ReCO2ST

Residential retrofit assessment platform and demonstrations for near zero energy and CO2 emissions with optimum cost, health, comfort and environmental quality.

Plan it right! Do it right! Get it right!

SUSTAINABLE PLACES

Per Heiselberg
Coordinator
Aalborg University

AALBORG UNIVERSITY
DENMARK

Overview - Key figures

- Project period: January 2018 – June 2021
- Total Budget: € 8.415.619
- EU Contribution: € 6.914.690
- No. of partners: 17
- No. of SME partners: 7
- Demonstration sites: Denmark, Spain, Switzerland, United Kingdom
- Countries participating: Austria, Belgium, Denmark, Germany, Greece, Ireland, Spain, Switzerland, United Kingdom

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Consortium

Project Coordinator: Prof. Per Heiselberg, Aalborg University, Denmark
Technical Manager: Prof. Maria Kolokotroni, Brunel University London, UK
DEC Manager: Prof. Denia Kolokotsa, European Cool Roofs Council, Belgium

Project Partners:

Austria:	Alchemia-Nova GMBH
Belgium:	European Cool Roofs Council
Denmark:	Aalborg University
	Horn Group
	Frederikshavn Boligforening
Germany:	VA-Q-TEC AG
Greece:	Core Innovation and Technology
Ireland:	University College Cork
	United Technologies Research Centre
Spain:	Universidad de Cadiz
	Acciona Construction SA
	Ayuntamiento de Cadiz
Switzerland:	Estia SA
	Groupe E Greenwatt SA
	Quantis
	Retraites Populaires
United Kingdom:	Brunel University London

The role of buildings in the green transition of the energy system - 2050

- Focus on **cost optimality on system level**, i.e the socio-economic balance between energy savings and RE production
- Focus on a **"holistic view" on renovation** of the existing building stock
- Focus on **realizing energy efficiency** improvements and energy savings
- Focus on more efficient use of renewable energy production, peak power reduction and secure power capacity through **Energy Flexible and Grid-Supportive Buildings**

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ReCO2ST Solution Summary

Objective

- To develop a refurbishment process delivering refurbishment scenarios customized to end-user needs and applicable to a wide variety of residential buildings.

Pilots / demo

Frederikshavn
Denmark

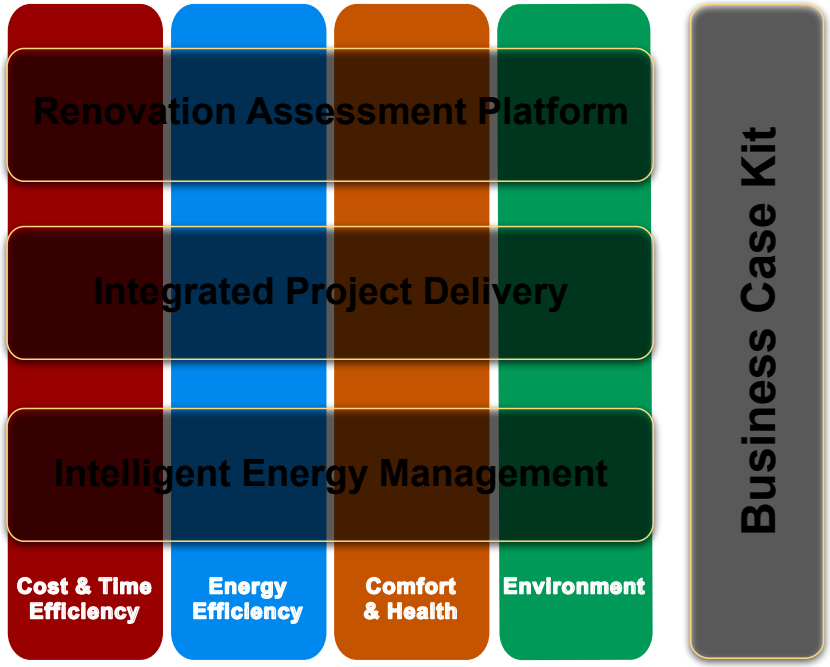
Vevey
Switzerland

Cadiz
Spain

Uxbridge
United Kingdom

The solution / key results

- ✓ **Refurbishment Assessment Platform** to provide the customer with clearly defined, user-driven refurbishment scenarios and empowering the decision making of the building owner
- ✓ **Integrated Project Delivery** method for planning and optimization of construction and installation
- ✓ **Intelligent Energy Management System** with a graphical user interface or optimization of operation and energy management process
- ✓ **Retrofit-Kit** featuring a compendium of cost efficient and modular technologies to be used for NZEB renovation
- ✓ **Business-Case-Kit** enabling building owners to analyze and optimize the business case for a specific building renovation case



