WORKSHOP AGENDA

Circular and Bio-based Building Solutions

14 June 2023 – Chaired by Zia Lennard & Klaus Luig

Phase I: Opening

16:00 – 16:05 WELCOME STATEMENT

Zia Lenard (R2M - FRANCE)

Phase II: Projects overview (ie. Objectives, methodologies, lessons learned)

16:05 – 16:20 BIO4EEB

Klaus Luig (3L - GERMANY)

16:20 – 16:35 BIOMAT

Joana Araujo (CeNTI - PORTUGAL)

16:35 – 16:50 MEZeroE

Fabrizio Perrota (R2M - ITALY)

16:50 – 17:05 CE4CON

Alessandro Pracucci (FOCCHI SPA - ITALY)

Phase III: Q&A and Closing

17:05 – 17:25 ROUND TABLE DISCUSSION

Klaus Luig (3L - GERMANY)

17:25 – 17:30 CONCLUSION

SUSTAINABLE PLACES 2023

Project Coordination and Management

3L, Klaus Luig

This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101084182*

What the hell is 3L?

This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101091967*

BIO4EEB

Facts & Figures

3L founded in 1989
Architects + Engineers
Family business

Project development, real estate investment
research & development

This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101091967*

BIO4EEB

Involved Staff

This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101091967*

BIO4EEB

BIO insulation materials for Enhancing the Energy performance of Buildings

BIO4EEB is a project co-funded by the European Commission which kicked off at the beginning of 2023. BIO4EEB solutions and products aim at uplifting the generic bio-based material use and qualifying their application at a circular economy approach for creating a much greener EU building industry.

BIO4EEB

This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101091967*

CORDIS

Project description

DE EN ES FR IT PL

Innovative bio-based insulation materials support a greener building and construction industry

The use of thermal insulation materials significantly reduces buildings' heating and cooling needs, slashing related energy consumption and CO2 emissions. Using bio-based materials for both new buildings and deep renovations can augment benefits, addressing the insulation material shortage while moving towards a circular economy. The EU-funded BIO4EEB project will use non-hazardous bio-based materials such as the seagrass Posidonia oceanica and various bio-based foams to develop smart components for external and internal use. Marketability will include demonstration of a short seven-year return on investment. The bio-based materials will significantly reduce environmental impact relative to current solutions while enabling tremendous energy (and cost) savings for building owners and occupants.

Show the project objective

Project Information

BIO4EEB

Grant agreement ID: 101091967

DOI

10.3030/101091967

Start date
1 January 2023

End date
31 December 2026

Funded under
Digital, Industry and Space

Overall budget
€ 8 829 675,00

EU contribution
€ 6 584 313,50

Coordinated by
LENZE-LUIG 3-L-PLAN GBR

Germany

This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101091967*

BIO4EEB

CORDIS

Buildings are responsible for approximately 40% of energy consumption and 36% of CO2 emissions in the EU. Deep Renovation of existing old buildings has the potential to lead to significant energy savings and a tremendous carbon footprint shrinkage. The current EU climate targets open an ample opportunity for exponential growth in the building thermal insulation materials market owing to the increasing number of new residential buildings and current deep renovation needs.

The target is to support residential building´s construction performance extraordinary at all three hierarchical levels of construction parts simultaneously (building, component, material) by creating an amplified environmental impact and reducing additionally VOC emissions. BIO4EEB will apply non-hazardous bio-based material as e.g. Posidonia and various bio-based foams to develop and to proof the marketability of smart components for external and internal use as material application, pre-fab panels or windows. The efficiency and effectiveness is quite important to match with market demands and establish a unique selling proposition including a seven years RoI!

This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101091967*

BIO4EEB

CORDIS

BIO4EEB will close the increasing gap of insulation material shortage caused by the regular growing demand and the mismatch caused by lacking production potential and the outcome of the current energy crisis by boosting the use of available bio-based qualified materials as alternative solutions.
The objective is to substitute using fossil resources for components and replace them at a comparable price value positioning. New business models utilizing the complete economic value chain open the market for bio-based BIO4EEB solutions and products uplifting the generic bio-based material use and qualifying their application at a circular economy approach for creating a much greener EU building and construction industry real estate stock.

