

4RinEU

Reliable models for deep renovation

THE CONTEXT

A big part of Europe's building stock is inefficient in terms of energy use, mainly as a consequence of excessive heat losses through building envelopes and lack of efficiency of the HVAC systems.

Very few buildings are undergoing deep renovation, and when it happens it

results often more expensive than initially foreseen.

Renewable energy production is still often underestimated, even if there is throughout Europe a big availability of RES.

THE PROJECT GOAL

4RinEU will minimize failures in design and implementation, manage different stages of the deep renovation process, from the preliminary audit up to the end-of-life, and provide information on energy, comfort, users' impact, and investment performance.

The 4RinEU deep renovation strategy to encourage large scale renovation of existing buildings is based on 3 pillars.

THE STRATEGY



ROBUST TECHNOLOGIES

TO REDUCE ENERGY DEMAND



Prefabricated Multifunctional Façade



Comfort Ceiling Fan Smart Operation



USABLE METHODOLOGIES

TO ACCURATELY UNDERSTAND RENOVATION ISSUES AND POTENTIALS



Cost-Optimal Energy Audit



RELIABLE BUSINESS MODELS

TO IDENTIFY THE LEVEL OF RISK AND TO ENABLE WELL-FOUNDED INVESTMENTS



Cost-effectiveness Rating System



Plug&Play Energy Hub (PPEH)



Early-RENo



Investor and Building User-Oriented Design Platform based on BIM

TO IMPROVE BUILDING OPERATIONS



Sensible Building Data Handler

TO REDUCE CONSTRUCTION WASTE

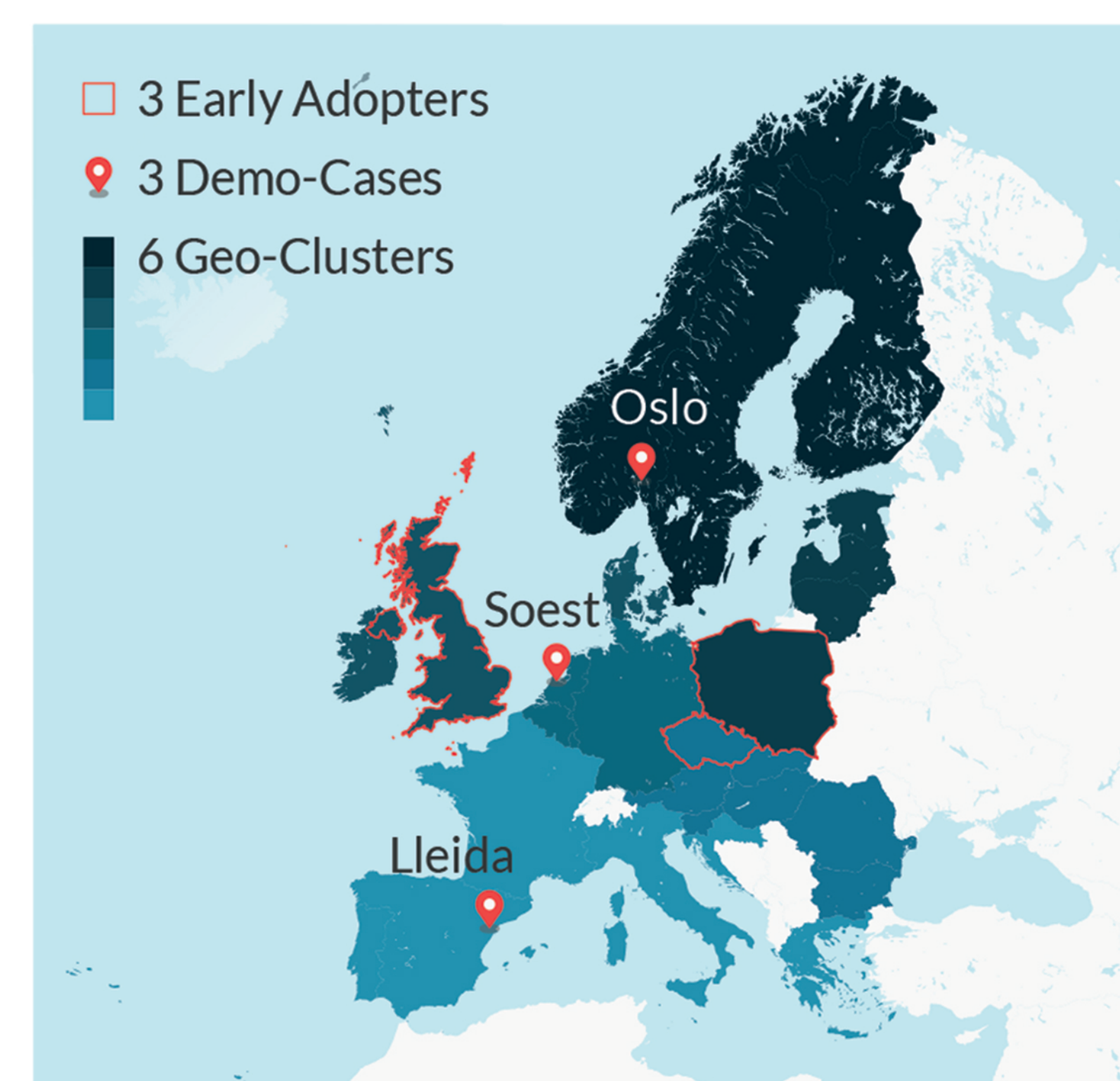


Strategies for Components End-Of-Life

TO REDUCE CONSTRUCTION TIME AND FAILURES



Deep Renovation Implementation Management



STRATEGY VERIFICATION

In order to ensure the broad applicability, 4RinEU approach and technologies will be completely implemented in 3 Demo-Cases and tested with 3 Early Adopter Buildings, placed in 6 different Geo-Clusters throughout Europe.

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