



**SUSTAINABLE
PLACES 2025**

8-10 October 2025

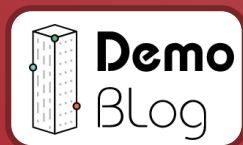
Monte Rosa 91, Milano, Italy



R2M
RESEARCH TO MARKET
SOLUTION

BUILDING DECARBONISATION WORKSHOP

Data and tools for the decarbonisation of the European building stock
09:00 – 10:30 CEST, Friday 10 October 2025; Room 2



www.sustainableplaces.eu

Workshop

09:00 – 10:30 CEST, Friday 10 October 2025; Room 2

Welcome & introduction

Moderated by
Henk Visscher



Speakers

Dimitris Athanasiou, IEECP •

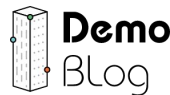
Henk Visscher, TU Delft •

Andrei V. Lițiu, EPB Center •

Raphaëlle Papa, IES •

Călin Boje, LIST & **Angela Araldi**, R2M Solution •

Marco Pietrobon & **Rubén Alonso**, R2M Solution •



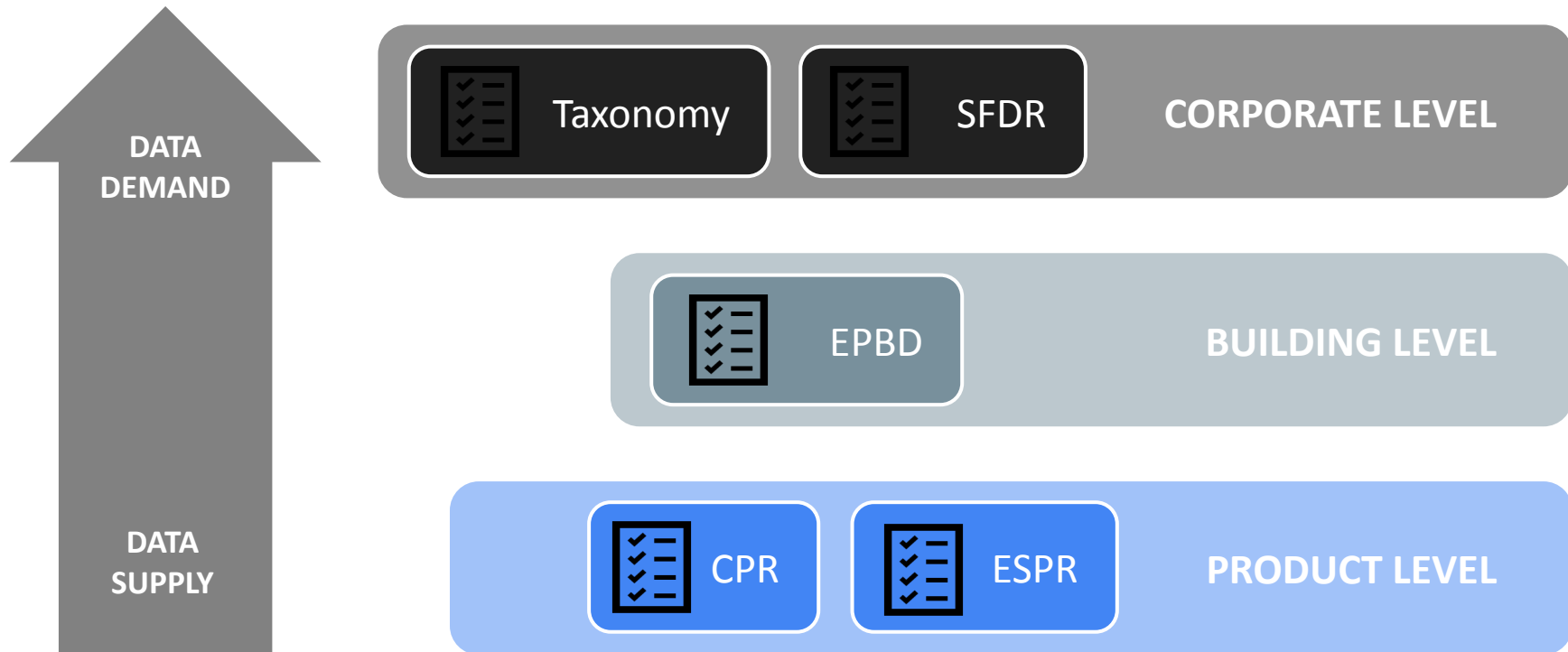
Timeline of DBL relevant policies

BPIE

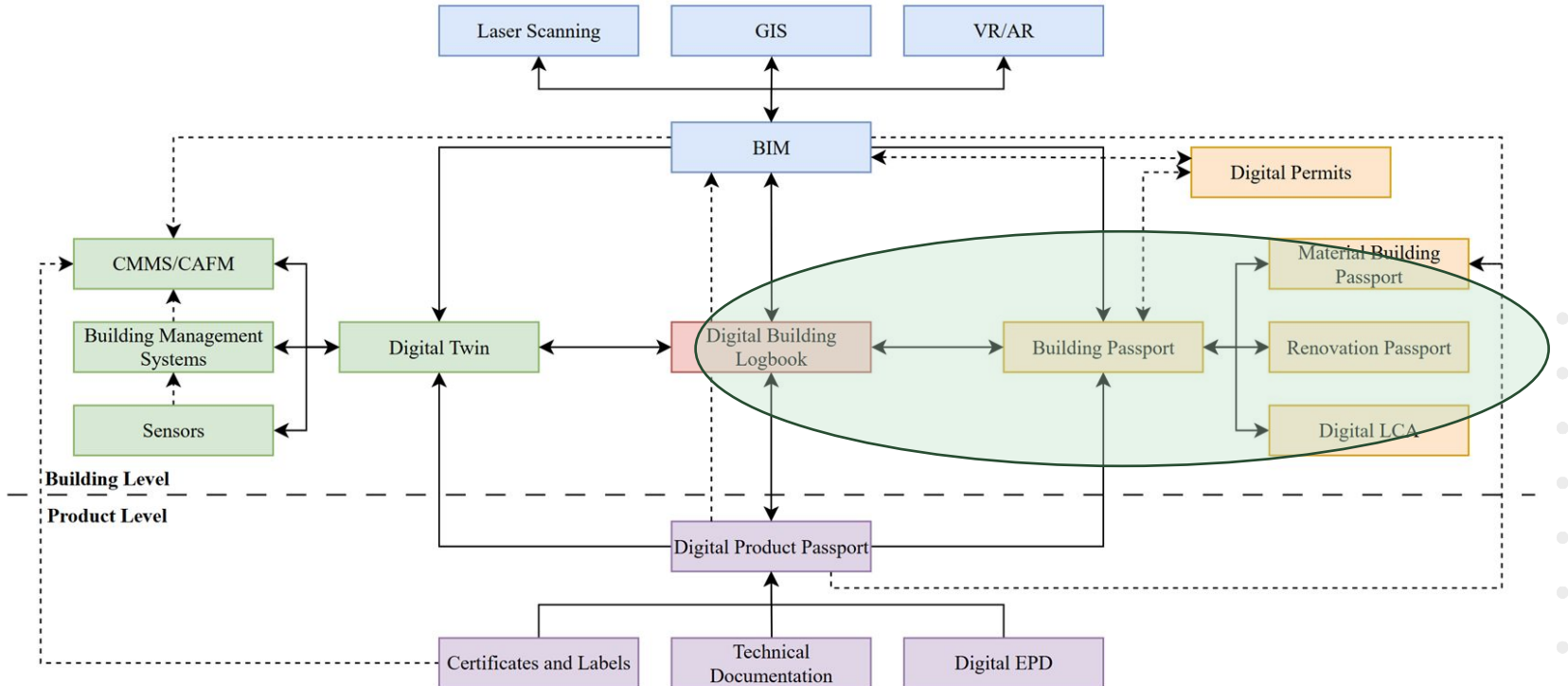


Alignment throughout the data supply chain

BPIE



Digital Building Logbooks



Workshop

09:00 – 10:30 CEST, Friday 10 October 2025; Room 2

Support for setting up natiOnal Building Stock obsERVatoriEs



Presented by
Dimitris Athanasiou



Speakers

Dimitris Athanasiou, IEECP •

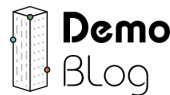
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Support for setting up natiOnal Building Stock obsERVatoriEs

 **SUSTAINABLE
PLACES 2025**

8-10 October 2025
Monte Rosa 91 – Milano



10 October 2025

Dimitris Athanasiou



Grant Agreement No: 101167643

Key objective: data governance

LIFE-2023-CET-POLICY

Proposal ID: 101167643

Duration: 36 months
(November 2024 – October 2027)

10 partners

EU grant: 1 982 706 (euro)

KoM: November 2024



OBSERVE's objectives

Guide national authorities in developing **national Building Stock Observatories** by standardising protocols for systematic data collection and aggregation related to buildings.

Improve the methods for collecting building-related data and streamline the coordination of all relevant bodies involved in the data aggregation process.

Enhance **interactions between various relevant EU and national initiatives** and projects, ensuring comprehensive integration and cooperation.

Establish and strengthen **cooperation with the overarching EU Building Stock Observatory** to align and synergize efforts across different levels.

Provide **direct support to six Member States** (Croatia, Cyprus, France, Greece, Italy, and Spain) in developing and implementing best practices and governance models related to building stock management.

Extend the dissemination of good practices and governance models to **other EU countries**, promoting widespread adoption and implementation.

Increase the transparency and utility of building data, which will assist national authorities in effectively implementing energy and climate policies.

Overall phasing



Assess
Policy and
Data Needs

1



Define the
functionalities and data
collection processes
and governance

3



Establish
National Data
Dialogue
Panels

5



Map Existing
Tools and Data
Sources

2



Design of the
OBSERVE
prototypal nBSO

4



Implement,
communicate and
replicate

6

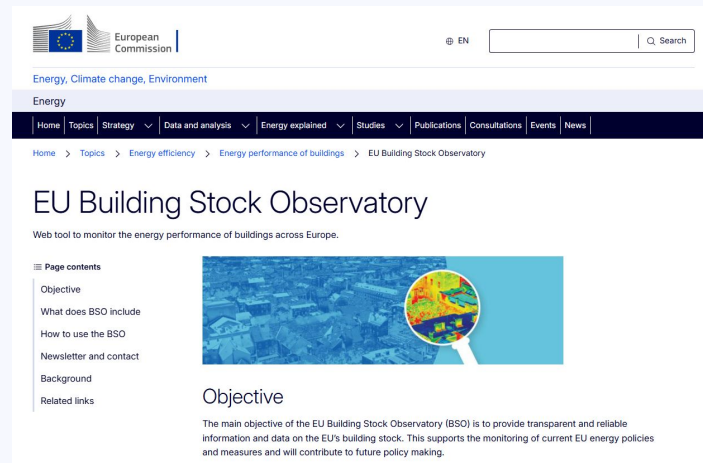
OBSERVE

Will **NOT** develop data platforms

Will **NOT** transfer the data to the EU BSO

1st step: data needs

In compliance with the EU BSO



The screenshot shows the homepage of the EU Building Stock Observatory (BSO). At the top, there is the European Commission logo and a search bar. Below the header, the main navigation menu includes links for Home, Topics, Strategy, Data and analysis, Energy explained, Studies, Publications, Consultations, Events, and News. The breadcrumb trail indicates the current location: Home > Topics > Energy efficiency > Energy performance of buildings > EU Building Stock Observatory. The main heading is "EU Building Stock Observatory", followed by the subtitle "Web tool to monitor the energy performance of buildings across Europe." On the left, a "Page contents" sidebar lists: Objective, What does BSO include, How to use the BSO, Newsletter and contact, Background, and Related links. The main content area features a large image of a cityscape with a magnifying glass over a map of Europe, and a section titled "Objective" which states: "The main objective of the EU Building Stock Observatory (BSO) is to provide transparent and reliable information and data on the EU's building stock. This supports the monitoring of current EU energy policies and measures and will contribute to future policy making."

1st step: data needs

In compliance with the EC guidance framework

Communication - Guidance on the recast directive and its 13 annexes dedicated to specific topics

- [Communication - EPBD guidance \(C/2025/4132\)](#)
- [Article 7\(2\) and \(5\): Life-cycle global warming potential of new buildings](#)
- [Articles 7 and 11: Zero-emission buildings](#)
- [Article 9: Minimum energy performance standards for non-residential buildings and trajectories for the progressive renovation of residential buildings](#)
- [Article 10: Solar energy in buildings](#)
- [Article 12, Annex VIII: Renovation passport](#)
- [Article 14: Infrastructure for sustainable mobility](#)
- [Article 13, Annex II: Fossil fuel boilers](#)
- [Articles 13, 23 and 24: Technical building systems, indoor environmental quality and inspections](#)
- [Article 16: Data exchange](#)
- [Article 17 and 18: One-stop shops, financial incentives, skills and market barriers](#)
- [Articles 19-21, Annex V and Article 27, Annex VI: Energy performance certificates and independent control systems](#)
- [Article 22: Databases for the energy performance of buildings](#)
- [Annex I: Common general framework for the calculation of the energy performance of buildings](#)

Delegated Regulation revising the methodological framework for calculating cost-optimal levels

- [Cost-optimality delegated regulation](#)
- [Cost-optimality delegated regulation - annex](#)

Guidelines accompanying the Delegated Regulation revising the methodological framework for calculating cost-optimal levels

- [Cost-optimality guidelines](#)
- [Cost-optimality guidelines - annex](#)

Implementing regulation establishing common templates for the transfer of information from national databases to the EU Building Stock Observatory

- [BSO implementing regulation and its annex](#)



Official Journal
of the European Union

EN
L series

2025/1328

29.8.2025

COMMISSION IMPLEMENTING REGULATION (EU) 2025/1328

of 30 June 2025

implementing Directive (EU) 2024/1275 of the European Parliament and of the Council by establishing common templates for the transfer of information from national energy performance of buildings databases to the EU Building Stock Observatory

(Text with EEA relevance)

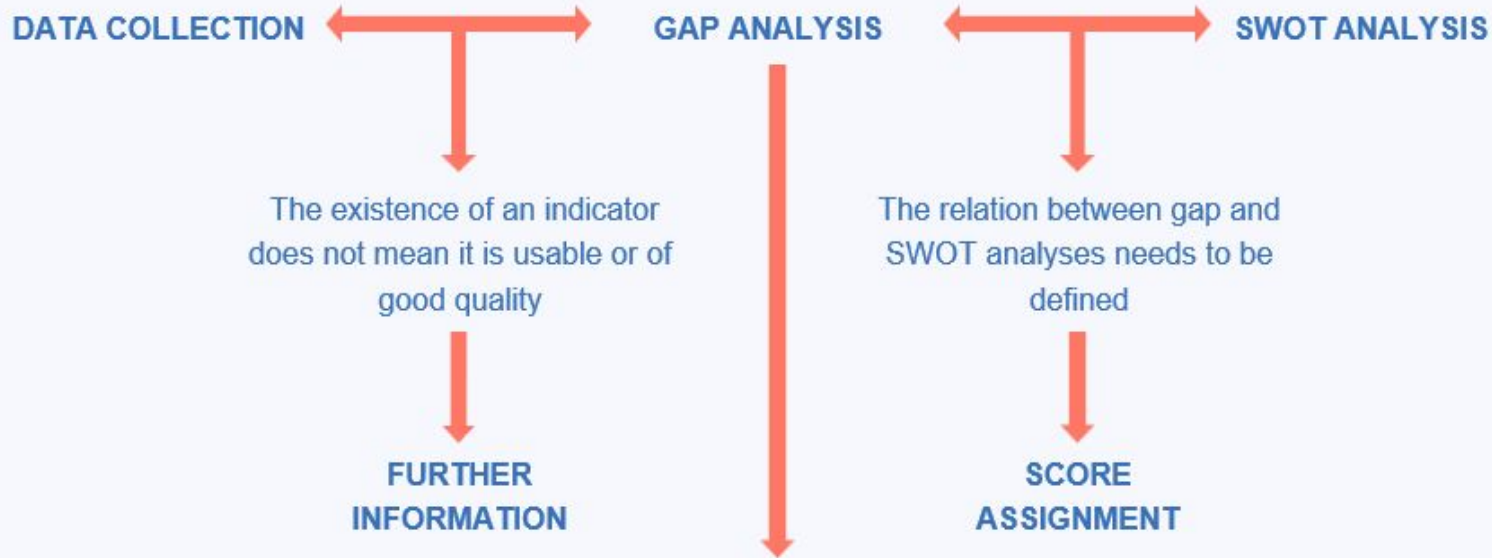
THE EUROPEAN COMMISSION,

No. of indicator	NBRP Indicator heading	NBRP Indicators disaggregation	In Year X-2	In 2020	Units	NBRP Indicator (Mandatory/Max)	Comment
2	Residential buildings	Other type (describe if any) (i)			m²	Max	
		out of which public buildings			m²	Mandatory	
		Total Non Residential = NR	0	0	m²	Mandatory	
		single-family houses of different types (a)			m²	Max	
		apartment blocks or multi-family buildings			m²	Max	
		out of which social housing (buildings or units)			m²	Mandatory	Please specify whether buildings or units
		Total Residential = R	0	0	m²	Mandatory	
		offices (d)			m²	Max	
		educational buildings (e)			m²	Max	
		hospitals (e)			m²	Max	
3A	Non-residential buildings	hotels and restaurants (f)			m²	Max	
		sport facilities (g)			m²	Max	
		wholesale and retail trade services buildings (h)			m²	Max	
		Other type (describe if any) (i)			m²	Max	
		out of which public buildings			m²	Mandatory	
		Total Non Residential = NR	0	0	m²	Mandatory	
		Number of buildings per energy performance class - Residential			n° of buildings	Mandatory	Cell D31 should match Cell D7
		A+			n° of buildings	Max	Classes can be adapted according to the national scale
		A			n° of buildings	Mandatory	
		B			n° of buildings	Mandatory	
		C			n° of buildings	Mandatory	
		D			n° of buildings	Mandatory	
		E			n° of buildings	Mandatory	

2nd step: gap analysis

Gap analysis

- data collection (further information)
- SWOT analysis (scoring system)



To complete the gap analysis, further dimensions of each indicator/stakeholder need must be considered (source, accessibility, quality...). Then a scoring system can help us to rank the SWOT areas.