This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101091967*

BIO4EEB

Fields of Action

User-centricity

Development of affordable and user centric envelope solutions aligned with market needs, and applicability to different building typology.

Bio-based materials

Development of new environment friendly, light-weight and cost-effective bio-based insulation materials to move towards building with nearly zero net energy consumption standards.

Circularity

Demonstration of the circularity and adaptability of the BIO4EEB solutions for an easy installation in a real operational environment and their replicability using virtual demo cases.

Decision support system

Development of an IT user-friendly and multi-disciplinary platform for improving the decision-making process for selecting the best energy efficient renovation strategy and promoting building stock renovation.

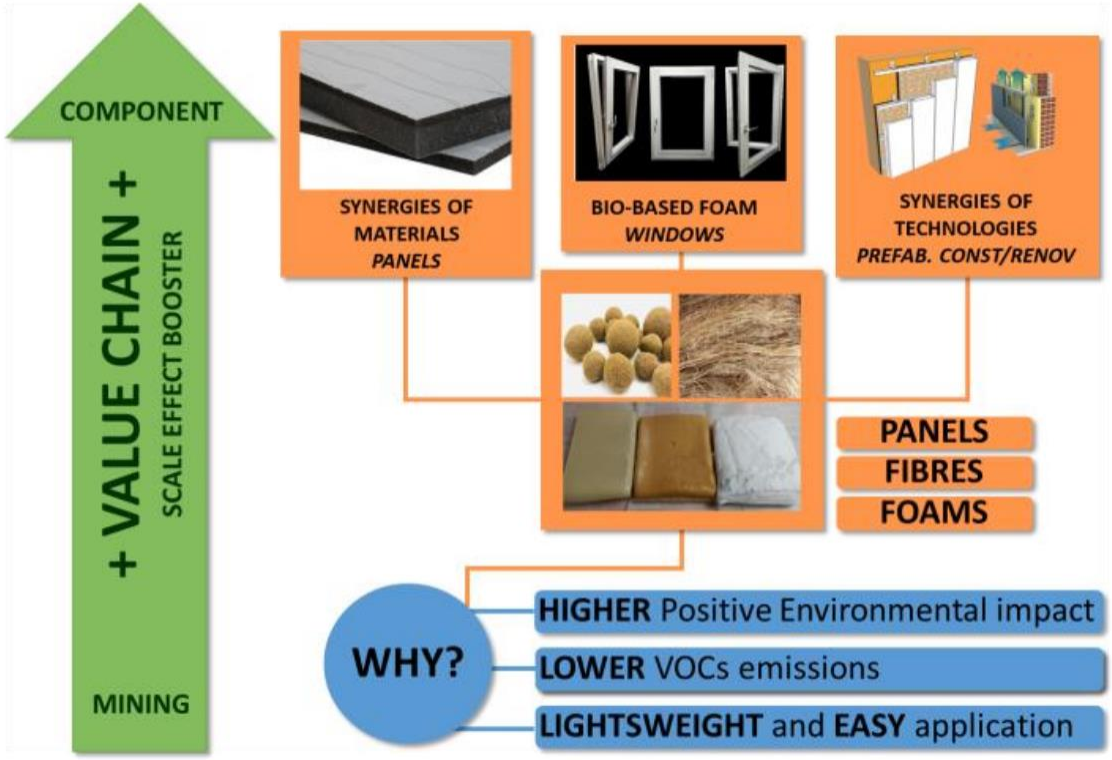
Latin American uptake

Cooperating with relevant partners as well as extending the BIO4EEB outcomes to the Latin American construction market sector to facilitate the development and increase the acceptance of BIO4EEB solutions.

