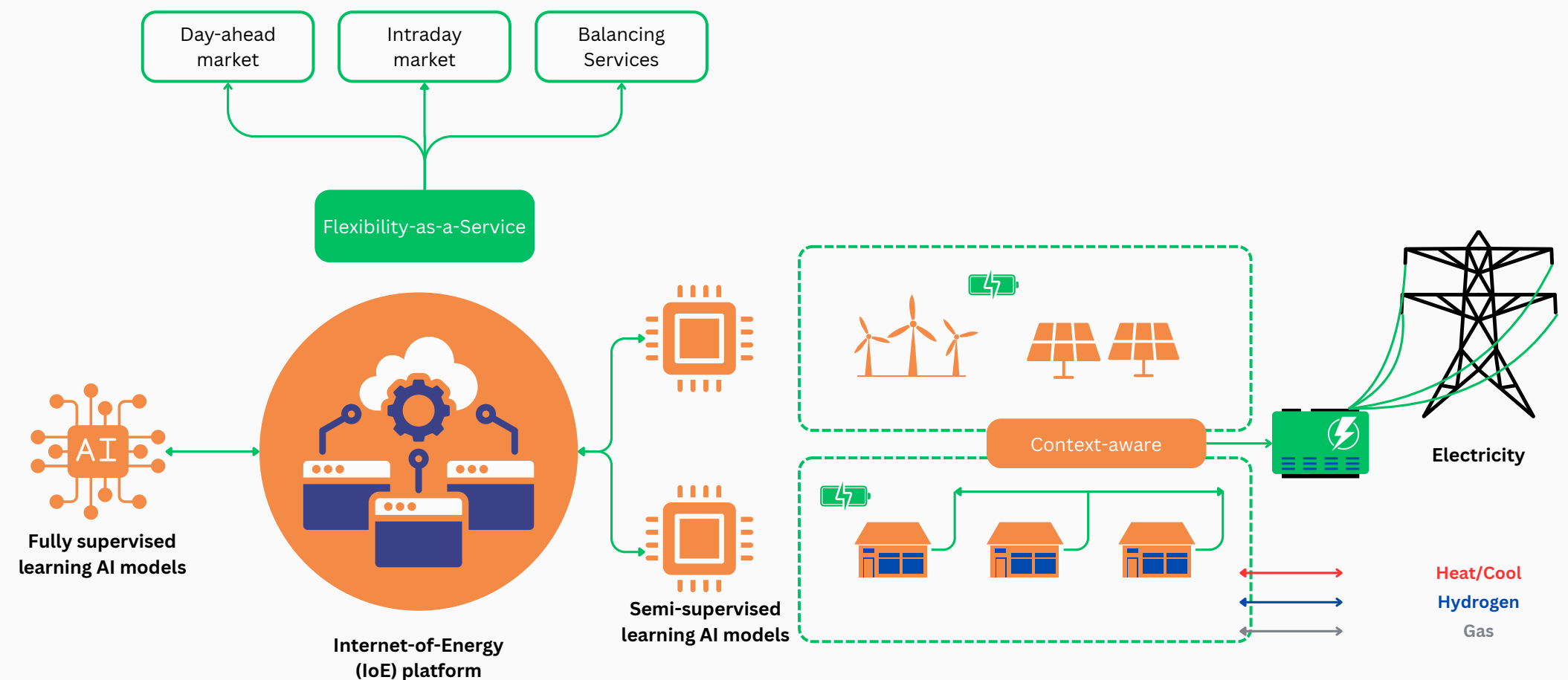
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This project has received funding from the CETPartnership research and innovation program.

# Concept

- The **DigiRES** project aims to enable the concept of **Flexibility-as-a-Service (FaaS)** by integrating a wide range of multi-energy flexibility assets into accessible market services. By developing an advanced **Internet-of-Energy (IoE)** platform and leveraging **AI** technologies, **DigiRES** supports a resilient, secure, and decarbonised regional energy transition.
- This platform connects local and regional assets and empowers stakeholders to participate in flexibility markets while preserving data privacy through **semi/self-learning AI models**.



# Objectives

**DigiRES** combines technological innovation, market models, and stakeholder engagement to drive the regional energy transition through:

## 1. FaaS Market Enablement

- Develop user-centric **financial models** and **business propositions** for **SMEs** and public-private **actors** to deliver flexibility **services** across Europe.

## 2. AI-Driven Flexibility Optimization

- Design context-aware **forecasting** and control **strategies** for **energy systems** across spatial (building–district) and temporal (day-ahead–real-time) scales using **privacy-preserving AI**.

## 3. IoE Platform & Scalable Deployment

- Develop an advanced **Internet-of-Energy** platform to aggregate diverse **assets** (e.g., PV, BESS, EVs, heating) and validate them through demonstrations in **3 EU countries**.



# Impacts

The **DigiRES** project will promote a resilient, citizen-driven **energy transition** across Europe through **six key impacts**:



## Secure and Fossil-Free Regional Energy Systems

**DigiRES** enables integrated local and regional **energy systems** with high renewable **energy penetration** and improved resilience, reducing **dependency** on fossil fuels.