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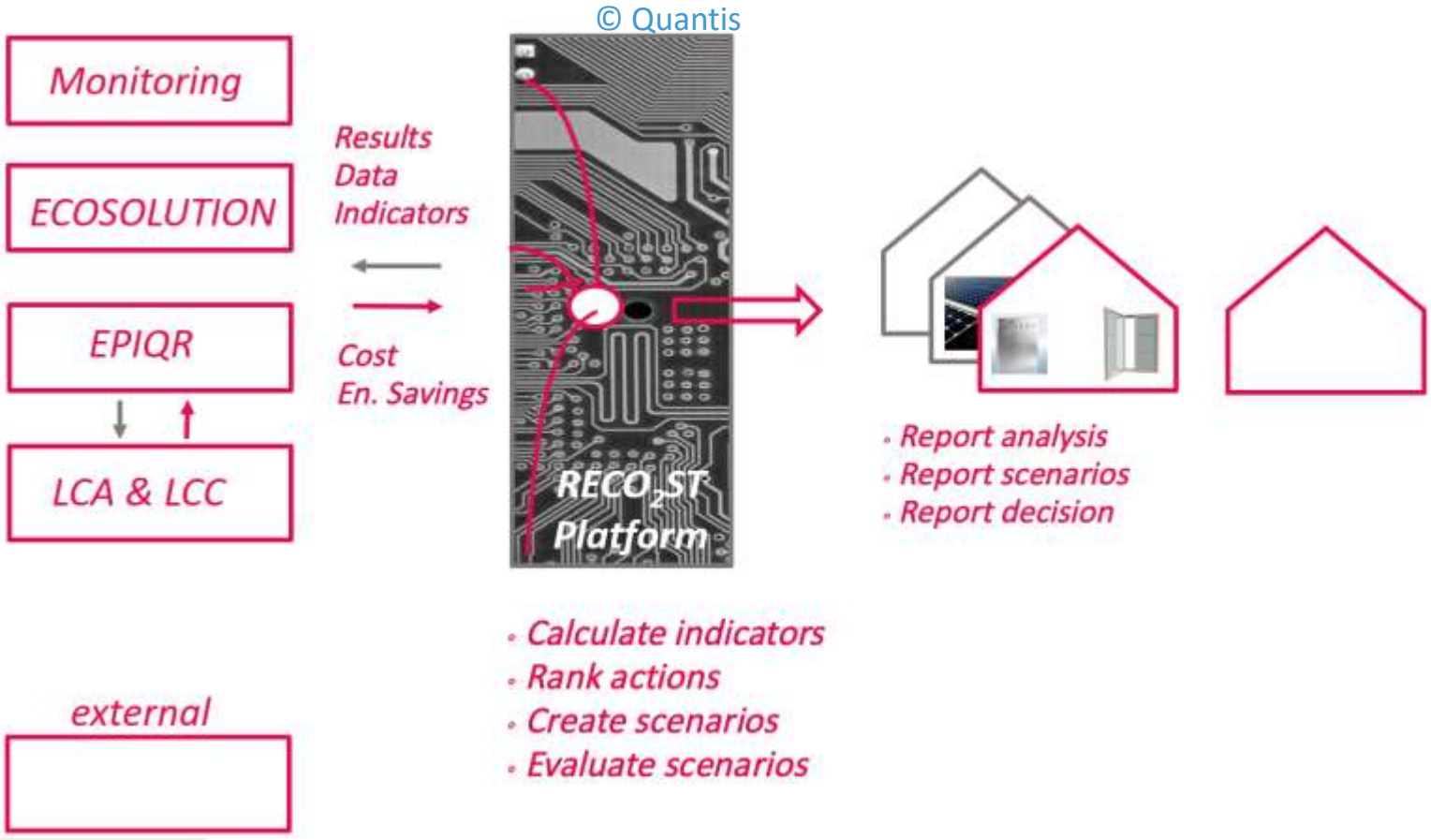
WEB Based Assessment Platform