This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101091967*

BIO4EEB

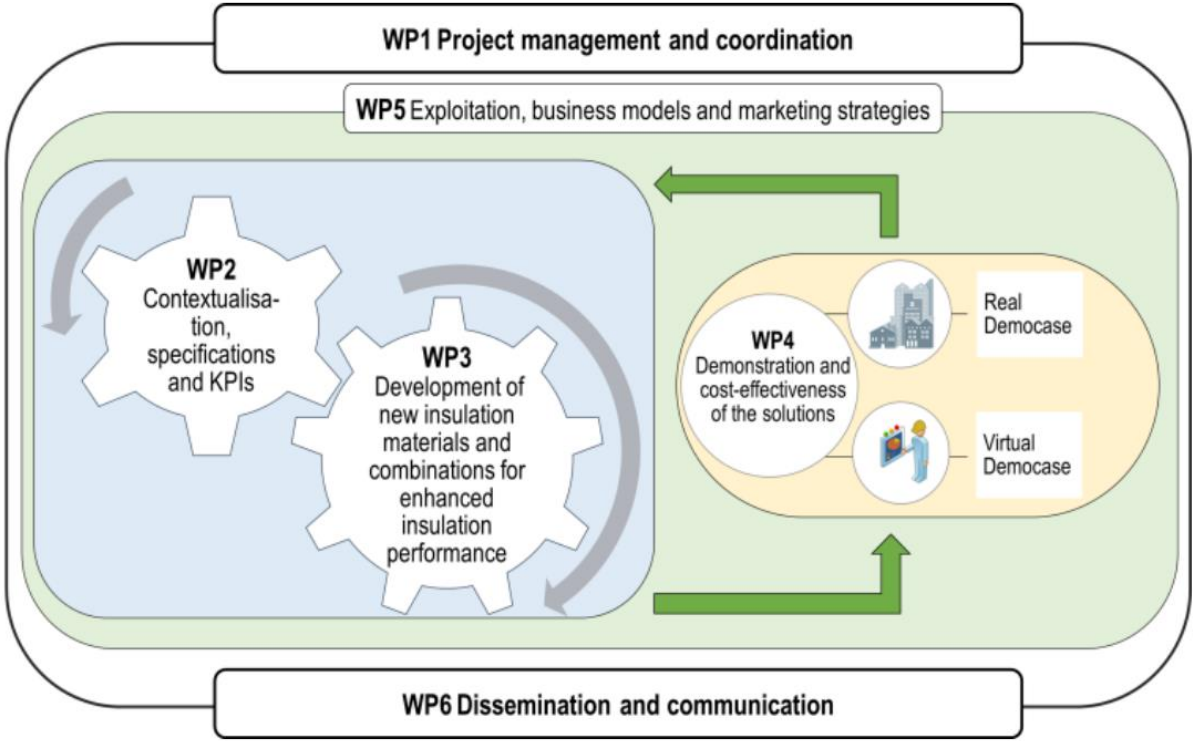
BIO4EEB in a nutshell



This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101091967*

BIO4EEB

WP overview



This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101091967*

BIO4EEB

Demo Cases

Real demo cases

Five real demo cases where selected representing 3 climate zones (Continental, Mediterranean and Oceanic) and 5 different building typologies: 1) Multifamily multistorey residential refurbishment in Lithuania; 2) Historical/protected single family residential refurbishment in Spain; 3) Single family residential refurbishment / new construction in Germany; 4) Rural single family residential refurbishment in Czech Republic and 5) Multifamily multistorey residential new construction in France. More details around each of these demo cases is provided in the following sections.

5 REAL DEMO CASES

Virtual demo cases

The virtual demo-cases will serve as a test-bed of assessing several different technological solutions and their potential environmental, economical and social impact. The selected virtual demo cases are representing parts of the European residential building stock with high replicability potential. Together with the real demo cases they cover the main residential building types (by size, historical protected status, age etc.) from the dominant climates (Middle European Continental, Oceanic, Mediterranean Climate). The demo cases were selected by relying on the TABULA-Episcope building typology.