3rd step: SWOT analysis and scoring system

What do S W O T mean for OBSERVE?

Strength

Complete indicators
Interoperable databases
Open data availability
Quality check procedures
Official/Institutional data source

New EPBD requirements
Existence of other tools (logbooks/SRI)
EU funding
Interest of the stakeholders in participating

Opportunities

Weakness

Inaccessible data formats
Fragmented databases
Outdated data

GDPR
Legal barriers
Reluctance to share data
Inconsistent data

Threats

Dimension	Response	Score	SWOT	Note
Availability	Fully available and complete	1.0	S	Strong base for integration
	Partially available (e.g., incomplete, aggregated)	0.5	W	May hinder comparability
	Not / partially available, but planned or under development	0.5	O	Potential to become usable
	Not available and no plans to collect	0.0	T	Major gap with policy implications
Format	Machine-readable and standardised (CSV, API, XML)	1.0	S	Easy to reuse and integrate
	Digital but unstructured (PDF, HTML, Word)	0.5	W	Requires manual processing
	Structured format planned (e.g., funded reform)	0.5	O	Improvement expected
	Non-digital or unavailable	0.0	T	Major barrier to reuse
Accessibility	Public and freely accessible	1.0	S	No legal or technical barrier
	Available upon request or institutional access	0.5	W	May cause delays or limited reuse
	Public access planned	0.5	O	Potential improvement
	Not accessible (restricted/sensitive)	0.0	T	Limits interoperability
Source Reliability	Official national or regional authority	1.0	S	High trust and continuity
	Academic or research project	0.5	O	Reliable but non-institutional
	Private stakeholder	0.5	W	Less transparent, less control
	Unknown or informal source	0.0	T	Low trust and reproducibility
Update Frequency	Regularly updated (annual or better)	1.0	S	Ensures data relevance
	Occasionally / irregularly updated	0.5	W	May lead to inconsistencies
	Regular updates planned (under reform)	0.5	O	Potential for improvement
	Never / unknown frequency	0.0	T	Risk of obsolescence
Quality procedures	Formal quality assurance and verification in place	1.0	S	Trusted procedure
	Informal or partial quality checks / quality checks planned	0.5	O	Possibility to improve the procedure

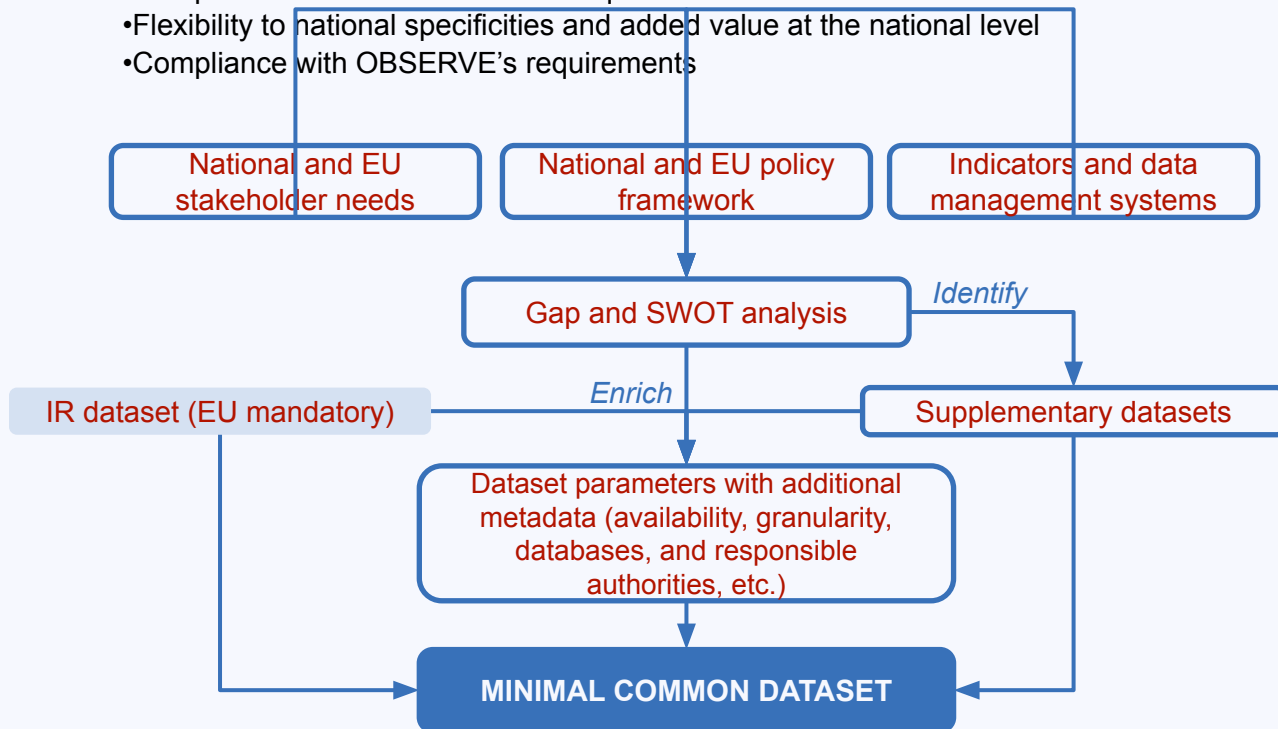
4th step: preparing a KPI list

Indicator	Directive Source	Required Granularity	Available?	Data Source	Format	Access	Notes	Score
Total useful floor area	EPBD Art.3	Sector / Construction Year	Y	<u>Cadaster</u>	CSV	Public	Complete only until 2020	High
% of NZEB buildings	EPBD Art.3	Building type	N	-	-	-	Data not available	Low
Heating systems	EPBD Art.3	Type of system	Y	<u>Heating Cadaster</u>	PDF	Restricted	Some systems not registered	Medium

5th step: developing the dataset

Design and test an archetype of the national Building Stock Observatory

- Compliance with EPBD article 22 requirements and EU BSO needs
- Flexibility to national specificities and added value at the national level
- Compliance with OBSERVE's requirements



Translate the gap analysis into a technical and operational framework

Data Definition Language (DDL)

- Data must be transmitted in a **standardized and reliable** way.
- Syntactic checks
- Semantic checks

The nBSO is an intermediate structure, more than just a database.

In most Member States, building stock data is **fragmented across multiple entities** (ministries, regions, agencies, utilities, statistical offices).

The nBSO ensures modularity and flexibility while maintaining robust data governance.

6th step: Implement, test, communicate and replicate

Establish National Data Dialogue Panels

- Set up in-person meetings with national stakeholders (ministries, agencies, academia etc.)
- Coordinate additional e-workshops or webinars as needed based on national needs
- Facilitate discussions on integration of SRI, EPCs, MEPS, BRPs, etc.
- Collect stakeholder signatures on participation agreements confirming commitment to the national BSO process

Implement the OBSERVE prototypal nBSO and Train Stakeholders

- Test and refine the national BSO archetype through national examples and feedback loops
- Organise mutual learning workshops and capacity building sessions
- Ensure dissemination and knowledge-sharing around national BSO tools and functionalities with national stakeholders

Engaging, guiding and supporting 6 additional (replication) Member States

Advocate, Monitor, and Prepare for Replication

- Develop and deliver national policy briefs based on lessons learned

Collaboration with all stakeholders

We want to:

- Ensure that the needs of policymakers and other relevant stakeholders are well understood and considered during all development activities
- Identify challenges that Member States are facing with monitoring and reporting, data availability and collection processes
- Test and refine the national BSO archetype through national examples and feedback loops
- Review and validate findings/outcomes
- Foster stakeholder continuous communication and collaboration by creating networking opportunities
- Provide guidelines, technical assistance and mentoring
- Facilitate exchange of information and capacity development among stakeholders to ensure coordination and synergies between various sectors and levels

Overall conclusion:

- Significant potential for improving the efficiency and effectiveness of data collection processes
- Important to have good quality information, which stakeholders and especially policy makers should have for proper decision making
- **Need to develop a systematic and consistent data collection strategy**

Clustering efforts



Survey



THANKS!



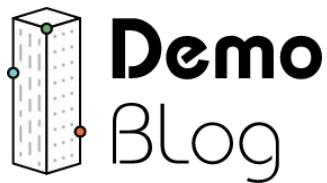
Dimitris Athanasiou:
dimitris@IEECP.ORG



Workshop

09:00 – 10:30 CEST, Friday 10 October 2025; Room 2

Development and Demonstration of Digital Building Logbooks



Presented by
Henk Visscher



Speakers

Dimitris Athanasiou, IEECP •

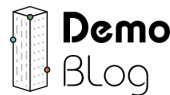
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Demo-BLog

Development and Demonstration of Digital Building Logbooks

A Horizon Europe project

prof. dr. ir. Henk Visscher (h.j.visscher@tudelft.nl)

TU Delft - Faculty of Architecture and the Built Environment

Director Urban Energy Institute

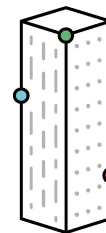
Follow-up:

NL project on Renovation Passports

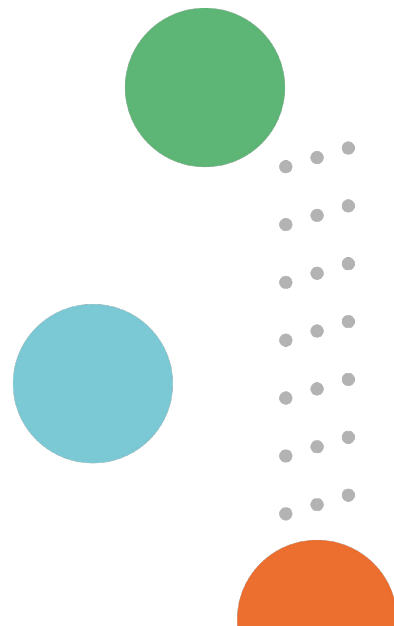


Co-funded by
the European Union

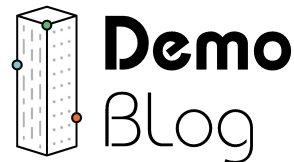
This project has received funding from the European Union's Horizon Europe research and innovation programme, under grant agreement No. 101091749



Demo
BLog



Demo-Blog Project Vision



Demo-BLog brings together:

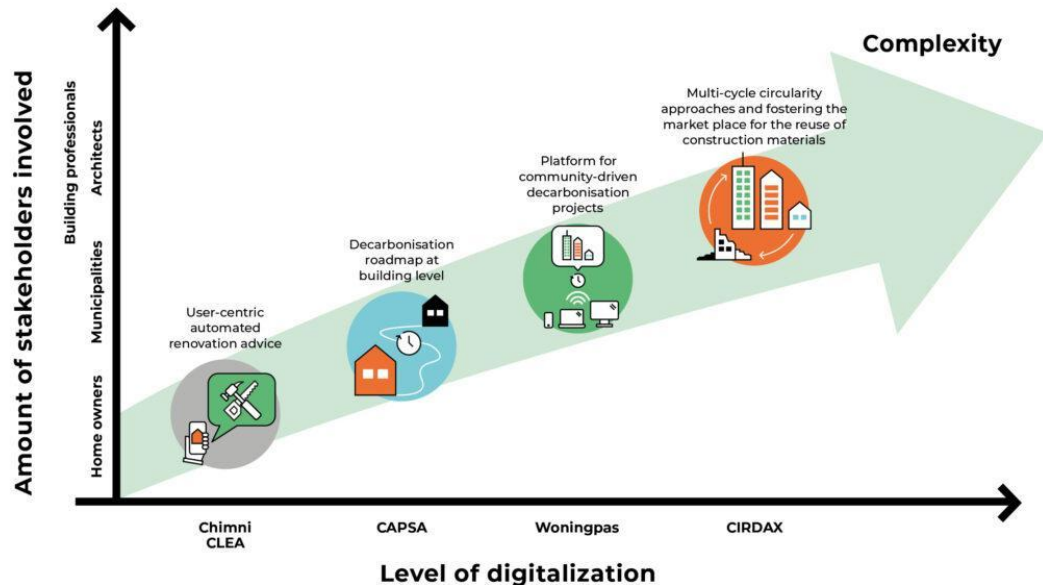
- **5 different DBLs** with a total of 4.5 million registered units and a wide variety of target groups offering scale and diversity.
- **4 diverse functionalities** addressing key societal challenges, ranging from 'quick wins' (renovation and advice and (community driven) decarbonisation pathways) to complex industrial transaction objectives (circularity).



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The 4 Functionalities



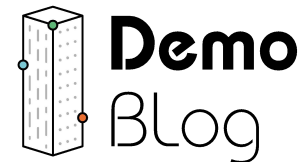
1. User-centric automated renovation advice (via **CHIMNI** and **CLÉA**)
2. Decarbonisation roadmap at building level (via **CAPSA**)
3. Platform for community driven decarbonisation projects (via **Woningpas**)
4. Multi-cycle approaches and fostering the marketplace for the reuse of construction materials (via **CIRDAX**)



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The 5 DBLs



Woningpas (BE)



- **Flanders (Belgium)**
- **Public** (Owned by 3 government bodies: VEKA, OVAM, Wonen-Vlaanderen)

CLÉA (FR)



- **France**
- **Private** (Owned by QUALITEL)

CHIMNI (UK)



- **United Kingdom**
- **Private** (Owned by Chimni)

CAPSA (DE)



- **Germany, Scotland, the Netherlands, Italy, India etc.**
- **Private** (Owned by Chillservices)

CIRDAX (NL)



- **The Netherlands (to be tested in Belgium)**
- **Private** (Owned by Re-Use Materials)

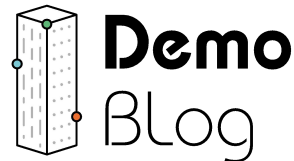


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User-centric automated renovation advice



Decarbonisation roadmaps at building level



Through the project's DBLs pilots...