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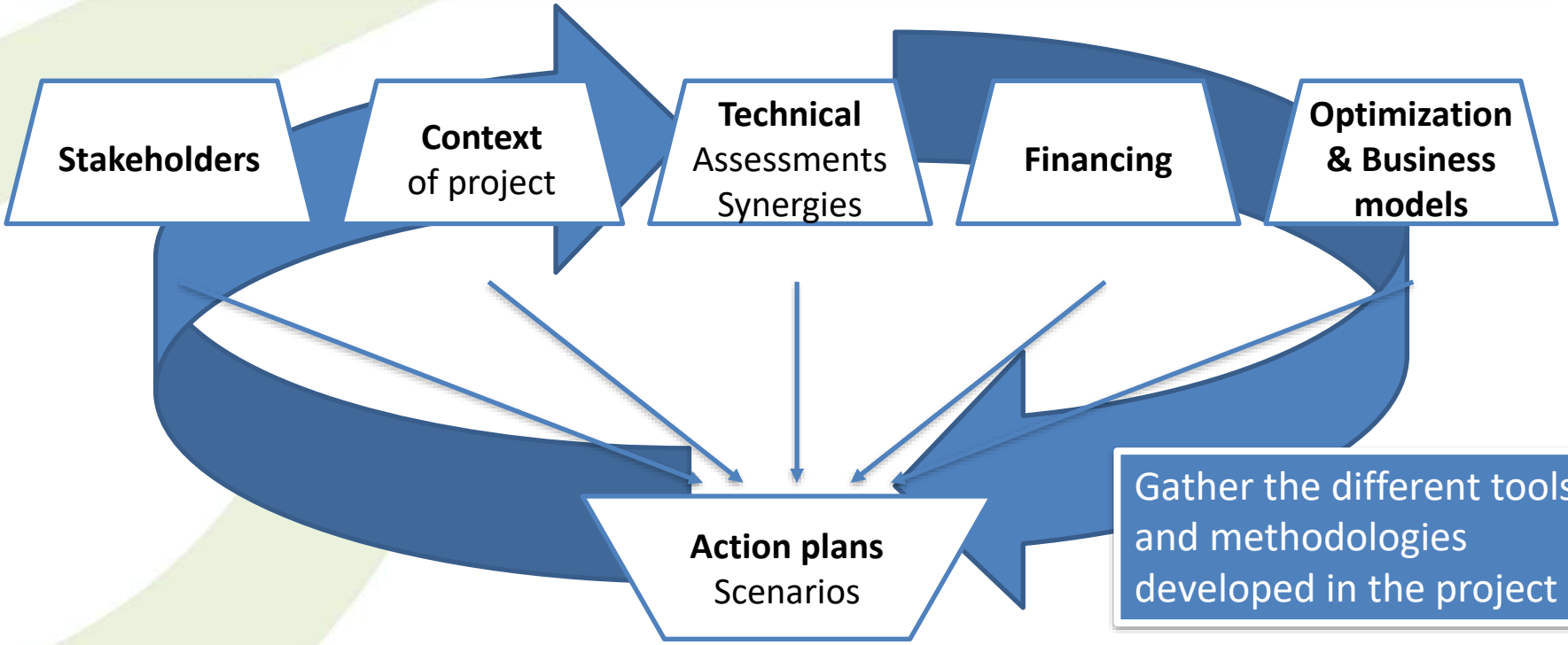
Business Model Kit (BMK)

The Business Model Kit is a tool to convince, help and guide the building owner to launch energy retrofit works



Processors: Engineers, Consultants, Architects
End beneficiary: Owner -> Decision figures for Go/No-Go