3 VIRTUAL DEMO CASES

This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101091967*

Sample Demo Case

Single family residential refurbishment/new construction in Germany

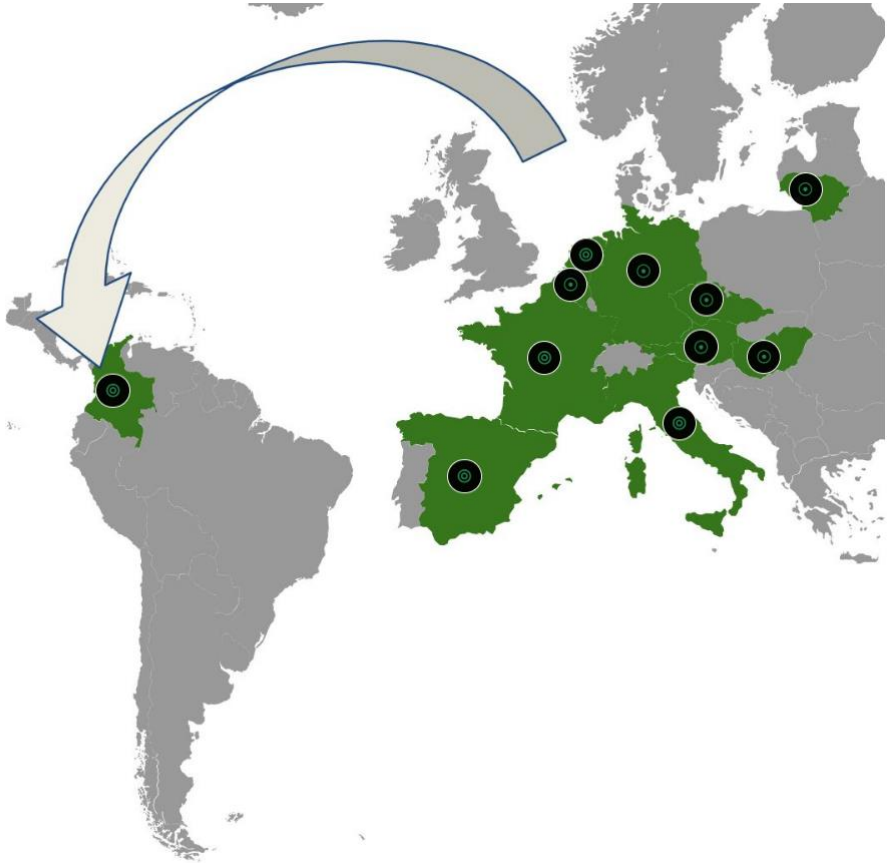
This demo case was built in 1950 as detached single family house, now it will be restructured, modernized and extended as an apartment house with 3 condominiums. The total floor area is 425 m2 + 112 m2 in the cellar. The total area of external walls is 420 m2. The purpose of this demo-case is to demonstrate the application of the BIO4EEB technologies in new and existing buildings. The pre-fabricated rooftop extension and the new north façade were selected to test Bio4EEB technologies as panels and insulation on the exterior walls and on the roof. The north façade on the first and second storey are an additional opportunity to install and test five BIOPolyurethane windows in two different sizes and partitions. Approximately 115 m2 of the bio-based prefabricated façade will be applied to the roof-top extension walls whereas 65 m2 of the bio-based ventilated façade will be applied on the new parts of the north façade. The new rooftop is an opportunity to apply and test Bio4EEB panels and insulation on a surface of approximately 95 m2. The rest of the already existing exterior walls will be cladded with a conventional thermal insulation composite system. The implementation of conventional technologies and innovative bio-based Bio4EEB technologies at the same time will provide the opportunity to compare these.

This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101091967*

BIO4EEB

Overview

BIO4EEB Consortium



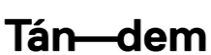
This project has received funding from the European Union's Horizon research and innovation program *under grant agreement No 101091967*

BIO4EEB

Wrap up

This project has received funding from the European Union's Horizon Europe research and innovation program *under grant agreement No 101091967*

BIO4EEB



THANK YOU

BIO4EEB

MORE INFORMATION

BIO4EEB

@BIO4EEB

WWW.BIO4EEB.EU

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

BIOMAT

An Open Innovation Test Bed for Nano-Enabled Bio-Based PUR Foams and Composites

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

BIOMAT MAIN OBJECTIVE

To establish an Open Innovation Test Bed (**BIOMAT-TB**) for providing services to a wide range of European industries and SMEs to **accelerate** and **facilitate** the uptake of innovation in nano-enabled biobased cellular materials.

TARGET MARKETS

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

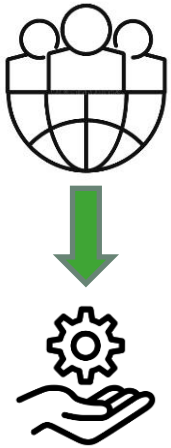
BIOMAT CONSORTIUM

26 partners from 8 countries

12 SMEs - 5 Universities - 5 RTOs - 3 LEs - 1 Standardisation Body

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

Open Innovation Test Bed



An **Open Innovation Test Bed** is a set of entities (…) providing common access to **physical facilities**, **capabilities** and **services** required for developing, testing and upscaling nanotechnology and advanced materials in industrial environments.