Platform for community driven decarbonisation projects



To **demonstrate:**

- capturing, integrating and storing building data;
- converting this data into actionable information for relevant stakeholders across the construction market value chain for the selected project functionalities

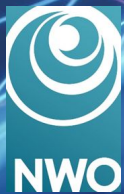


Multi-cycle circularity approaches and fostering the marketplace for construction materials reuse





RENODAT

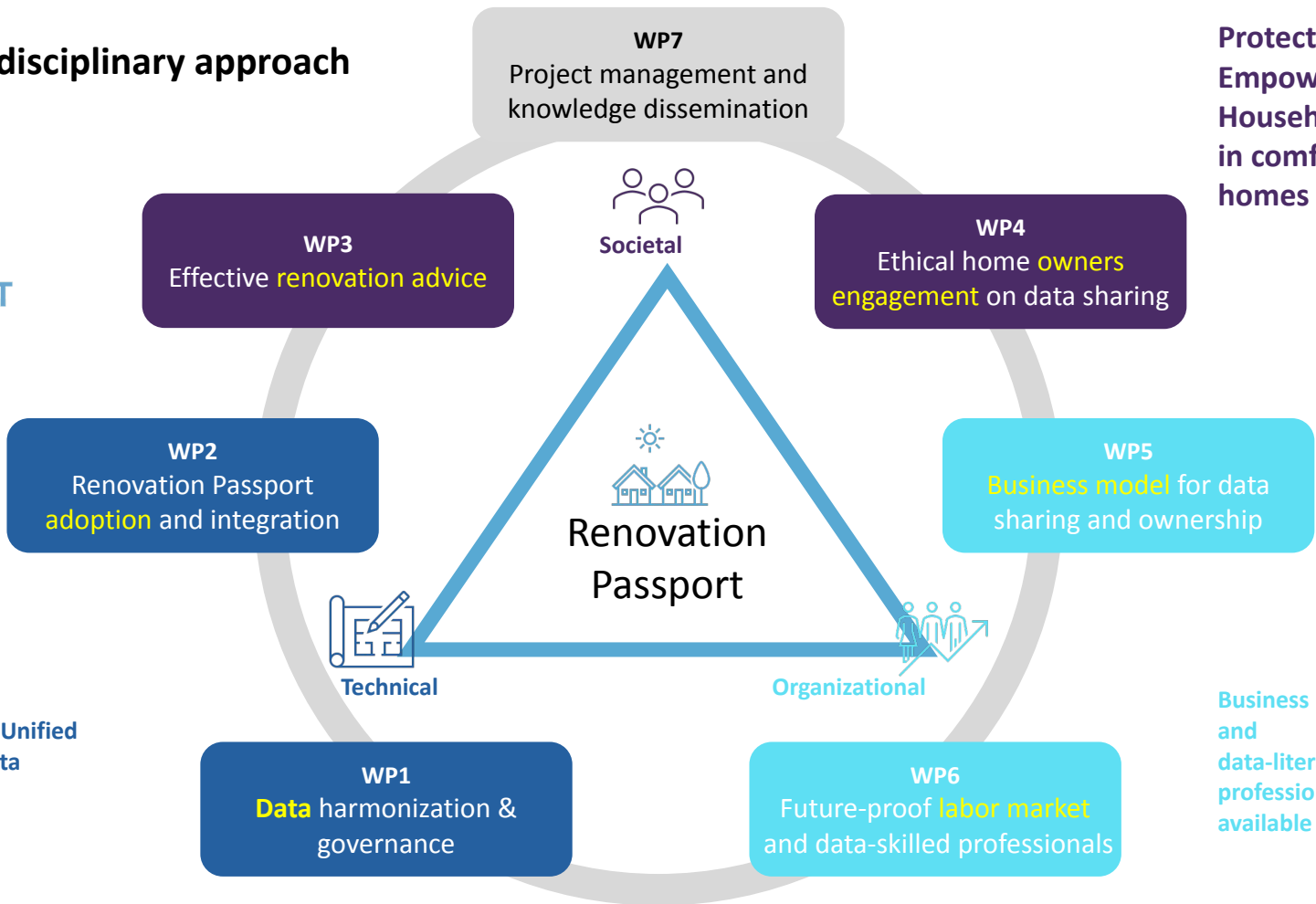


ACCELERATING BUILDING RENOVATION AND
DECARBONIZATION THROUGH DATA
INTEGRATION

Our transdisciplinary approach



Accurate,
Accessible, Unified
Building Data



Protected &
Empowered
Households living
in comfortable
homes

Business Incentivized
and
data-literate
professionals
available



Our consortium



Workshop

09:00 – 10:30 CEST, Friday 10 October 2025; Room 2

Towards an Open, Universal & Comprehensive Building Energy Performance Certification

OPEN 
BEP4EU

Presented by
Andrei V. Lițiu



Speakers

Dimitris Athanasiou, IEECP •

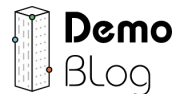
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Open, Universal, and Comprehensive Building Energy Performance Certification



openBEP4EU

Andrei V. Lițiu,
Executive Director, EPB Center

Workshop on Data and tools for the decarbonization of the European building stock

10 October 2025, Sustainable Places 2025



openBEP4EU Sep 2024 - Mar 2027

openBEP4EU aims

- to deliver an **open-source, universal software implementation of the ISO 52000 standards**, facilitating the adoption of an innovative **Energy Performance Calculation** approach in the Member States
- to make **building performance data** easily **accessible to various stakeholders** like **financial institutions**, **energy service providers**, **building owners**.



www.openbep4.eu sign up for the newsletter

PARTNERS

Partners

- from **all over Europe**
- with **complementary competences** and **background** (professionals, cities, industrial, financial institutions)



KEY ELEMENTS

1) The objective: Making

- energy efficiency
- environmental responsibility
- energy performance for buildings

easy understandable and affordable

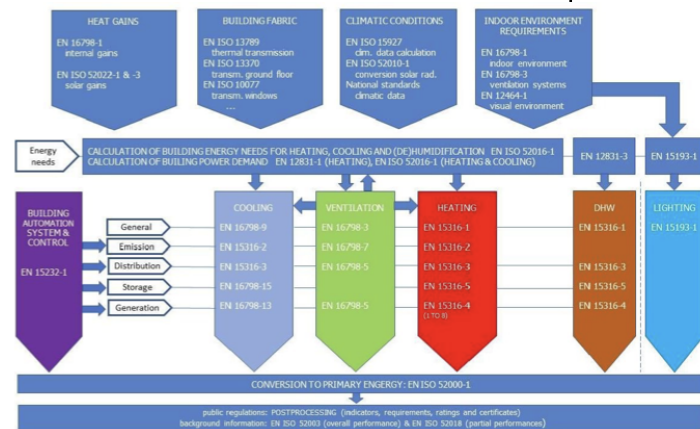
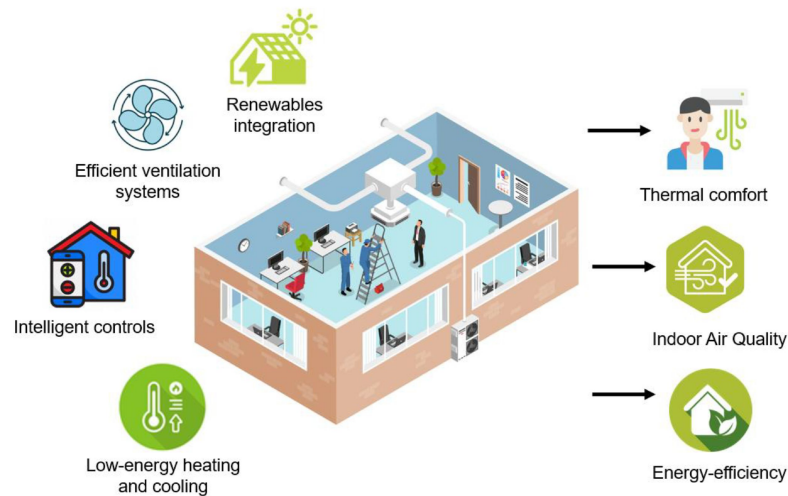
2) The content of work: Developing

- **reliable and comparable assessment** of the **energy performance** of building
- other **monetary benefits** (increased property value)
- **non-monetary benefits** (improved comfort, health)

3) Tools to reduce the cost per EPC by providing

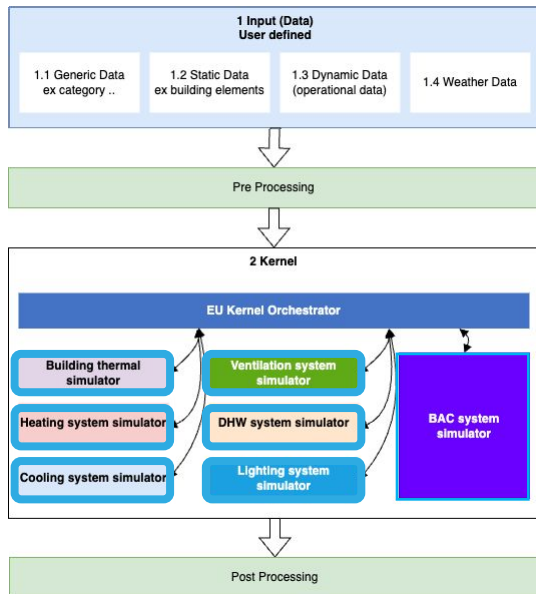
- an **opensource, standardized calculation engine**
- a **data hub**
- **innovative inspection procedures**

EPB modules - Conceptual flow



Source:  **U-CERT**
User-Centred Energy Performance
Assessment and Certification

High-level openBEP4EU calculation engine architecture



Input data

Pre Processing

Energy Needs

Building Systems

Post Processing



Main phasing principles

A first implementation as soon as possible to start testing/ feedback from experts in the field

Full scope, minimum features first – cover main standards from input to primary energy, partially implemented to deliver a tool that can be used with limitations (e.g. no early support for multi-zones etc.)

IT system architecture & data model that support all features – ***the fundamental framework should be robust, modular, extendible, and able to support all EPB standard provisions***

Phase 1: Foundation Stage

Aim: to validate fundamental implementation decisions (e.g. system design options) and end-to-end calculations

Main features

- End-to-end calculations: from input collection to primary energy conversion
- Only selected services: One system type per service to demonstrate functionality and validate implementation
- Single-thermal zone buildings to accelerate phase 1 delivery and first validation of tool

Phase 2: Expansion Stage

Aims to deliver a first version of the tool that can be tested under real conditions (by real assessors in real buildings), validate functionality, test usability & receive feedback

Main features

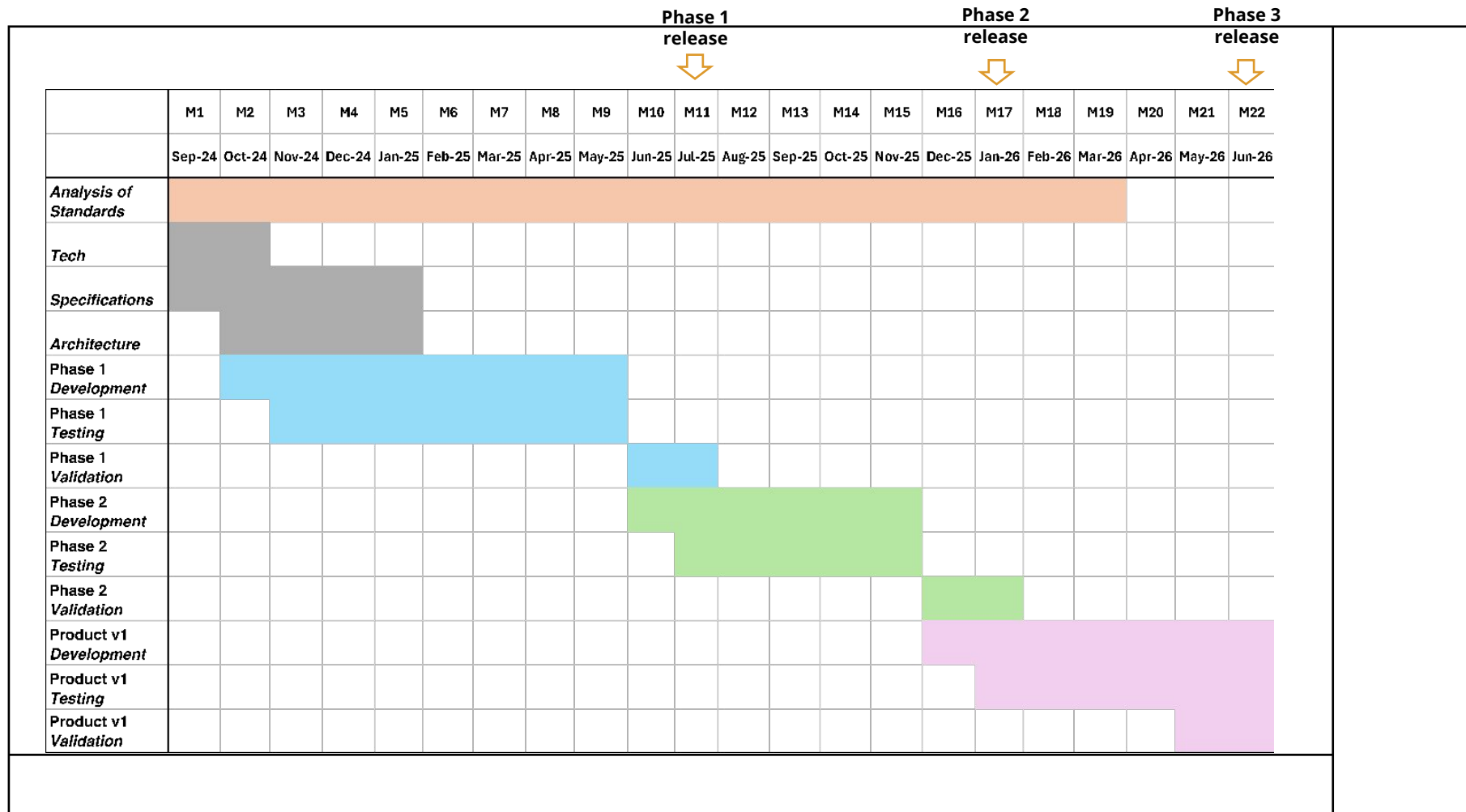
- All foundation stage features plus
- Broader coverage of HVAC and DHW systems
- Coverage of lighting systems
- Partial implementation of multiple zones

Phase 3: Product v1

Aims to develop a version of the tool equipped with the essential features to encompass a wide range of the European building stock

Main features

- All expansion phase features plus
- Full implementation of multiple zones
- Coverage of PV and cogeneration systems
- Inclusion of solar thermal systems



EPB Center activities in openBEP4EU

- To support QUE TECH in the **calculation engine development**
- To respond to the need to support MS at short notice with a complementary **practical (post-processing) tool**
- **Related support & tools**

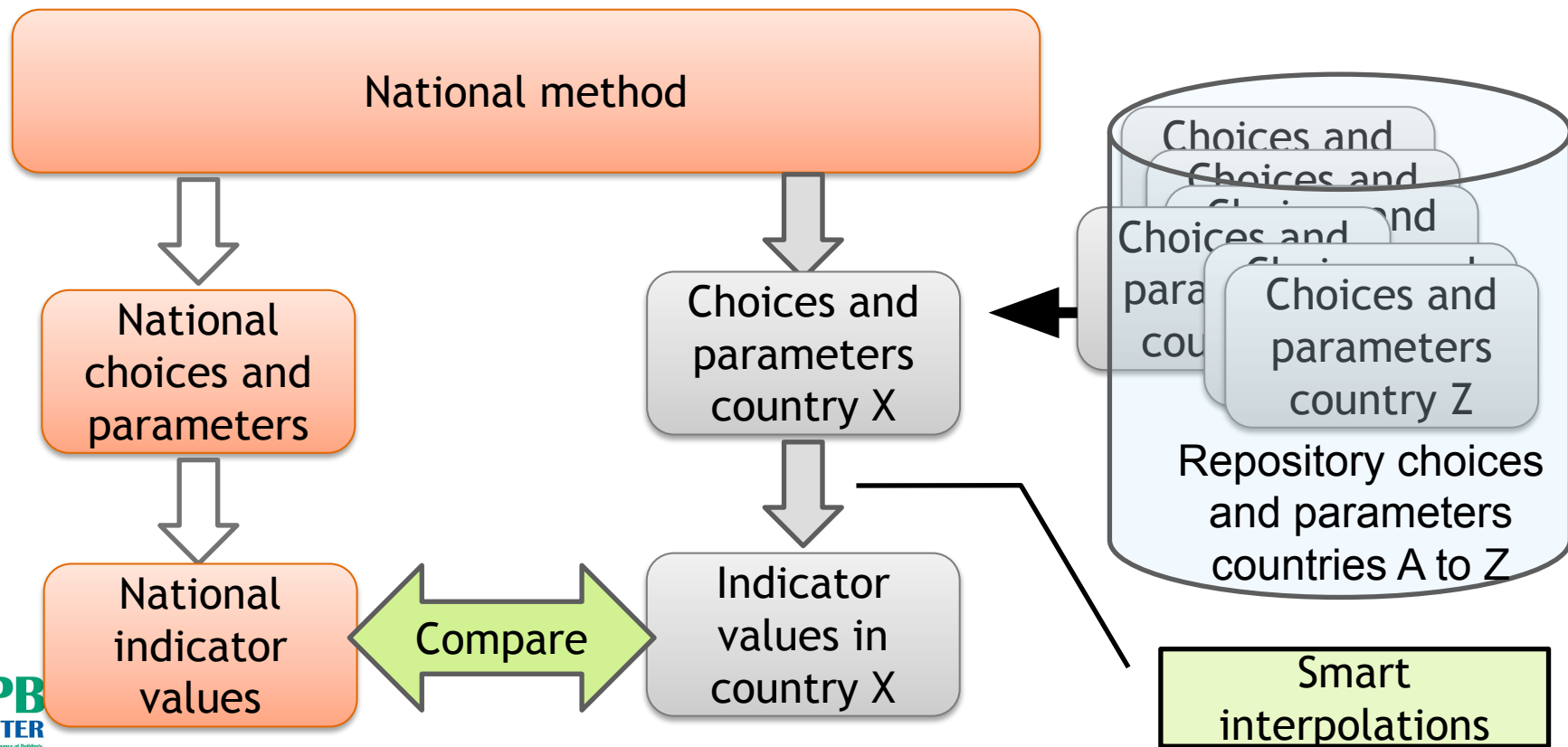
Support QUE TECH in the calculation engine development

- To assist QUE TECH in
 - the analysis of the backbone of the current set of EPB standards
 - the interpretation, priorities, points of attention, possible solutions on individual standards and their interactions
- To learn lessons to take into account for the work under the Mandate (2025/2026 - 2028/2030)

Respond to the need to support MS at short notice with practical (post-processing) tool

- Complementary to software ‘kernel’ development:
- There is the expectation that OpenBEP4EU will produce something of **direct practical use** for MS and other stakeholders
- □ The EPB Center experts intend to develop a **complementary (specific postprocessing) tool**: an ‘EPC translation’ tool
- See simple schedule next slide
 - *(optionally more details are available in the end of this slide deck)*

Post-processing 'EPC translation tool'



openBEP4EU project versus Mandate EC to CEN

- A **mandate from EC to CEN** is critical to future-proof the EPB standards, making them more accessible, globally relevant, and aligned with evolving EU policy objectives
- Projects like openBEP4EU are important, but cannot substitute for the structured and resource-intensive process of updating EPB standards under a **dedicated mandate**:
 - The proposed enhancements require a centralized coordination, embedded in CEN and ISO organization of work, adequate resources, and collaboration among experts from multiple disciplines, national regulators, and stakeholders.