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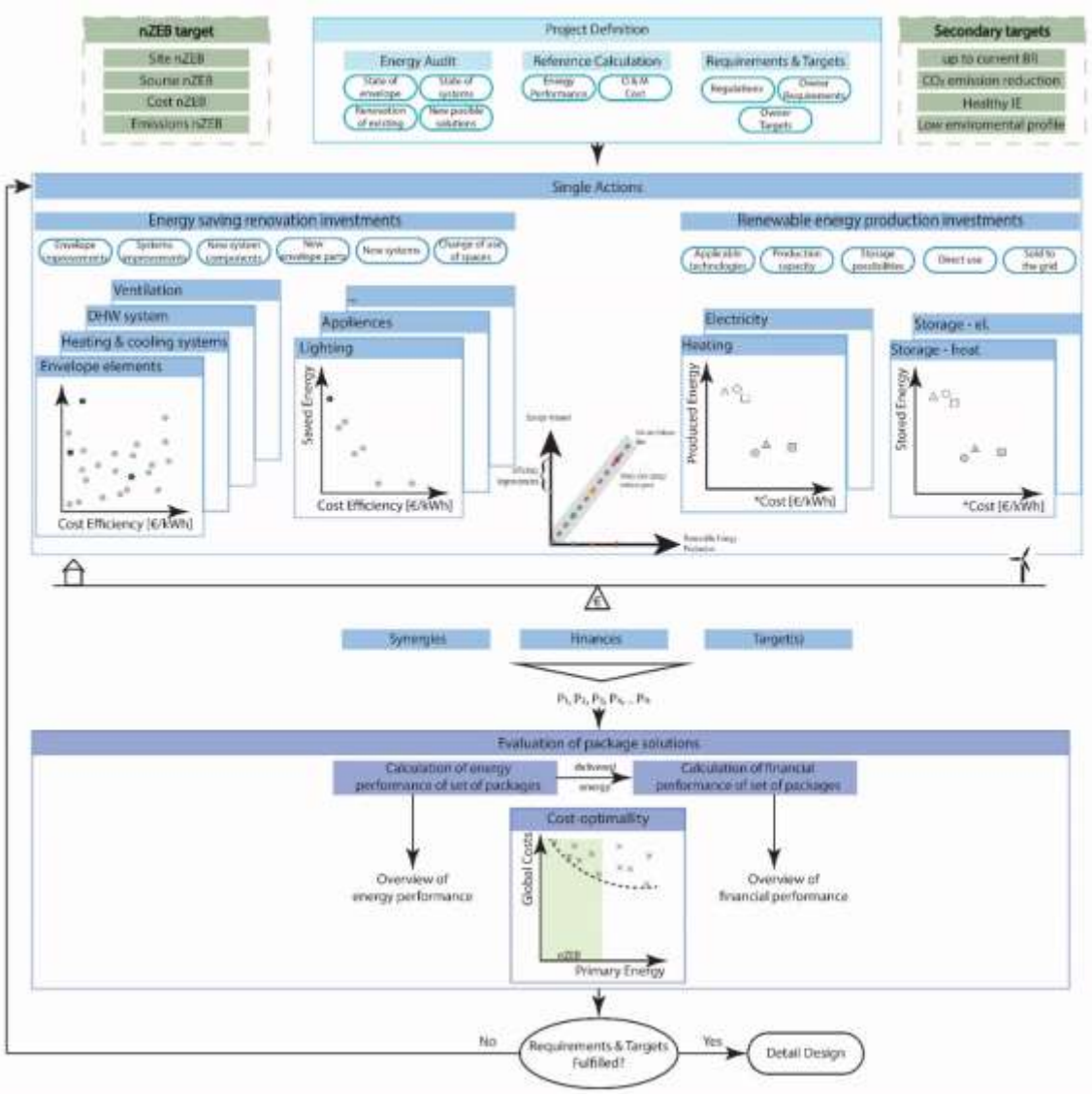
Least Cost Method



- Owner/User Requirements
- Legal frame

- Technical Assessment
  RAT: EPIQR + EcoSolutions

- Balance : energy efficiency and renewable energy production
- Technico-Economic optimization of scenarios