The objective is to **bring nanotechnologies and advanced materials within reach of companies and users** to advance from validation in a laboratory (TRL 4) to prototypes in industrial environments (TRL 7).

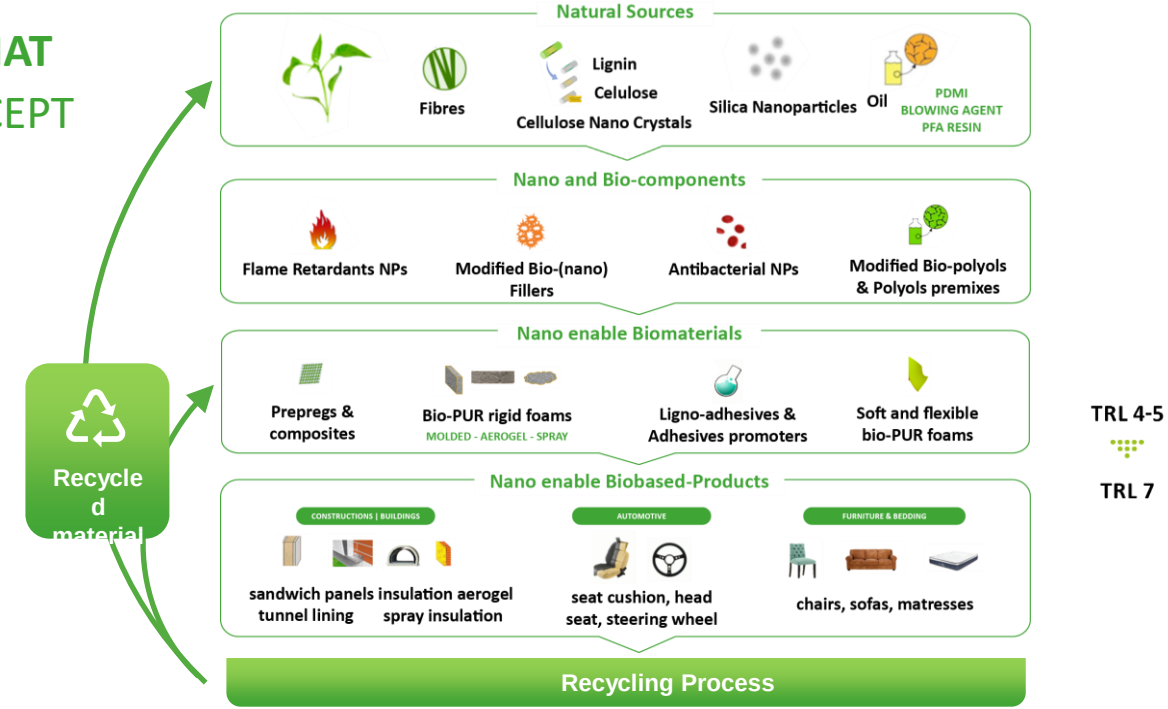
Open Access means that any interested user (…) can access the test beds' facilities, capabilities and services (…) **at fair conditions and pricing** and with transparent and mutual obligations regarding, for instance, security, safety and intellectual property rights.

Users can be individuals, teams and institutions from academia, research organisations, small and medium enterprises and industry, from the public as well as the private sectors.

in *H2020 Programme Open Innovation Test Beds Guidelines for Internal Management and Access Conditions*

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

BIOMAT CONCEPT



The concept of BIOMAT full value chain - towards a Circular economy

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

BIOMAT DEMONSTRATORS

Construction

Lining for road tunnel waterproofing:

- Spray-PUR foam injected within fibre reinforced polymer pultruded panels
- Rigid bio-PUR foam sandwich laminates manufactured using prepregs

Building

Moulded insulation panels and/or sandwiches:

- Low density and high-performance thermal insulation bio-composite aerogel foams based on PUR combined with selected active nanoparticles
- Spray PUR foam for building