## Synergies Across Energy Carriers and Sectors

By **combining** electricity, heat, and local fuels, **DigiRES** facilitates **sector** coupling across transport, industry, and buildings, **enhancing** flexibility and sustainability.



## Active Participation of Citizens and Stakeholders

The project **empowers** citizens, SMEs, and public actors to **co-create** and **benefit** from flexibility **markets** through inclusive business **models** and **tools**.



## Supportive Regulatory and Market Frameworks

**DigiRES** delivers implementation **guidelines** and **regulatory** insights to **support** the creation of local flexibility **markets** and overcome legal and **governance challenges**.



## Replicability and Scalability of Innovation

**DigiRES** develops modular solutions, **tools**, and **guides** that can be adapted and scaled to diverse **European energy systems**, ensuring widespread **impact**.

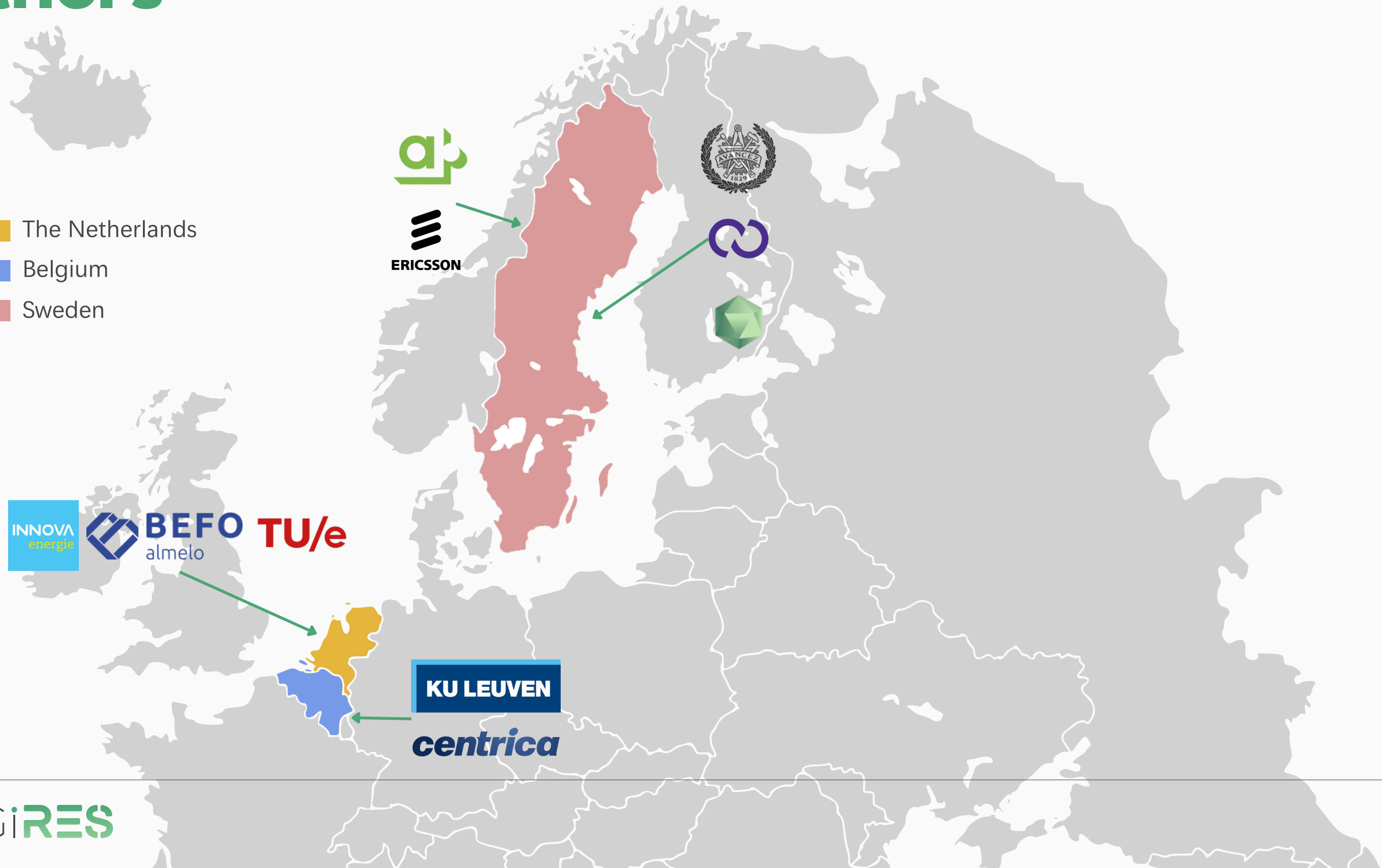


## Transnational Collaboration and Knowledge Transfer

With partners in the **Netherlands, Sweden, and Belgium**, **DigiRES** fosters cross-border **learning** to support energy transitions across varied **socio-economic contexts**.

# Partners

-  The Netherlands
-  Belgium
-  Sweden





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