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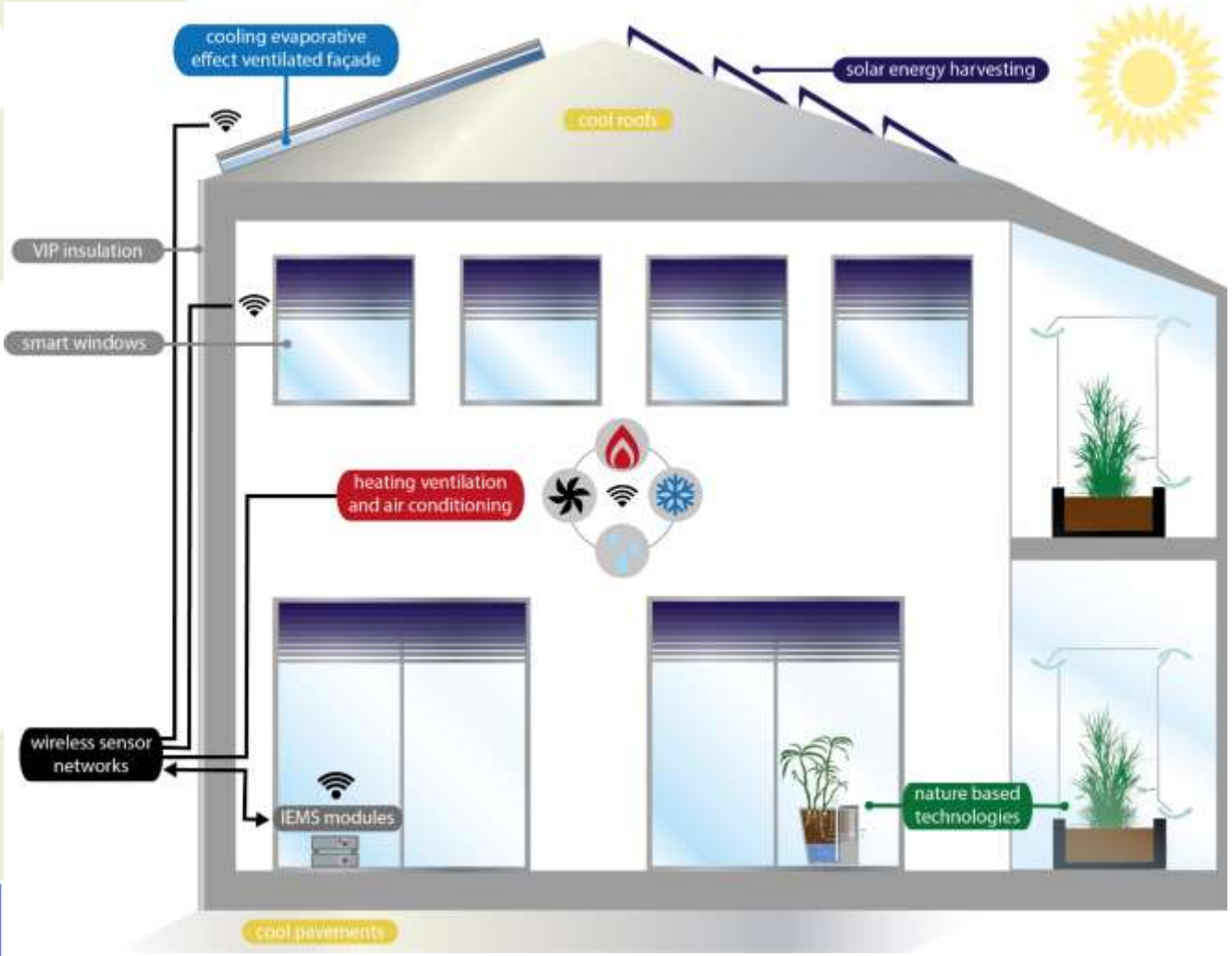
Technologies



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Residential Demonstration Sites

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Demo renovation in Vevey




Demo renovation in London




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DENMARK

Per Heiselberg
Department of the Built Environment
Aalborg University
Denmark
E-mail: pkh@build.aau.dk

AALBORG UNIVERSITY
DENMARK

Contact

info@RECO2ST.eu

www.RECO2ST.eu

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@RECO2ST ??

COLOPHON

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