Automotive

Seat cushion and Headrest with aesthetic features

- Bio-based open-cell, low VOC soft PUR foams

Steering wheel

- Bio-based open-cell, low VOC

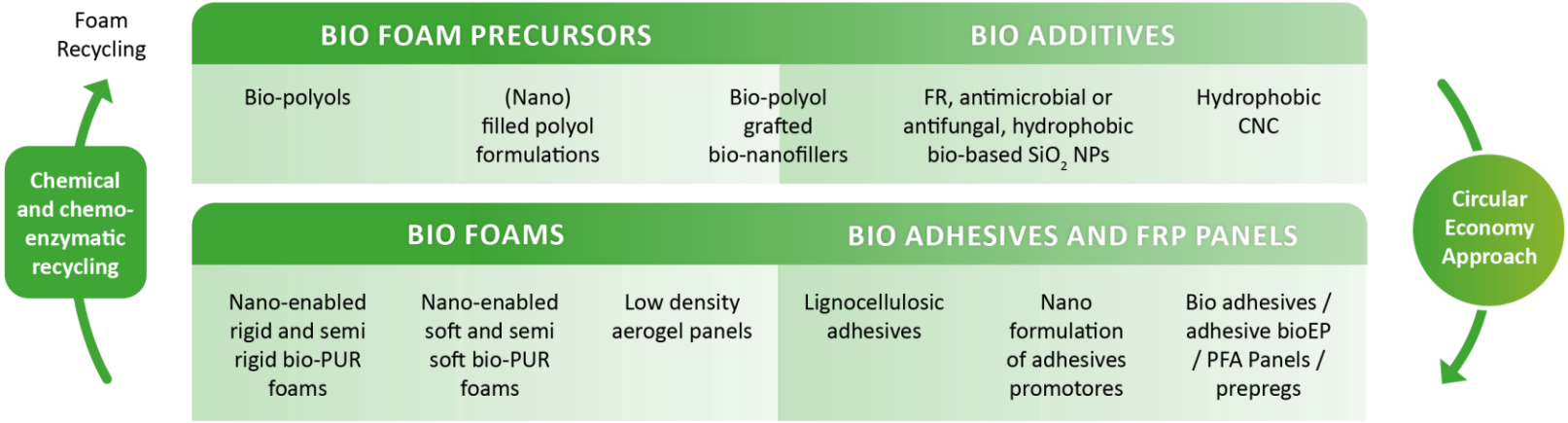
Furniture & Bedding

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

BIOMAT-TB

TECHNOLOGY TRANSFER SERVICES

12 Pilot Lines for nano enabled biobased materials



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

BIOMAT-TB

BUSINESS SUPORT SERVICES

Horizontal Services

Products Characterization

Development of sensors for inline analysis of products based on near infra red (NIR) or ultraviolet (UV) spectroscopy

Evaluation of nanosafety and toxicity

Digital Twin Approach

Business Plan development

Life Cycle Assessment (LCA) and Life Cycle Costing (LCC)

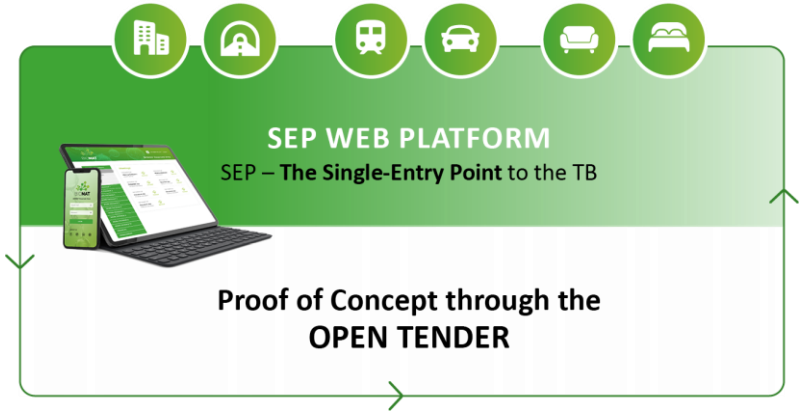
IP Management

Mentoring for fundraising

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

TOWARDS **BIOMAT-TB**

BIOMAT-TB is operated via a **Single Entry Point** (SEP)



CUSTOMERS ⟷ **BIOMAT SEP** ⟷ **SERVICES**

Open access to a wide range of physical facilities (pilot tests towards technology transfer) and to technical/horizontal services

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

The **Open Tender** aims to validate and prove the concept of the BIOMAT-TB and SEP operation, by providing services within BIOMAT-TB to selected applicants.

