



# Renaissance



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## Renewable integration and sustainability in energy communities

Renaissance project is an Innovation Action supporting clean production and shared distribution of energy in local communities. It aims to deliver a community-driven, scalable and replicable approach to implement new business models and technologies in the energy market.

### CONCEPT

Renaissance project will develop a comprehensive benchmarking model, to significantly improve the uptake of local integrated energy grids, likely reducing consumer prices by at least by 10%-15%.

### TOOLS VALIDATION

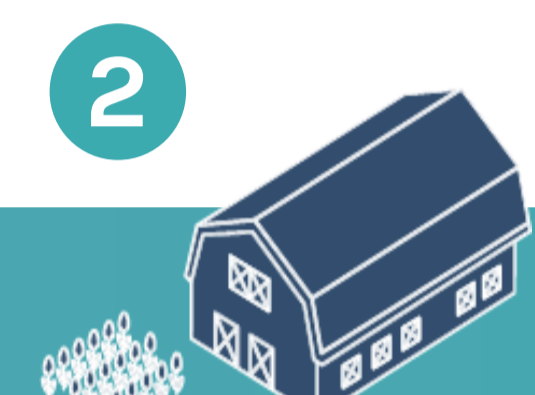
The tools developed are using energy data, meteorological data and trading data collected in all pilots since the beginning of the project. During the following months the tools will undergo through test, assessment and validation processes and their scalability will be demonstrated in the project's real-life pilots in The Netherlands, Spain, Belgium and in Greece.

### PILOT SITES IMPLEMENTATION



**DEMONSTRATOR SITE**  
**Ski village resort**  
MANZANEDA, ES

Manzaneda successfully implemented an e-charger, innovative SCADA systems and data integration of all assets to ensure grid stability.



**DEMONSTRATOR SITE**  
**Suburban municipality**  
EEMNES, NL

Eemnes is holding citizens' onboarding events to launch Peer2Pool energy trading to increase local RES uptake and bills reduction.



**DEMONSTRATOR SITE**  
**Health university campus**  
BRUSSELS, BE

Jette recently finalised the digital twin of the campus hospital allowing simulations towards higher safety and load control.



**DEMONSTRATOR SITE**  
**Student community campus**  
KIMMERIA, EL

Kimmeria installed additional thermal storage and one ORC turbine, while also involving students in responsible consumption campaigns towards higher uptake of locally produced energy.

The project developed a set of tools for clean integrated energy systems in any local environment.

### MAMCA Methodology:

Ensures all needs are included while developing business models scenarios

### RENERGISE tool:

Allows multi-vector optimisation of an energy community in the design and investment phase

### ROP platform:

Manages safely consumption, production and transaction data, offering users a social engine discussion platform

### Engagement strategy:

Involves students in energy challenges and give them access to their energy consumption dashboard thanks to smart metering

## Renaissance progress

### Contacts

#### Coordination

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### Interoperability

The interoperable platform is ready to interconnect demonstrators. Data forecasting modules:

- Flexibility & DR & Energy forecasting tools
- Energy market price forecasting tool
- DSS services:
- GSSE grid stability simulation engine
- Self-portfolio energy balancing
- Asset handling using FRD data

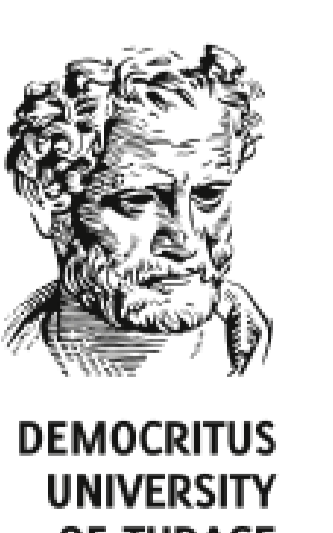
### Scalability

Business models have been identified and the assessment model has been developed. Customised smart contracts have been created and they will be validated in the four different European pilot sites. Moreover, a virtual energy community including all pilots will be simulated in order to demonstrate the RENAISSANCE approach scalability.

### Replicability

Virtual demonstrators in Eastern and Southern Europe, India, South America, Africa are available to test the RENAISSANCE approach, sharing local community energy data and testing the project tools to ensure replicability of solutions in any type of local energy system. In total more than 500 among end-users, cooperative members, prosumers and municipalities participated in the MAMCA surveys.

## Consortium



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