

Smart solution for sustainable building



Prescient building Operation utilizing
Real Time data for
Energy Dynamic Optimization

Introduction

PRELUDE

represents the improvement
of the buildings smartness through:

- minimization of energy utilization (cost saving solutions);
- maximization of self-consumption and Renewable Energy Sources investment and personalization;
- reduction of CO₂ footprint;
- improvement of comfortable and healthy indoor conditions.

This will be possible through the combination of innovative, smart, low-cost solutions and proactive optimization service.

Project overview



Designed to be versatile and to adapt to the engagement, monitoring and automation level of the building.

Passive solutions, such as natural ventilation and cooling, will be prioritized through a free running strategy.

Predictive maintenance will be implemented to reduce costs, emphasizing RES (Renewable Energy Sources).

Big data and advanced analytic tools will be used to facilitate flexible building side demand and ease the integration into district heating and electricity grids.

Proactive optimization will be achieved through data predictive control.

Impacts



Maintenance cost reductions: equipment is maintained at a high level of performance rather than waiting for something to fail.

Significant decrease of energy use in buildings through application of technologies (dynamic models, big data analytics, predictive analytics, artificial intelligence).

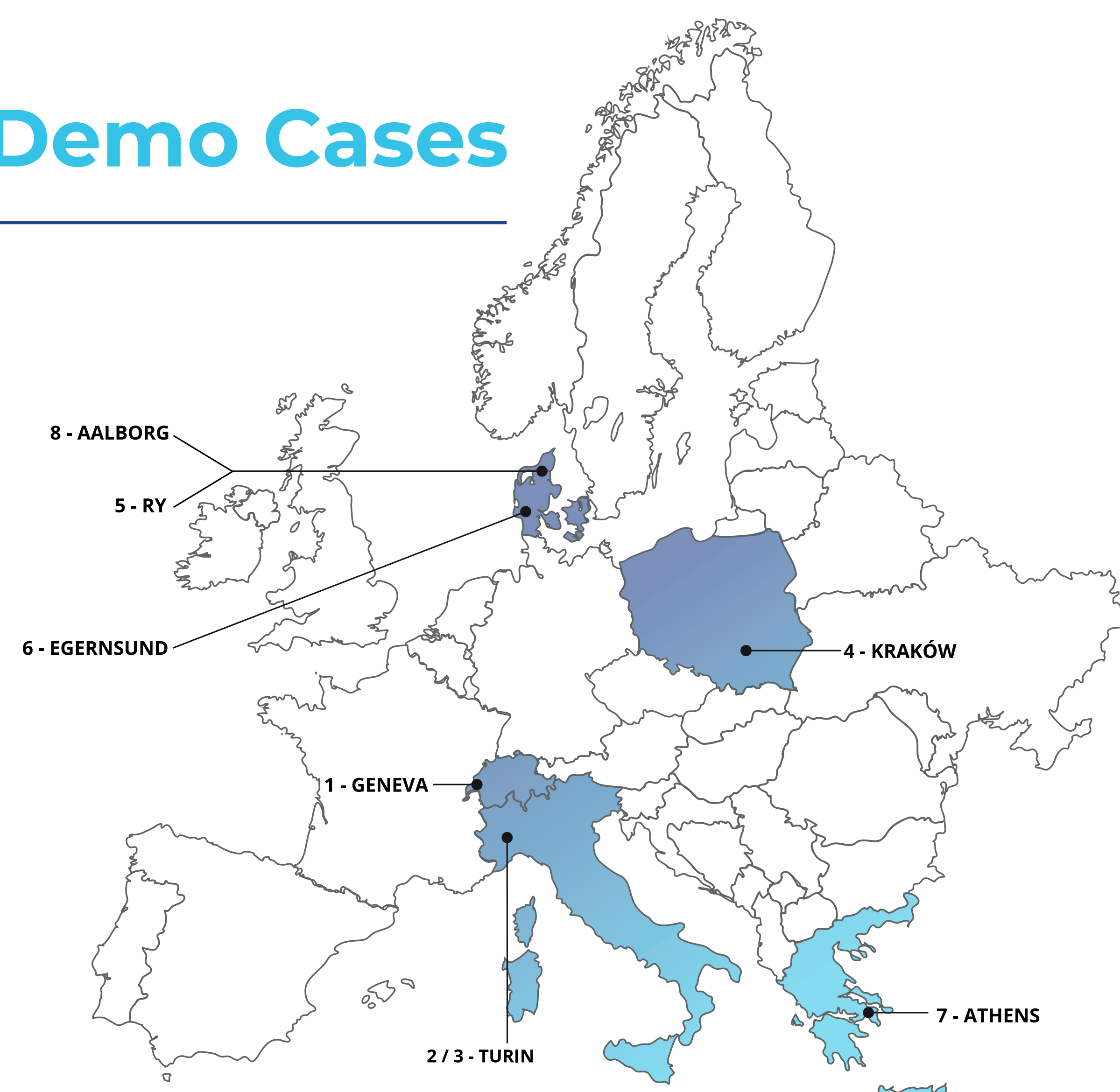
Improved indoor environment quality and user satisfaction.

High replication potential: by 2027, approximately 5.5 million m² of residential heated area will be optimized.

Optimisation of the use of RES by increasing their value and their consequent use and investment.

Contribution to standards, namely the establishment of a Smart Readiness Indicator.

Demo Cases



Location of the site	Partner
1. Geneva, Switzerland	CPEG / Estia
2. Turin, Italy	IREN / POLITO
3. Turin, Italy	IREN / POLITO
4. Kraków, Poland	BLOK ARCHITEKCI

Location of the site	Partner
5. Ry, Denmark	Aalborg Univ.
6. Egersund, Denmark	Aalborg Univ.
7. Athens, Greece	DAEM
8. Aalborg, Denmark	Aalborg Univ.

Partners



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