1. Proposal Submission

Candidates apply to Open Call(s) from January 2023

2. Proposal Evaluation

Evaluate the requested service and feasibility. The selected applicants will receive the services free of charge.

3. Service Execution

After proposal selection, an agreement will be signed between the SEP and the selected applicants. Then, the Service Provider will execute the service.

4. Results Delivery

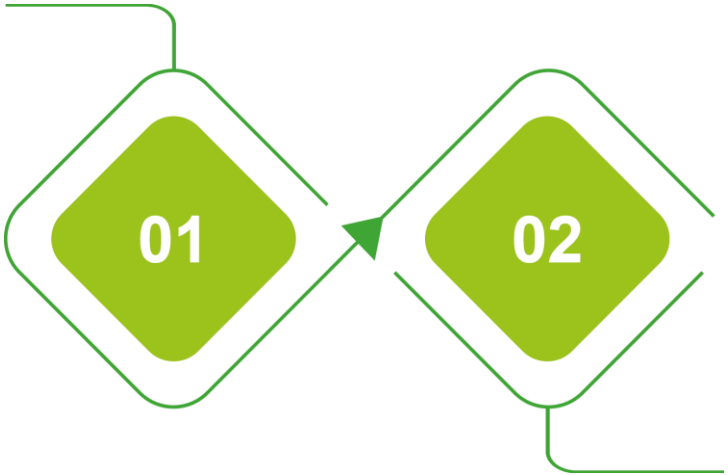
Service results will be delivered within 3-6 months, depending on service course, type and requirements.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

OPEN TENDER

1st Open Call
January until March 2023

After the end of the 1st Call, an internal evaluation process and selection of 5 to 8 customers will be performed. Then they will receive both horizontal and technical TB services free of charge.

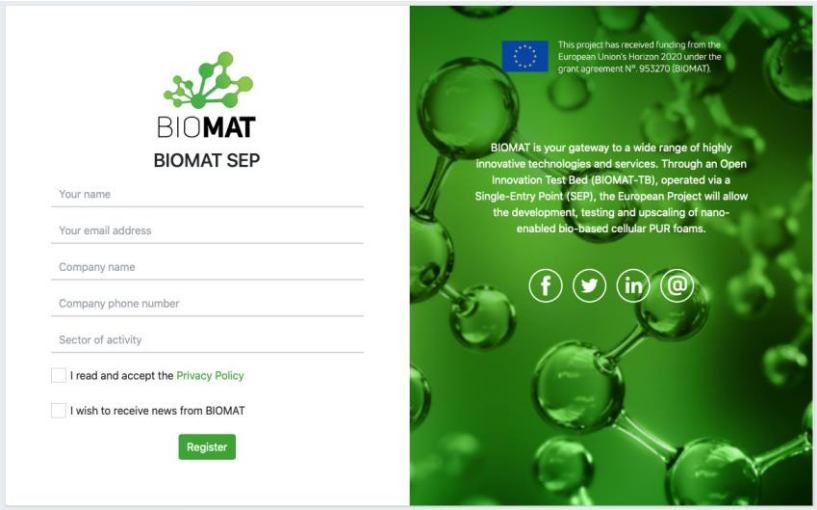


2nd Open Call
June until August 2023
(to be confirmed)

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

OPEN TENDER

Application for the TB services is via the **SEP web-based platform**



www.clients.biomat-testbed.eu/register

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

Hybrid Workshop to promote the Open Tender

Registration is free: www.biomat-testbed.eu/wildau-workshop

BIOMAT

THANK YOU

CONTACT US

Email: website@biomat-testbed.eu

Website: www.biomat-testbed.eu

Linkedin: @biomat-project

Facebook: @biomat.project

Twitter: @BIOMAT_Project

Youtube: @BIOMAT_Project

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreements Nº. 953270

SUSTAINABLE PLACES 2023

MEZeroE

MEZeroE Platform

Web-based virtual marketplace

A virtual marketplace to an open innovation testbed for nZEB enabler envelope technology solutions