OPEN BEP4EU

Thank you!

Andrei Vladimir Litiu, Executive Director

avl@epb.center



Workshop

09:00 – 10:30 CEST, Friday 10 October 2025; Room 2

Building Renovation Passport for Ireland



Presented by
Raphaëlle Papa



Speakers

Dimitris Athanasiou, IEECP •

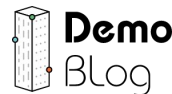
Henk Visscher, TU Delft •

Andrei V. Lițiu, EPB Center •

Raphaëlle Papa, IES •

Călin Boje, LIST & **Angela Araldi**, R2M Solution •

Marco Pietrobon & **Rubén Alonso**, R2M Solution •





**SUSTAINABLE
PLACES 2025**

8-10 October 2025

Milano



BUILDING DECARBONIZATION WORKSHOP

Data and tools for the decarbonisation of the European building stock
BRP project – R. Papa



www.sustainableplaces.eu

Project's objectives



Develop an **Irish BRP methodology** for commercial buildings



Training professionals



Addressing **digital storage framework**

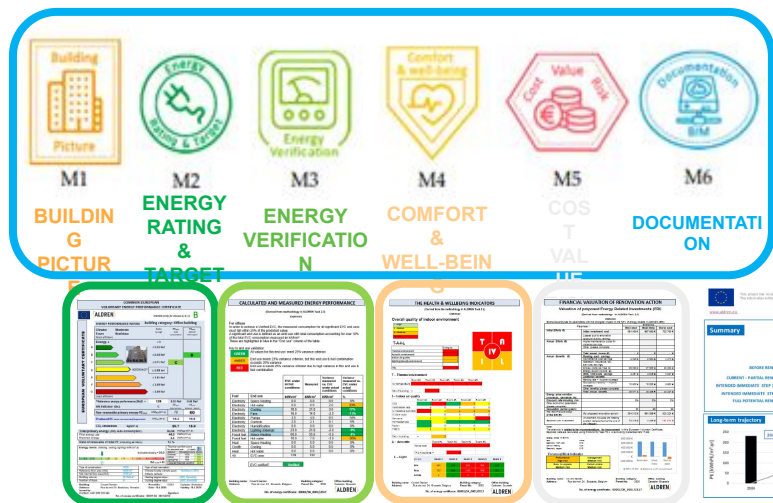


Enabling **financial mechanisms**

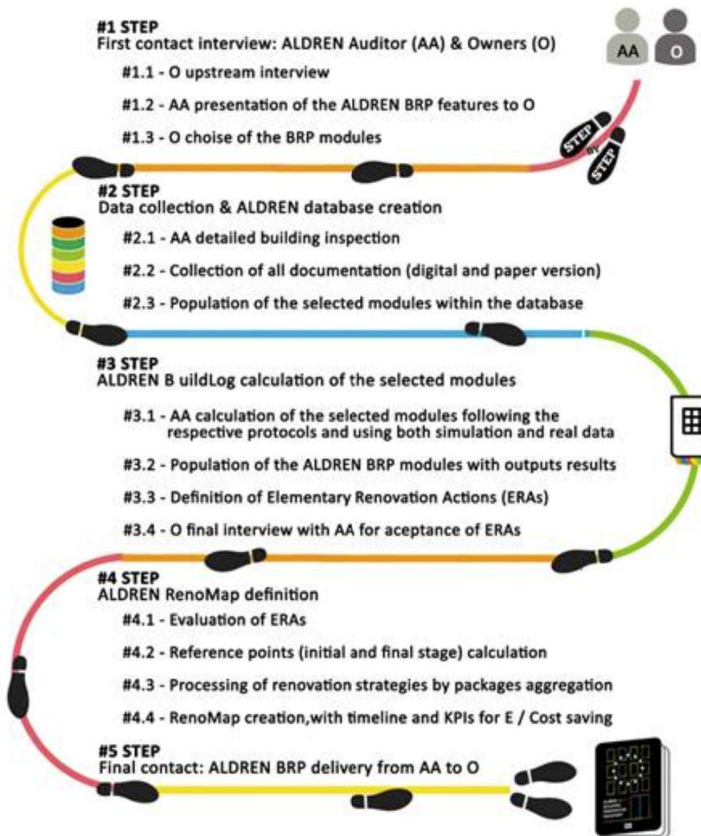
ALDREN Methodology

- Developed by CSTB to provide a framework for creating BRPs for non-residential buildings.
- The core of the Aldren BRP includes Dual Element Passport:
 - ALDREN BuildLog
 - ALDREN RenoMap

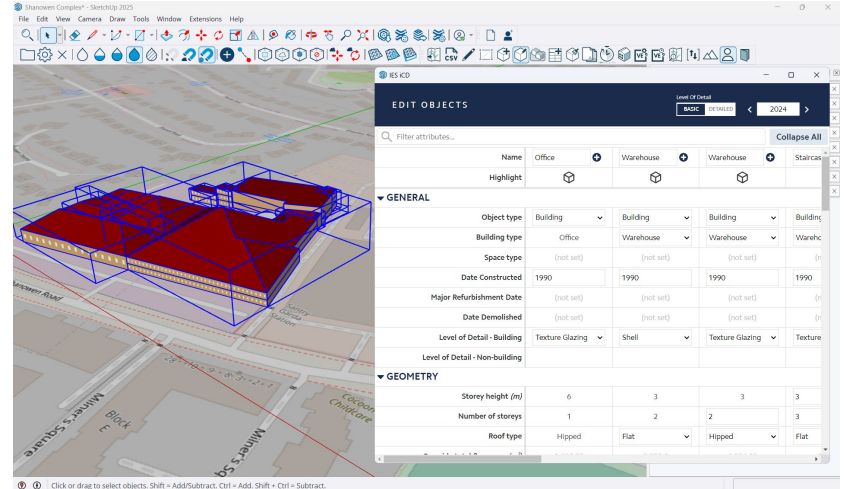
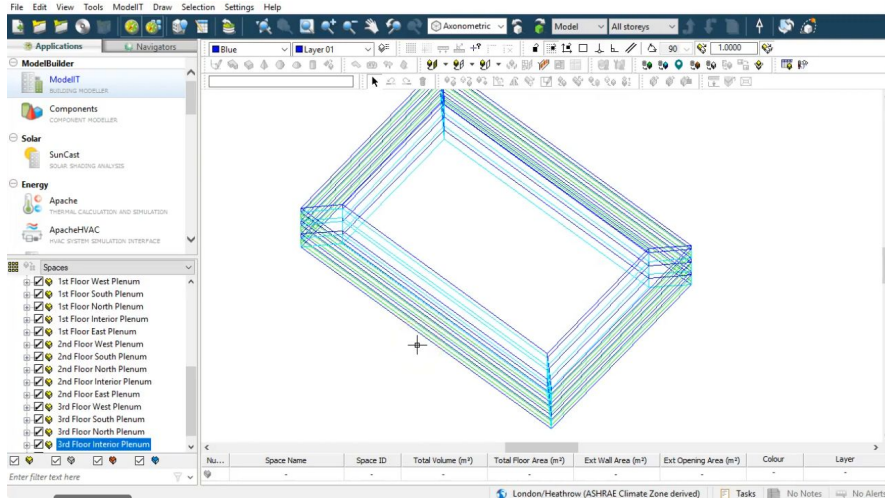
BuildLog



RenoMap



IES Tools



UX and Digital Workshops conducted

1. Stakeholders Personas discussion + UX Journey Mapping
 - ☐ BRP UX Pain Points identification
 - ☐ BRP UX feedback canvas

2. Analysis of 2 possible Digital Scenarios (Unified vs Interoperable)
 - ☐ Comparison of the 2 scenarios
 - ☐ SWOT Analysis of both scenarios

UX Pain Points Wall

- Fragmented information systems and lack of interoperability
- No access to historical retrofit or performance data
- Lack of standardization (tagging, terminology, reporting)
- Manual and inefficient workflows

PERSONAS	What frustrates you most when accessing building info?	What systems or databases do you use?	Where do you lose time or make errors?	What would make your job easier?
Building Owners / Facility Managers	Can't access retrofit history Fragmented information systems Lack of standardization (tagging, terminology, reporting) Manual and inefficient workflows	BER database Google Maps Google Google Maps Google	Fragmented information systems Lack of standardization (tagging, terminology, reporting) Manual and inefficient workflows	Unified dashboard + open APIs Standardized data formats Interoperable software Linked financial datasets Adoption of ISO 19650 / ICMS
Contractors / ESCOs	Can't access retrofit history Fragmented information systems Lack of standardization (tagging, terminology, reporting) Manual and inefficient workflows	BER database Google Maps Google Google Maps Google	Fragmented information systems Lack of standardization (tagging, terminology, reporting) Manual and inefficient workflows	Unified dashboard + open APIs Standardized data formats Interoperable software Linked financial datasets Adoption of ISO 19650 / ICMS
BER Assessors	Can't access retrofit history Fragmented information systems Lack of standardization (tagging, terminology, reporting) Manual and inefficient workflows	BER database Google Maps Google Google Maps Google	Fragmented information systems Lack of standardization (tagging, terminology, reporting) Manual and inefficient workflows	Unified dashboard + open APIs Standardized data formats Interoperable software Linked financial datasets Adoption of ISO 19650 / ICMS
Grant Providers / Banks	Can't access retrofit history Fragmented information systems Lack of standardization (tagging, terminology, reporting) Manual and inefficient workflows	BER database Google Maps Google Google Maps Google	Fragmented information systems Lack of standardization (tagging, terminology, reporting) Manual and inefficient workflows	Unified dashboard + open APIs Standardized data formats Interoperable software Linked financial datasets Adoption of ISO 19650 / ICMS
Policy Makers	Can't access retrofit history Fragmented information systems Lack of standardization (tagging, terminology, reporting) Manual and inefficient workflows	BER database Google Maps Google Google Maps Google	Fragmented information systems Lack of standardization (tagging, terminology, reporting) Manual and inefficient workflows	Unified dashboard + open APIs Standardized data formats Interoperable software Linked financial datasets Adoption of ISO 19650 / ICMS
Others?	Can't access retrofit history Fragmented information systems Lack of standardization (tagging, terminology, reporting) Manual and inefficient workflows	BER database Google Maps Google Google Maps Google	Fragmented information systems Lack of standardization (tagging, terminology, reporting) Manual and inefficient workflows	Unified dashboard + open APIs Standardized data formats Interoperable software Linked financial datasets Adoption of ISO 19650 / ICMS

Key Frustrations	Desired Solutions
Can't access retrofit history	Unified dashboard + open APIs
Duplication of work	Standardized data formats
No central database	Interoperable software
Limited access to BER data	Linked financial datasets
Lack of standard enforcement	Adoption of ISO 19650 / ICMS

- **Comprehensive data:** core building info, energy, cost, roadmap
- **Clear visualization:** color-coded, timeline-based, performance indicators
- **Secure access:** tiered user permissions
- **Interoperability:** open, EU DPP-compliant, API-enabled



Backend Architecture & Storage Scenarios

Comparison of 2 scenarios:

Scenario A: Unified National Platform

- Single database where all BRP data is stored (like BER DB)
- Central access point
- Easier for monitoring, standardization, public-sector control
- More effort upfront to build governance and privacy controls

VS

Scenario B: Interoperable Ecosystem

- Multiple connected systems owned by different actors
- Lightweight, flexible structure
- Easier to adapt to different use cases
- Risk of inconsistent data or weak integration

Which scenario would make your work easier - and why?	Which scenario seems more secure for sensitive data?	Would you trust a central national DB, or prefer smaller connected systems?	Do you think one scenario would cost significantly more?	How would each scenario affect your daily tasks?	Is there one scenario you would absolutely avoid?
Sticky notes for Scenario A: Unified National Platform. Includes a yellow note 'B', a green note 'A', a pink note 'A - central', and a blue note 'A'.	Sticky notes for Scenario B: Interoperable Ecosystem. Includes a yellow note 'B', a green note 'A', a pink note 'A - central', and a blue note 'A'.	Sticky notes for Scenario A: Unified National Platform. Includes a yellow note 'B', a green note 'A', a pink note 'A - central', and a blue note 'A'.	Sticky notes for Scenario B: Interoperable Ecosystem. Includes a yellow note 'B', a green note 'A', a pink note 'A - central', and a blue note 'A'.	Sticky notes for Scenario A: Unified National Platform. Includes a yellow note 'B', a green note 'A', a pink note 'A - central', and a blue note 'A'.	Sticky notes for Scenario B: Interoperable Ecosystem. Includes a yellow note 'B', a green note 'A', a pink note 'A - central', and a blue note 'A'.

SWOT Analysis

Feature	Scenario A: Unified Platform	Scenario B: Interoperable Ecosystem
Data Quality & Consistency	✓ High	⚠ Variable
Security & Governance	✓ Easier	⚠ Harder
Flexibility	⚠ Lower	✓ Higher
Cost (Lifecycle)	💰 Lower long-term	💰 Higher maintenance
Stakeholder Trust	👍 Strong	👎 Moderate



BRP Homepage Index

Homepage



Site
Assessment



Model
Validation



Tested
Scenarios



Renovation
Design



Intervention
Timeline



Decarbonisation
Roadmap



Carbon and EUI
Waterfall



Whole-Life Carbon
Assessment

Services

Building Elements

Envelope

System

Elements

- ☒ External Wall
- ☐ Glazing
- ☐ Roof

Information

Hollow block with cavity and Brickwork

Condition

Fair

Building Systems

Equipment

HVAC System

Lighting

System Items

Office Equipment



Item:

Office Equipment

Condition/Comments

The image 'undefined' could not be loaded.

In the absence of a detailed equipment load note, the equipment gains for the office unit, which is a standard office building, were determined using ASHRAE equipment standards from templates tailored to the building's specific use.

This first page shows all the information of the building (envelope, system, etc.). Having only the DEC, the information reported are very generic but they could be more detailed and also images could be added.

← Services



[Link to 3D model](#)

Select a building

Michael Davitt House Office



Building type
Office



Floor area (m²) (GIA)
7,796

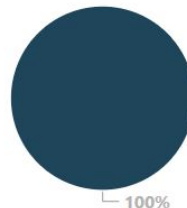


Location
Ireland



An energy model for each Unit is created in the iCD software and validated against yearly energy bills. The energy model behaves as the actual building and is hence able to predict changes in performance related to weather shifts, occupancy pattern changes or operational/fabric upgrades.

Total Annual Energy Share



100%

● Office



Annual CO₂e (tonnes)

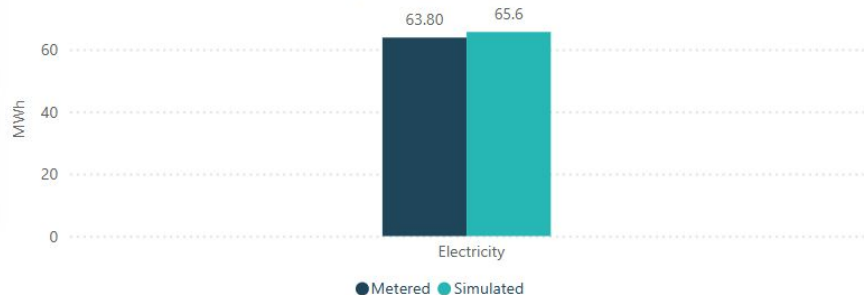
300



EUI(kWh/m²) (GIA)

144

Building Energy Usage for 2023



2.82% 

Difference (%)

Electricity

Oil

This page summarises the main characteristics of the building on the left and shows on the right the energy model Validation. The model is considered validated by ASHRAE standards if the difference between the real and simulated energy usage is lower than 5%.

← Services



Scenario Tested in the Study

Int 1 - Lighting Optimisation

☒ Int 1 - Lighting Optimisation

☐ Int 2 - Envelope insulation

☐ Int 3 - Window replacement

☐ Int 4 - ASHP Installation

☐ Int 5 - PV panels installation

☐ Int 6 - 2050 Baseline scenario

☐ Int 7 - 2050 Recommended scenario



Current Status

Currently there is no light



Measure Description

Network switching, dayli



Risks

Existing lighting control systems may not be compatible with PIR sensors, so new compatible luminaires would need to be installed.



Included in the Decarbonisation Roadmap

Yes - The intervention works very effectively with significant impact on energy reduction with zero investment cost.

Building Renovation Strategies

IES

← Services



Select measure

- ☒ Int 1 - Space Temperature Modification
- ☐ Int 2 - Upgrade Wall Insulation
- ☐ Int 3 - Upgrade Roof Insulation
- ☐ Int 4 - ASHP Installation
- ☐ Int 5 - PV panels micro-installation
- ☐ Int 6 - Future Weather File
- ☐ Int 7 - 2050 Recommended Scenario

Measure description

Reducing setpoint by 1 degree celsius for heating and and 1 degree celsius for cooling.



Energy Metrics



652 MWh
Total Energy with
ECM

135
Baseline

126
with ECM ▼ -7.01%

-6.1%
CO2 Reduction with ECM

▲ Increase ▼ Reduction ▼ Reduction - Typically Not Included in EUI



Financial Metrics

Open for more Details on
Cost Assumptions



€ 0
Investment Cost



€ 5,571
Annual Operational Savings



yrs
PayBack Period

● Medium
Estimated EPC Impact

Baseline vs. ECM Energy Breakdown [MWh/year]

Baseline Electricity

316

ECM Electricity

316

Baseline Natural Gas

384

ECM Natural Gas

336

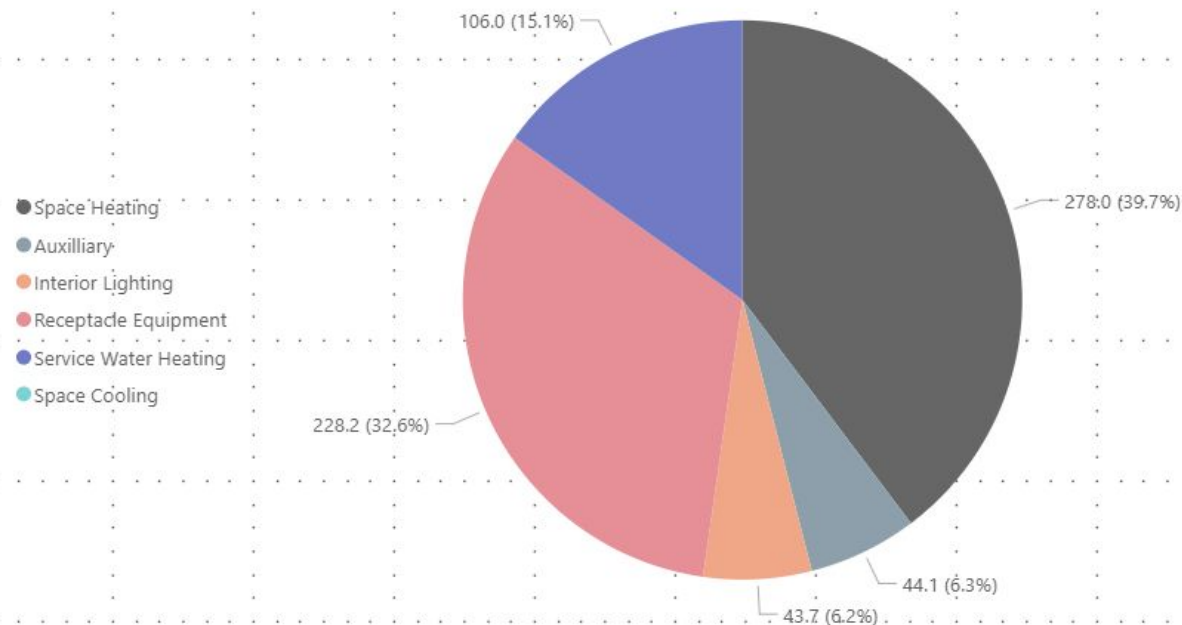
Building Renovation Strategies

IES



Services

Annual Energy Breakdown (MWh)



Select a building

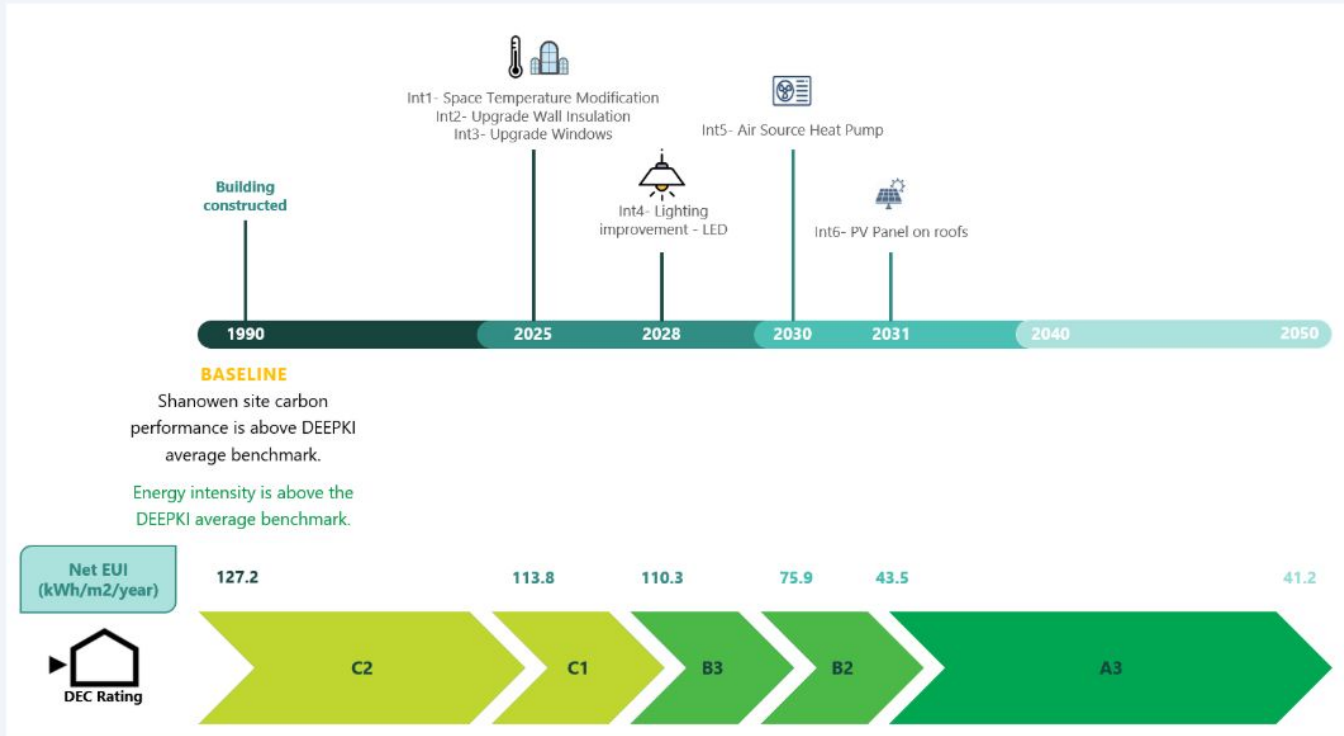
Chief State Solicitor Office

Operation Type

Baseline

Recommended

Intervention Timeline



① **Gross EUI** does not account for any on-site renewable energy generation (e.g., solar panels) or exported energy to the grid. It reflects the total energy consumed by the building, regardless of its source. The Gross EUI for this asset after the proposed interventions will be 73.1 kWh/m²/yr.

Net EUI provides a more accurate assessment of the building's energy performance by considering renewable energy contributions that reduce external energy demand. The Net EUI for this asset after the proposed interventions will be 41.2 kWh/m²/yr.

Services

Roadmap Type Slicer

Carbon

Energy

Result Type

Intensity

Select Comparison

Recommended Solution Compared to CRREM Targets

Baseline Energy Intensity
(kWh/m² (GIA))

143.78



Selected Year: 2024

2023 Deepki Average Targets
226.4 kWh/m²(GIA)

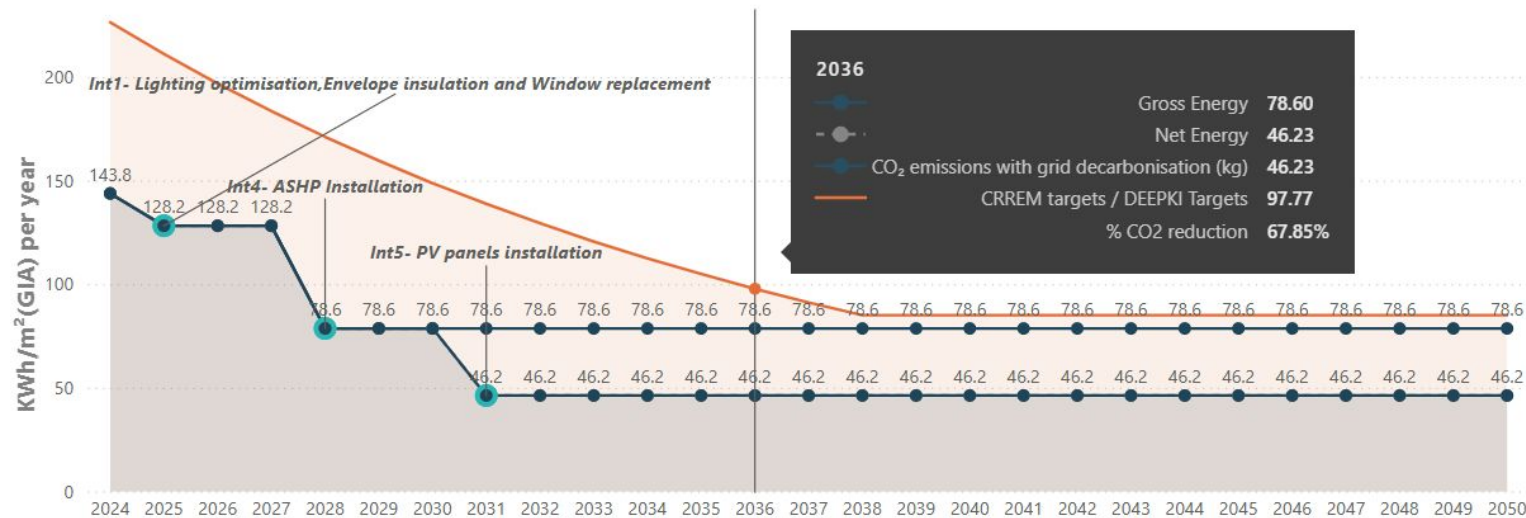
Predicted Energy VS Target
143.80 kWh/m² (GIA)

▼ -36.5%

Cumulative Energy savings (up to selected year)

0.0 kWh/m²

Building Energy Pathway to 2050



Services

Roadmap Type Slicer

Result Type ▼

Intensity ▼

Carbon Energy

Select Comparison

Recommended Solution Compared to CRREM Targets ▼

Baseline Carbon Intensity
(kg/m² (GIA))

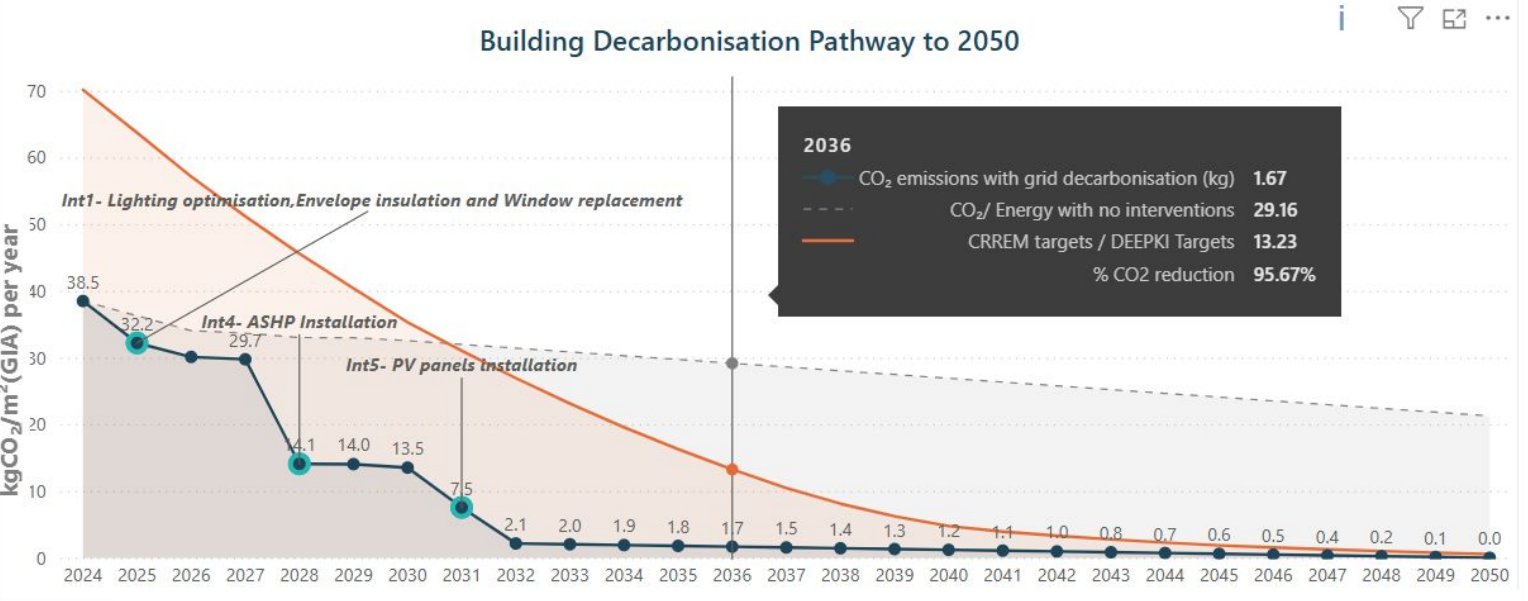
38.48

Selected Year: 2024

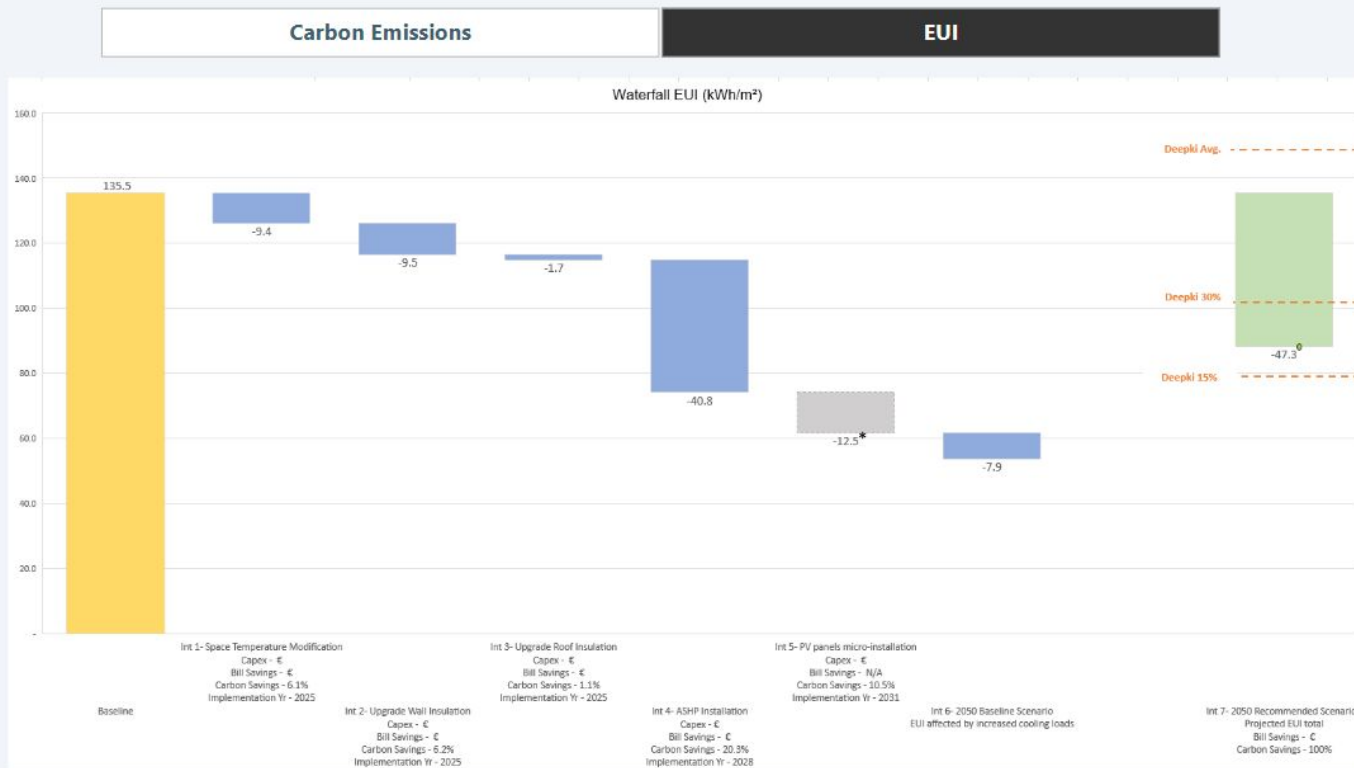
2023 Deepki Average Targets
70.2 kg/m²(GIA)

Predicted CO₂ VS Target
38.49 kg/m² (GIA)
▼ -45.1%

Cumulative CO₂ savings (up to
selected year)
0.0 kg/m²



Waterfall Metrics Slicer



① **Gross EUI** does not account for any on-site renewable energy generation (e.g., solar panels) or exported energy to the grid. It reflects the total energy consumed by the building, regardless of its source. The Gross EUI for this asset after the proposed interventions will be 78.6 kWh/m²/yr.

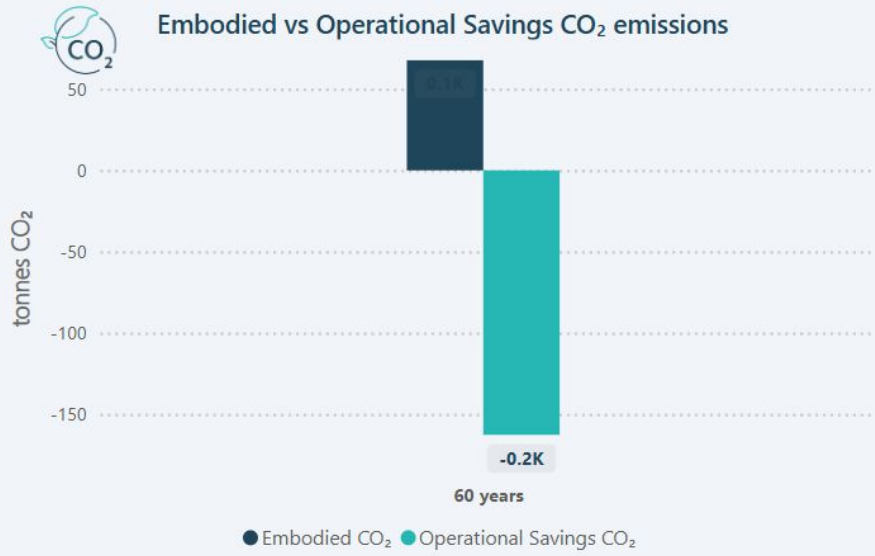
Net EUI provides a more accurate assessment of the building's energy performance by considering renewable energy contributions that reduce external energy demand. The Net EUI for this asset after the proposed interventions will be 46.2 kWh/m²/yr.

Services

Embodied Carbon Scenario

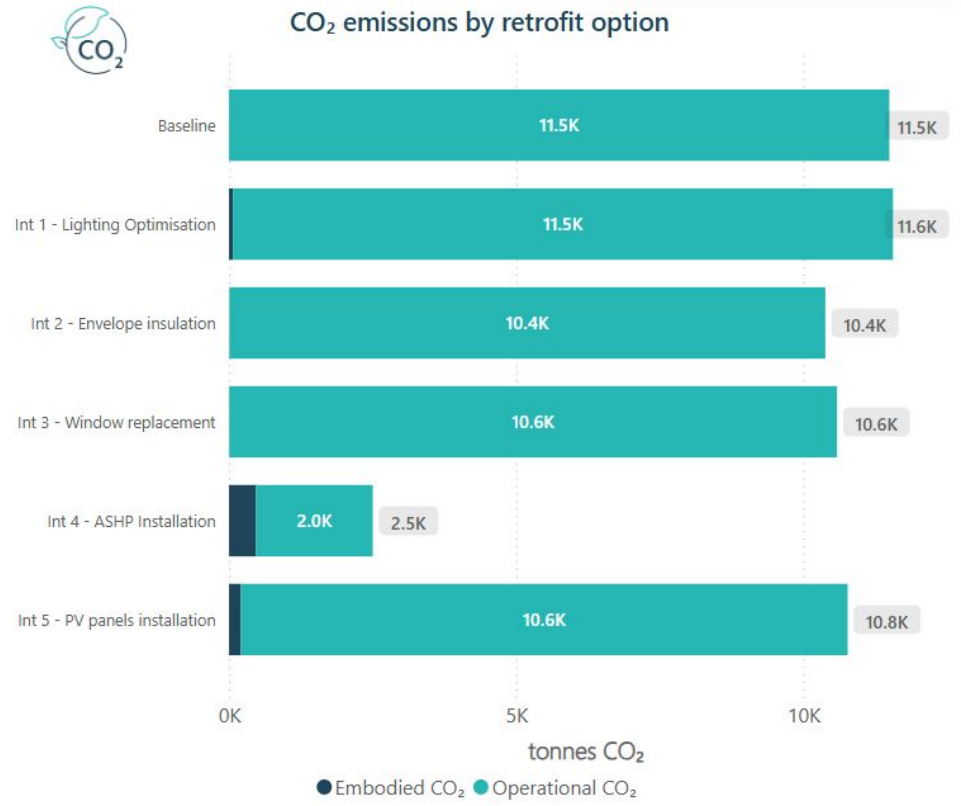
Decarbonised Non-Decarbonised

Select a building
Michael Davitt House Office



Retrofit option
Int 1 - Lighting Optimisation

Note: For the purposes of embodied carbon calculation, this retrofit options has -
Lifespan: 15 years
No of replacement in 60 years: 4





Thank you!

Workshop

09:00 – 10:30 CEST, Friday 10 October 2025; Room 2

**Adaptable technological solutions for
the construction & renovation of
Energy Positive Homes**



Presented by
Călin Boje



Speakers

Dimitris Athanasiou, IEECP •

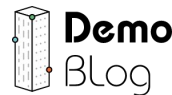
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Workshop

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Adaptable technological solutions for the construction & renovation of Energy Positive Homes



Presented by
Angela Araldi



Speakers

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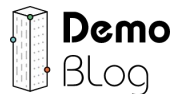
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BUILDING DECARBONIZATION WORKSHOP

Data and tools for the decarbonisation of the European building stock
LEGOFIT project - C. Boje - A. Araldi



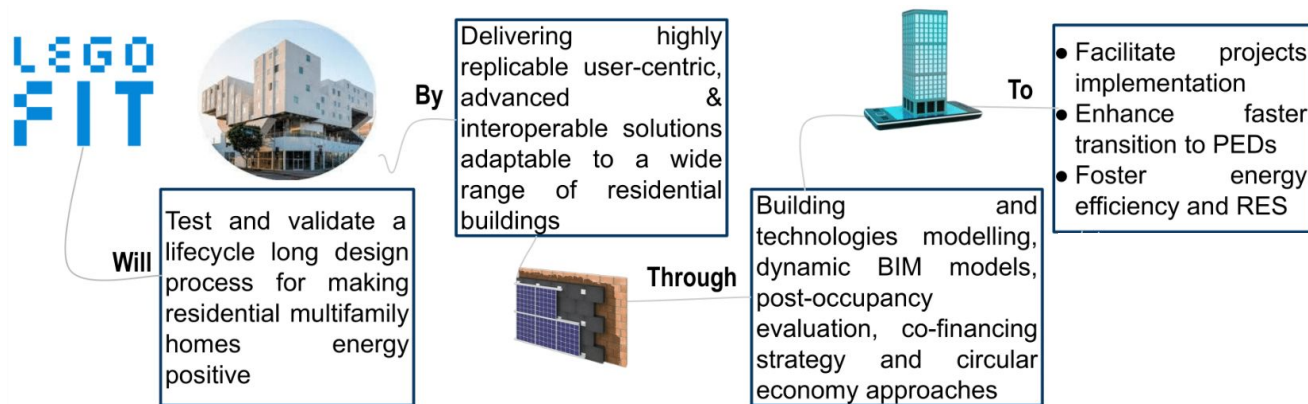
www.sustainableplaces.eu

Legofit

Smart Tools for Smart Buildings: Enhancing the intelligence of buildings in Europe

OBJECTIVES

The LEGOFIT project aims to design, implement and validate an advanced and dynamic integrative approach to accomplish EPH based on smart and innovative solutions.



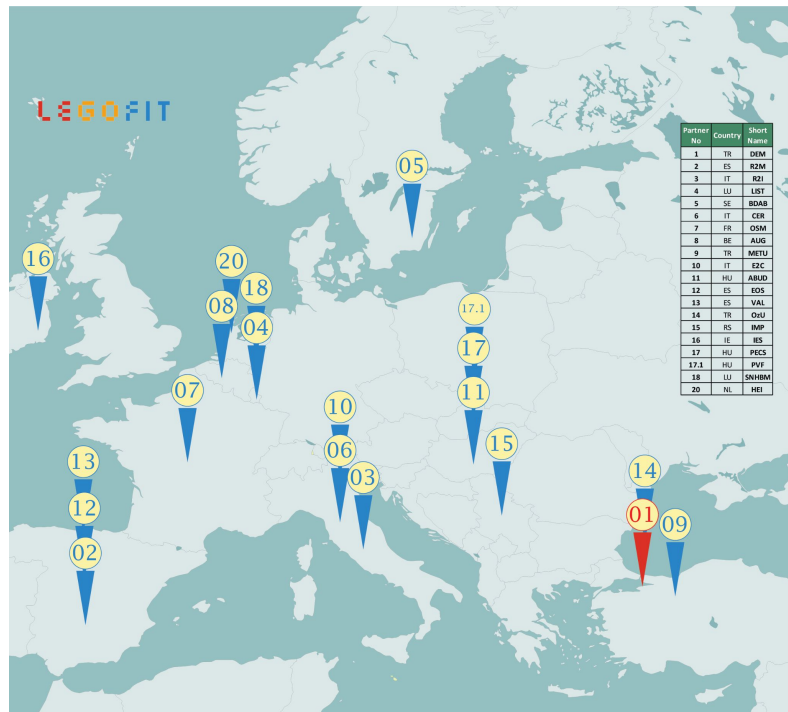
PROJECT DURATION

48 months - started in May 2023

Legofit

Smart Tools for Smart Buildings: Enhancing the intelligence of buildings in Europe

PARTNERS



PILOTS



DEMO 1, SPAIN
Multifamily and multifloor
residential building



DEMO 2, TURKEY
Student dormitory



DEMO 3, LUXEMBOURG
New residential building



DEMO 4, HUNGARY
Multifamily residential
prefabricated building



DEMO 5, NETHERLANDS
New single-family houses



Legofit

Smart Tools for Smart Buildings: Enhancing the intelligence of buildings in Europe

HOW

- Develop the **BIM models** of the pilots building by using a Scan2BIM methodology.
- Create a standard, BIM-related and interoperable building performance framework for energy positive homes, the LEGOFIT Positive Residential **Building Digital Logbook**
- Contribute to the Legofit **Building Circularity Passport framework** definition
- **Gather data** requirements for **dynamic** Circularity Passport **indicator calculation**
- **Streamline** the **MCI** and **LCA** methodologies and relevant **indicators**



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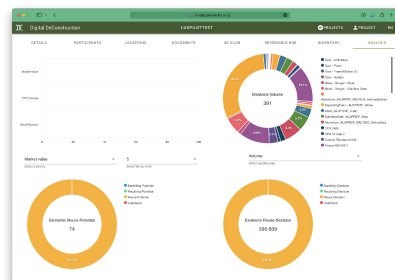
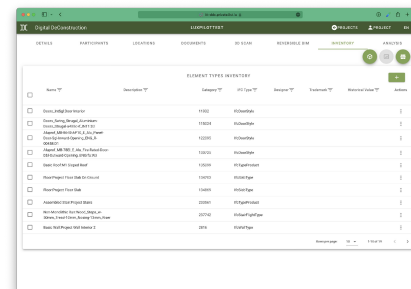
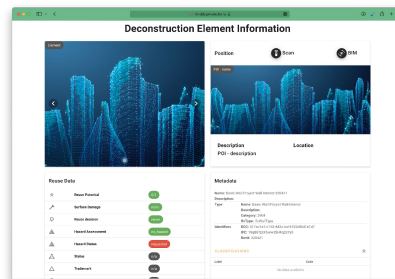
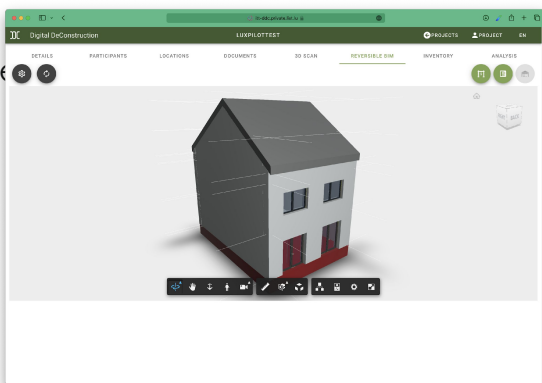
Grant Agreement N°:101104058

Legofit

Circularity in the construction sector – the DDC platform

HOW

- Demo of DDC on Luxembourg pilot house
- Data collected on passive & active solutions
- Associated actors



The screenshot shows the 'Inventories' page. It features a table with columns for 'Name', 'Description', 'Material', 'Quantity', 'Unit', and 'Status'. The table contains several rows of data, including 'Concrete', 'Brick', 'Wood', and 'Metal'. The table is filtered by 'Material' and 'Quantity'.

Product data sheet

Inventories



4.1 Product and component level

Table 2. Product and component level approaches for material passports and their data scopes across domains

Approaches from Table 1*	EPD	PEF	DPP	MP	PC DS	(Munaro & Tavares, 2021)	(Çetin et al., 2023)	(Tomczak et al., 2024)	CMP	MPF
Identity	x	x	x	x	x	x	x	x	x	x
Composition	x	x	x	x	x	x	x	x	x	x
Assembly			x	x		x	x	x	x	x
Environmental	x	x	x	x		x	x	x		x
Circularity			x	x	x	x	x	x	x	x
Energy	x	x								
Water	x	x								
Wellbeing	x									
Transport	x	x		x		x				
Usage	x	x	x	x	x	x	x	x	x	x
Economic										x
other				x		x			x	x

* some of the studies are excluded if data was not the primary focus, and others initiatives were added which look at data requirements but do not explicitly define a passport

Table 3. Building level approaches for and their data scopes across domains

Approaches from Table 1	BREEAM	LEED	DGNB	Level(s)	PH	EPC	SRI	WELL	DBL
Identity	x	x	x	x	x	x	x	x	x
Composition	x	x	x	x				x	x
Assembly									x
Environmental	x	x	x	x	x	x			x
Circularity	x	x	x	x					x
Energy	x	x	x	x	x	x			x
Water	x	x	x	x	x	x	x		x
Wellbeing	x	x	x	x				x	x
Transport	x	x	x						x
Usage							x		x
Economic	x	x	x	x					x
Other								x	x

Ranking domain data sources which influence building circularity passports

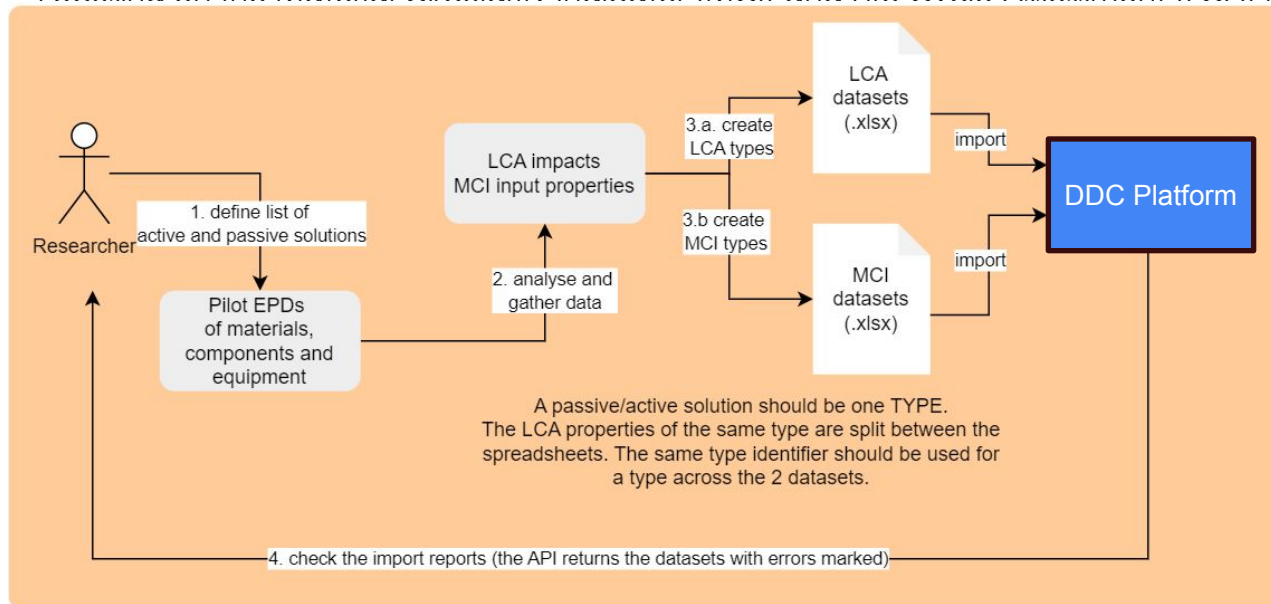
October 2024
Conference: ClBw78 2024 · At: Marrakech, Morocco · Volume:
https://ltc.scix.net/pdfs/w78-2024-paper_95.pdf
Lab: [Sylvain Kubicki's Lab](#)
 Calin Boje ·  Sylvain Kubicki ·  Nico Mack · [Show all 6 authors](#) · Giulia De Aloysio

Legofit

MCI & LCA data collection – the DDC platform

HOW

- Focusing on the Material Circularity Indicator (MCI) and Life Cycle Assessment (LCA) methods



Legofit

Scoring and aggregation from materials to building level

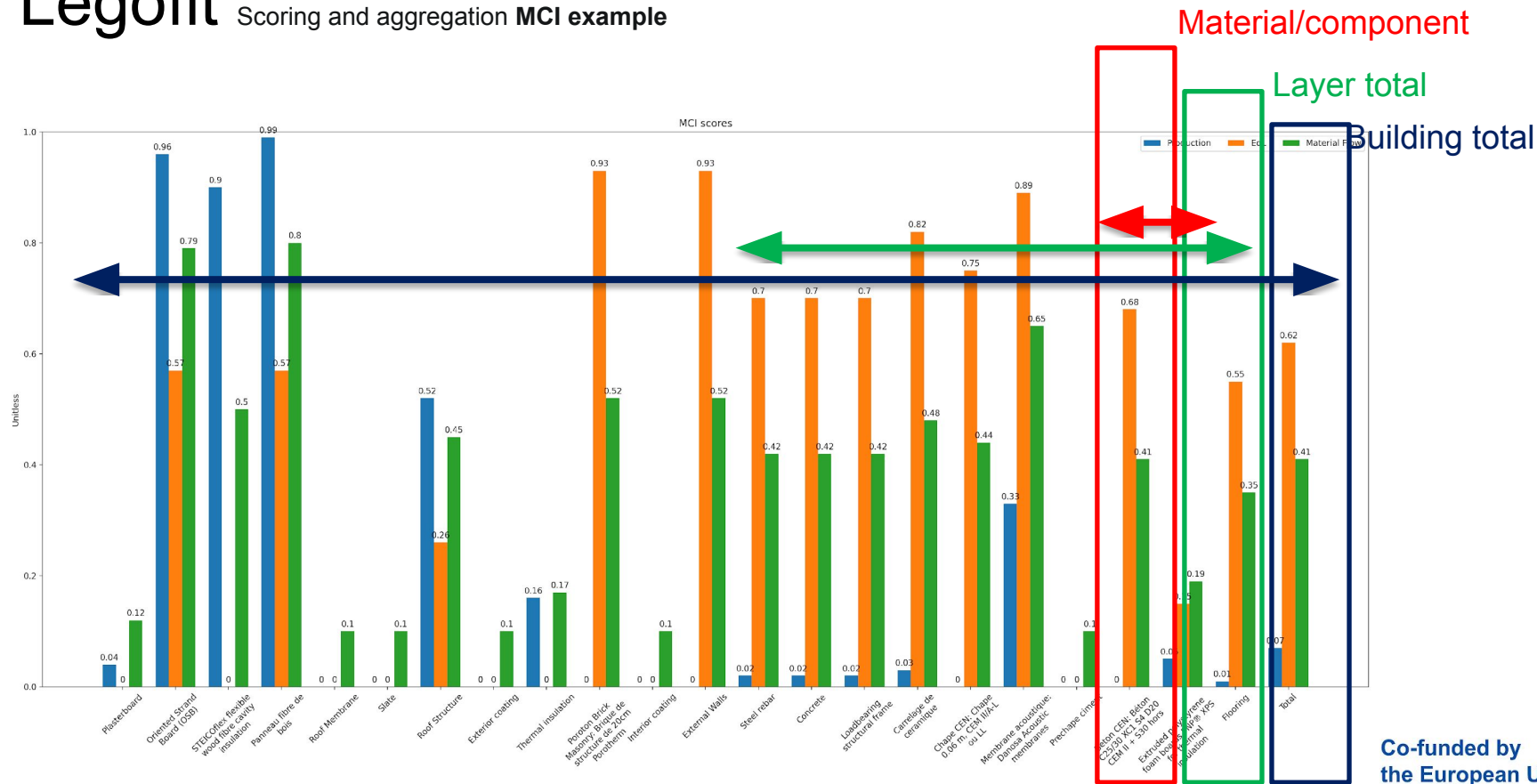
HOW

- A building level passport implies aggregation from material to component and different layers
- An eventual full building scope score is considered to be transferred to the DBL
- **MCI and LCA methodologies are linear in their calculation, so aggregation is possible, unlike other methods (such as reusability scores, or disassembly scores)**
- An aggregated score may still not give the best indication of the building circularity, as each layer has its own particularities



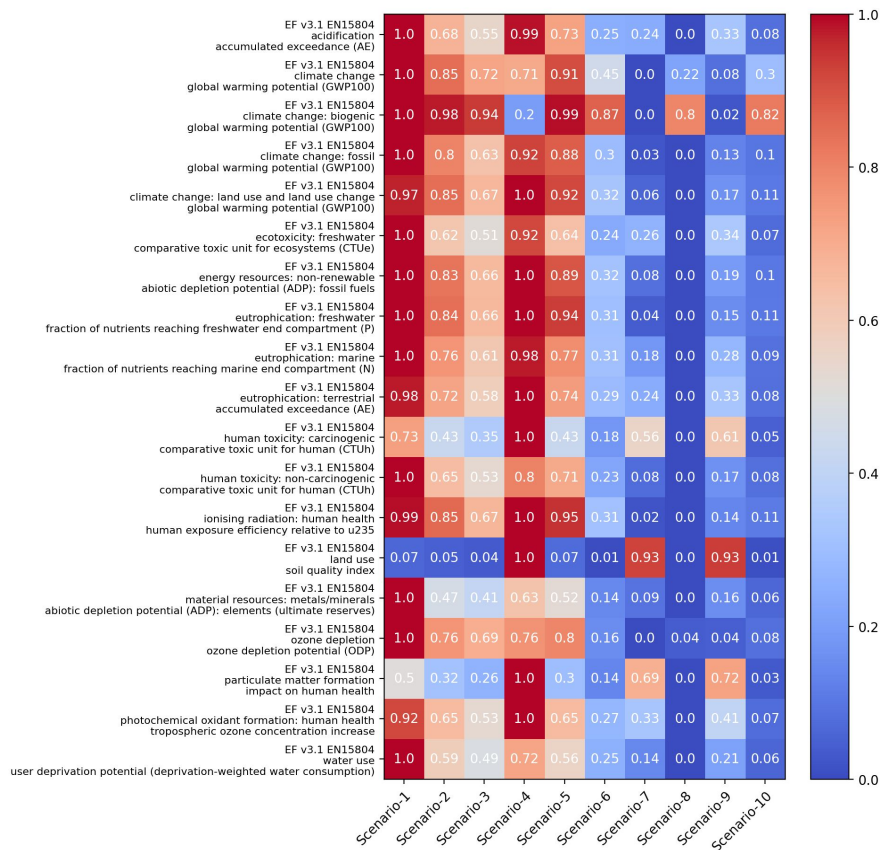
Legofit

Scoring and aggregation MCI example



Legofit

LCA indicators – sustainability assessment for renovation



- LCA indicators are many and varied
- LCA background data + characterization factors can change with time
- How can we make LCA transparent?
- What needs to be reported at building level, or how meaningful is a unique score?



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Grant Agreement N°:101104058

Digital Building Logbook

Smart Tools used and developed in the project

Context



EU launched EPBD

Collection of directives and policy measures to phase out inefficient buildings in order to achieve this goal. It **introduces the concept of a Digital Building Logbook (DBL)**.



EU DBL definition

*"a common **repository** for all **relevant building data**, including data related to energy performance such as energy performance certificates, renovation passports and smart readiness indicators, as well as on the life-cycle Global Warming Potential (GWP) and indoor environmental quality, which **facilitates informed decision making** and information sharing within the construction sector, among building owners and occupants, financial institutions and public authorities"*



EU launched EPBD IV

It replaces and updates previous directives. It focuses on energy performance in buildings, aiming for a decarbonized and highly energy-efficient building stock by 2050.

It refers to the DBL as a **key tool** for enhancing transparency and information flow in the building sector.



LEGOFIT's DBL

Digital Building Logbook

Smart Tools used and developed in the project

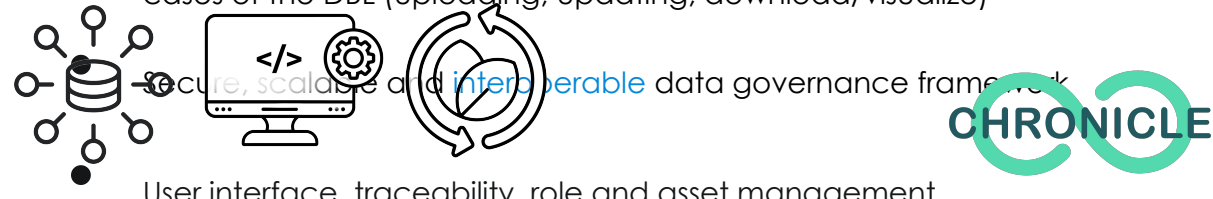
R2M DBL's main proposition and development

Common repository for all **relevant building data**

We consider DBL a **data destination**.

- Supporting multiple types of data (documents, images, models)
- **3D/BIM models visualization** to facilitate the usage to the users
- APIs to feed data into and retrieve data from the DBL
- Clear definition of the stakeholders and the main preliminary use cases of the DBL (uploading, updating, download/visualize)

Facilitating informed decisions and information sharing



Digital Building Logbook

Smart Tools used and developed in the project

DBL's future development

- Understanding LEGOFIT's tools data sharing within the DBL
- Define clearly the advanced scenarios and use cases of the DBL
- Discuss ongoing on how to adapt the DBL to the needs of the circularity aspects



THANK YOU!

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CONSORTIUM



Workshop

09:00 – 10:30 CEST, Friday 10 October 2025; Room 2

Integrating SRI in DBL and in 3D visualization of buildings



Presented by
Marco Pietrobon



Speakers

Dimitris Athanasiou, IEECP •

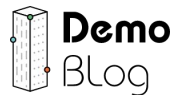
Henk Visscher, TU Delft •

Andrei V. Lițiu, EPB Center •

Raphaëlle Papa, IES •

Călin Boje, LIST & **Angela Araldi**, R2M Solution •

Marco Pietrobon & **Rubén Alonso**, R2M Solution •



Workshop

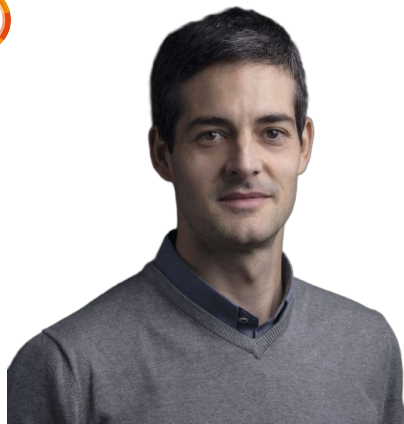
09:00 – 10:30 CEST, Friday 10 October 2025; Room 2

Integrating SRI in DBL and in 3D visualization of buildings

SM^{IRT}2

Presented by
Rubén Alonso

R2M
RESEARCH TO MARKET
SOLUTION



R2M
RESEARCH TO MARKET
SOLUTION



Speakers

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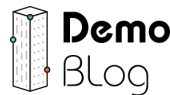
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OPEN
BEP4EU

RP
Renovation Passport Pilot - Non-Residential

LEGO
FIT

SM^{IRT}2



Integrating SRI in DBL and in 3D visualization of buildings

Marco Pietrobon and Rubén Alonso - R2M Solution



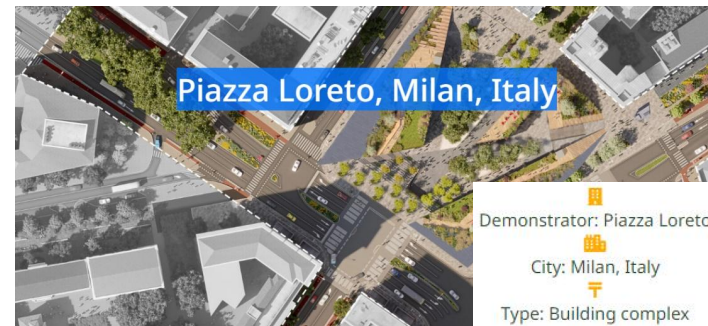
"Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them"

Content

- The Smart-Ready-Go- Platform for SRI assessments
- Functionalities for integration
- SRI through buildings renovation – a case study
- SCAN-2-SRI
- Integrating SRI and DBL



The project **Smart Square**, aims to develop and deliver the appropriate tools and applications, which will enable the promotion and establishment of intelligence assessment of buildings in Europe, through buildings **Smart Readiness Indicator (SRI)** scheme.



LIFE21
PROJECT



CONSORTIUM: 10 PARTNERS



8 EUROPEAN COUNTRIES INVOLVED



DURATION: 36 MONTHS

SMART² OBJECTIVES

1



Development of tools & services that will boost the uptake of the SRI scheme among the EU member states

2



Roll out of ICT smart ready technologies including AI & IoT for smarter SRIs

3



Commissioning of a cloud based open platform for assessing the intelligence of buildings, tailored for building designers / owners & facility managers

4



Development of an SRI audit process, acting as the forerunner of a standardized procedure

5



Establishment of the required grounds for the integration of the SRI Ratings in building digital logbooks

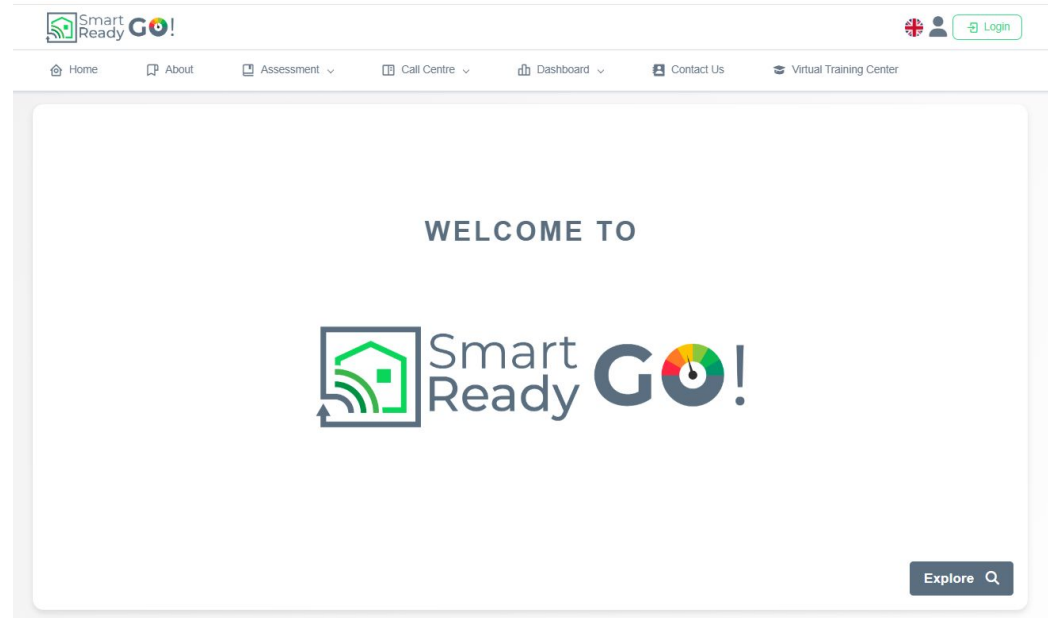
6



Integration of the SRI calculation procedure into the EPC extraction processes.

The Smart-Ready-Go- Platform for SRI assessments

Smart-Ready-Go:
Assessing the intelligence of buildings



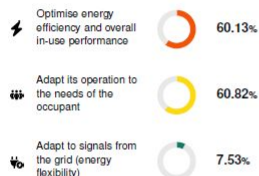
<https://www.smart-ready-go.eu/>

Report of the results

SMART READINESS INDICATOR - ASSESSMENT

Building's Name
 Blocco EX1
Date of Assessment
 28-03-2025
Assessor's Name
 Marco Pietrobon, Milad Zoghi
Building's Type
 Non Residential
Building's Usage
 Non-residential office
Location
 Italy
Building's Net Floor Area
 1588 m²
Year of Construction
 >2010

Aggregated Scores



SRI Score



	Energy Efficiency	Maintenance & Fault Prediction	Comfort	Convenience	Health, Well-being and Accessibility	Information to Occupants	Energy Flexibility & Storage	SRI
Total	59.10%	7.53%	55.78%	55.21%	60.58%	61.17%	71.70%	42.83%
🔥 Heating	53.33 %	0 %	62.50 %	62 %	66.67 %	49 %	100 %	
💧 DHW	100 %	0 %	0 %	0 %	0 %	50 %	100 %	
❄️ Cooling	73.33 %	16.67 %	62.50 %	50 %	66.67 %	50 %	100 %	
🌬 Ventilation	54.55 %	0 %	42.86 %	50 %	62.50 %	100 %	100 %	
💡 Lighting	100 %	0 %	100 %	100 %	100 %	0 %	0 %	
🏠 DE	0 %	0 %	0 %	0 %	0 %	0 %	0 %	
⚡ Electricity	75 %	0 %	0 %	0 %	0 %	50 %	100 %	
🚗 EV	0 %	25 %	0 %	83.33 %	0 %	0 %	0 %	
🔌 M&C	50 %	11.11 %	66.67 %	58.82 %	75 %	72.73 %	66.67 %	

The Smart-Ready-Go- Platform for SRI assessments

Export files (PDF, JSON, XLSX, CSV, ...)

📄 SRI Assessment	Documento Adobe Acrobat
📁 Building_815_Export	Cartella compressa
📄 Building_815_Export	File JSON
📄 detailed_scores	File JSON
📄 domain_scores	Foglio di lavoro di Microsoft Excel
📄 domain_scores	File con valori separati da virgola (CSV)

SRI Results and exporting options from Smart-Ready-Go platform

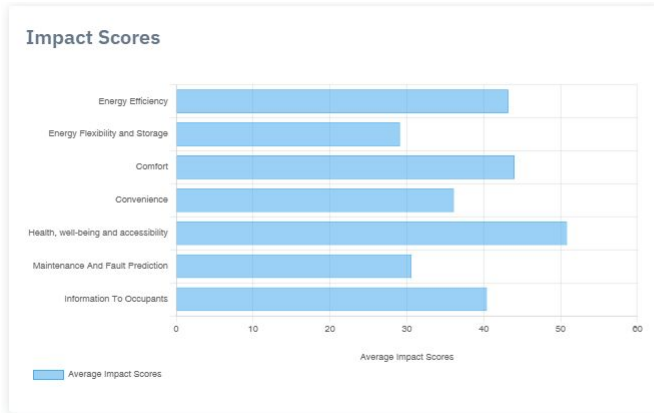
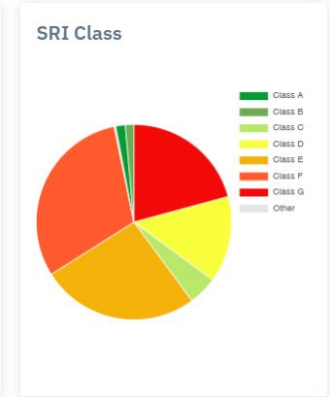
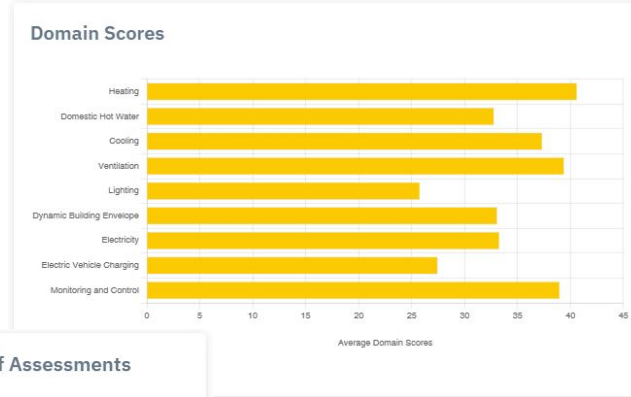
Database for the management of portfolio

Database

Show 10 entries

Building's Name	Assessor's Name	Location	Actions
Blocco EX1	Marco Pietrobon, Milad Zoghi	Italy	Edit Delete Export Duplicate
Condominio M11	Marco Pietrobon	Italy	Edit Delete Export Duplicate

The Smart-Ready-Go- Platform for SRI assessments



Number of Assessments

707

Functionalities for benchmarking and statistics in SRI results

Here an example about statistics at national level - Italy

SRI through buildings renovation – a case study

La Forgiatura – office campus

10 buildings campus with offices and restaurants.

Location: Via Varesina 162, Milano
Floor surface: 20.813 m²

Example of urban regeneration developed from 2013 to 2016

Smartness improved thanks to AI-based solution deployed in 2022.



SRI through buildings renovation – a case study



SRI Assessment Platform for
Building Assessors



Cloud-based HVAC Optimization
using AI

SRI through buildings renovation – a case study

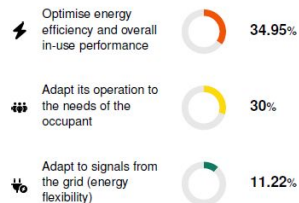
SRI assessment with Method B

before AI

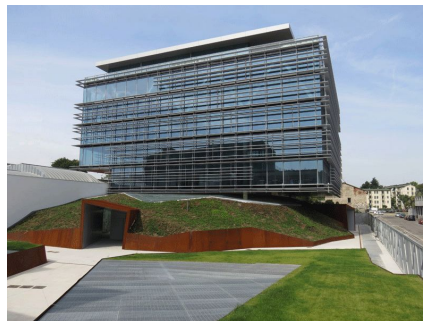
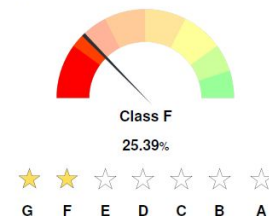
SMART READINESS INDICATOR - ASSESSMENT

Building ID F11_Raimondi	Date of Assessment 14-02-2025	Assessor Name Milad Zoghi	Building Type Non Residential
Building Usage Non-residential educational	Location Italy	Net Floor Area 8403.84 m ²	Year Of Construction >2010

Aggregated Scores



SRI Score

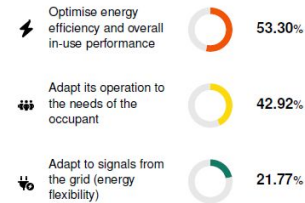


after AI

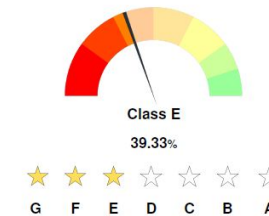
SMART READINESS INDICATOR - ASSESSMENT

Building ID F11_Raimondi - post AI	Date of Assessment 17-02-2025	Assessor Name Milad Zoghi	Building Type Non Residential
Building Usage Non-residential educational	Location Italy	Net Floor Area 8403.84 m ²	Year Of Construction >2010

Aggregated Scores



SRI Score



**SRI improvements
For HVAC better controls
thanks to AI solution**

SCAN2SRI: 3D Immersive, SRI-Enabled 3D Navigable Models



MATTERPORT is a scanning technology to make point clouds and 3D Immersive Environments

Smart Ready Go! is a software tool for calculating the Smart Readiness Indicator – an indicated that assesses a buildings smartness with respect to people, technologies and the grid.

Building on work in the Smart Square Horizon Europe Life Project, and funded by the SUSTAIN Eurocluster Open Calls, **SCAN2SRI** brings the Smart Readiness Indicator to building stakeholders in new and intuitive ways. From a 3D Navigable Model – see SRI assessment data. From SRI results, see the relevant parts of the 3D navigable model.



Upload Matterport Tags CSV File

tags-1kVP9g48Tc9-Tue, 25 Mar 2025 14:05:02 GMT.csv

Upload Smart-Ready-GO JSON File

office_detailed_scores_2025_03.json

Generate Integrated File

Download Integrated File

Download SRI PDF annex



Close

10 of 23



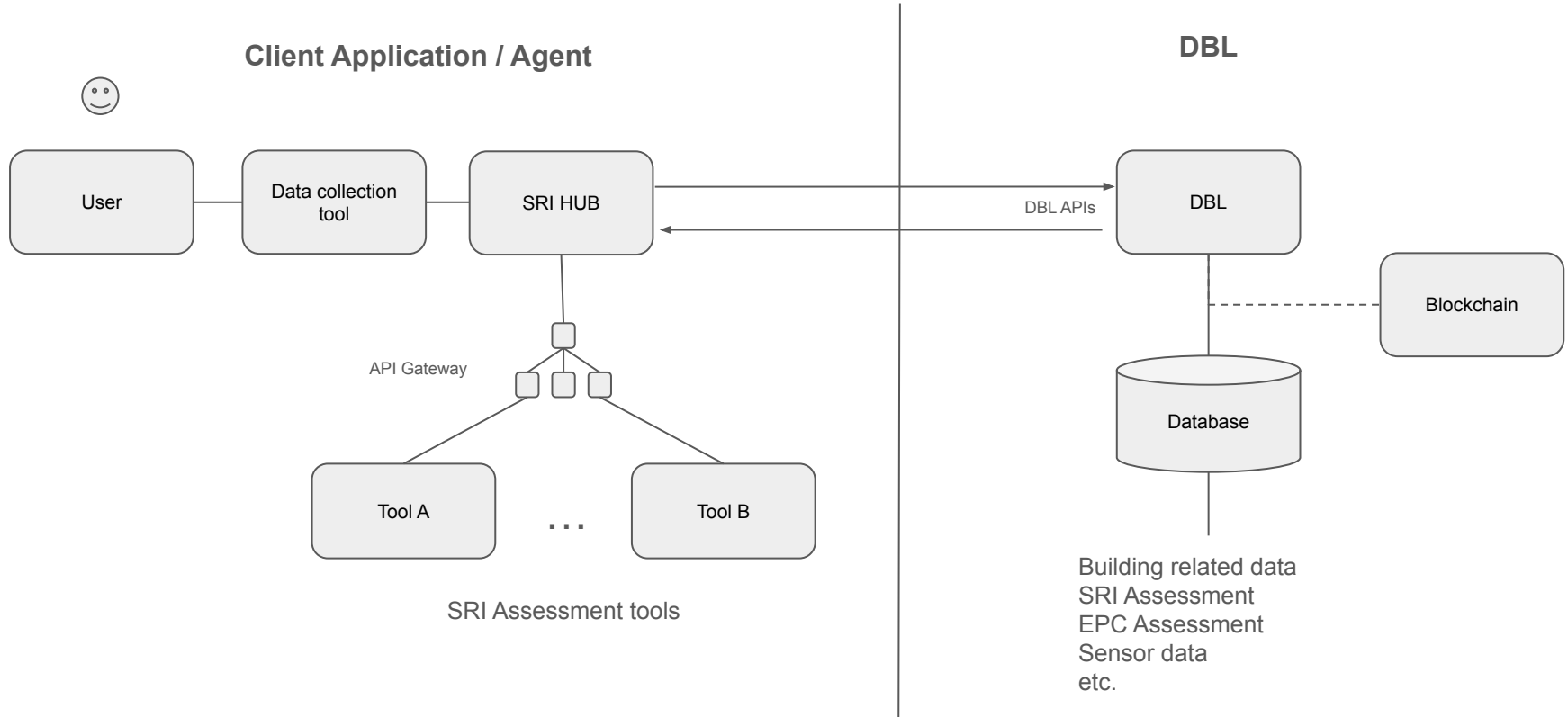
Monitoring and Control

Results from the Smart Readiness Indicator (SRI) assessment, for the Monitoring and Control domain and the 7 impact criteria listed below.

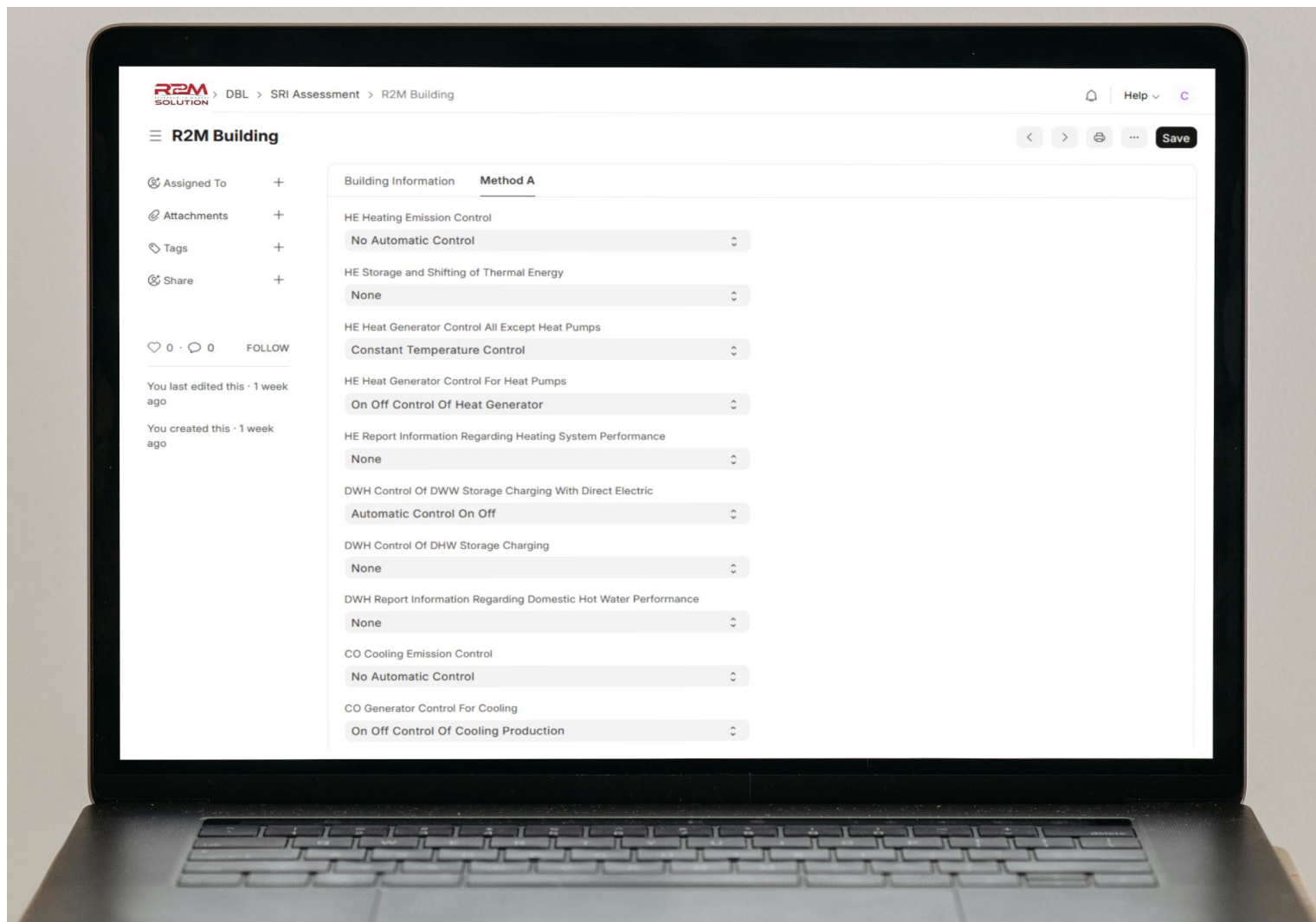
- Energy Efficiency: 12.5 %;
- Energy Flexibility and Storage: 20 %;
- Comfort: 33.33 %;
- Convenience: 7.14 %;
- Health well-being and accessibility: 0 %;
- Maintenance And Fault Prediction: 0 %;
- Information To Occupants: 0 %;

(Source: [Smart Ready Go](#) , the web platform to assess the level of smartness of your building, through the SRI calculation scheme)

Integrating SRI and DBL



DBL UI



- Thanks for your attention

Marco Pietrobon - marco.pietrobon@r2msolution.com

Rubén Alonso - ruben.alonso@r2msolution.com



Moderated panel discussion and Q&A



**Henk
Visscher**



**Dimitris
Athanasiou**



**Andrei V.
Lițiu**



**Raphaëlle
Papa**



**Călin
Boje**



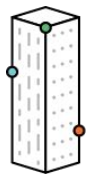
**Angela
Araldi**



**Marco
Pietrobon**



**Rubén
Alonso**



Demo
Blog



OPEN
BEP4EU



Workshop

09:00 – 10:30 CEST, Friday 10 October 2025; Room 2

Closing remarks

Moderated by
Henk Visscher



Speakers

Dimitris Athanasiou, IEECP •

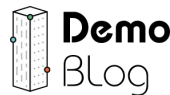
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**SUSTAINABLE
PLACES 2025**

8-10 October 2025

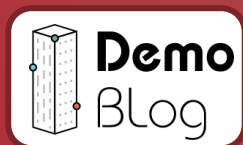
Monte Rosa 91, Milano, Italy



R2M
RESEARCH TO MARKET
SOLUTION

BUILDING DECARBONISATION WORKSHOP

Data and tools for the decarbonisation of the European building stock
09:00 – 10:30 CEST, Friday 10 October 2025; Room 2



www.sustainableplaces.eu