Measuring Envelope products and systems contributing to next generation of healthy nearly Zero Energy buildings

This project has received funding from the European Union's Horizon 2020 research and innovation programme under **grant agreement No 953157**

MEZeroE Principles

MEZeroE aims to create an EU distributed **open innovation ecosystem** for:

- developing nearly Zero Energy Building (nZEB) Enabler **Envelope Solutions**;
- transferring **knowledge**;
- **matching** testing **needs** with test **facilities**;
- providing **monitoring** in real **buildings** used as **living labs**;
- **standardizing** cutting-edge **solutions** coming from SMEs and larger industries.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under **grant agreement No 953157**

MEZeroE Objectives

MEZeroE ecosystem set-up (OITB establishment)

- SO1.1 Develop pilot measurement and verification lines and open innovative services
- SO1.2 Identify modelling and (eco)design approaches
- SO1.3 Design and establishment of the multi-side virtual marketplace

OITB service validation (OITB demonstration)

- SO2.1 Validate technology with dedicated M&V protocols according to specific TRL
- SO2.2 Define a comprehensive approach for indoor environmental quality control
- SO2.3 Identify new opportunities to tackle societal challenges by overcoming regulatory, economic and technical barriers.

Long-term sustainability of the MEZeroE OITB (Business case)

- SO3.1 Stimulate growth and jobs with actions of mentoring and coaching
- SO3.2 Stimulate strong private sector involvement to enhance product competitiveness and impact
- SO3.3 Plan and implement local stakeholders' engagement
- SO3.4 Structured knowledge management environment

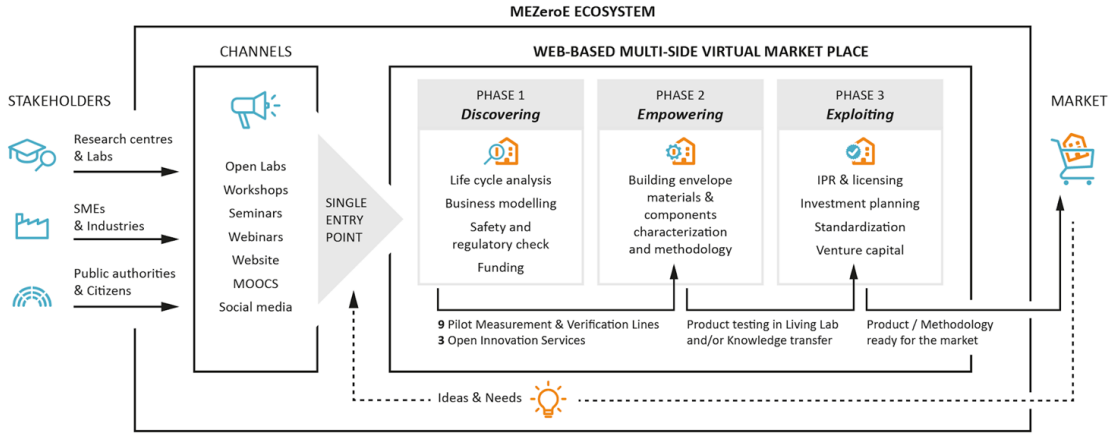
Measuring Envelope products and systems contributing to next generation of healthy nearly Zero Energy buildings

This project has received funding from the European Union's Horizon 2020 research and innovation programme under **grant agreement No 953157**

MEZeroE Vision

Web-based multi-side **virtual marketplace** which will include:

- **9 Pilot Measurement & Verification Lines** (**PM&VL**): test chain focused on a specific envelope performance or technology to support the development and performance characterisation of envelope products by means of experimental measurements and modelling
- **3 Open Innovation Services (OIS):**combination of tools and methods to address a specific transversal topic (e.g. CE marking, IEQ measurement in real buildings, open innovation uptake)
- **Access to real-buildings as living labs (LL):** real building that is occupied by real people, but has sufficient embedded sensors to measure the relevant parameters and thus enable real-use envelope performance analysis
- **Additional resources and support** including training, business model development, systematic IP and knowledge management. MEzeroE will **fast-track prototypes to the market** as fully **characterized** and **exploited** (full potential unlocked) products

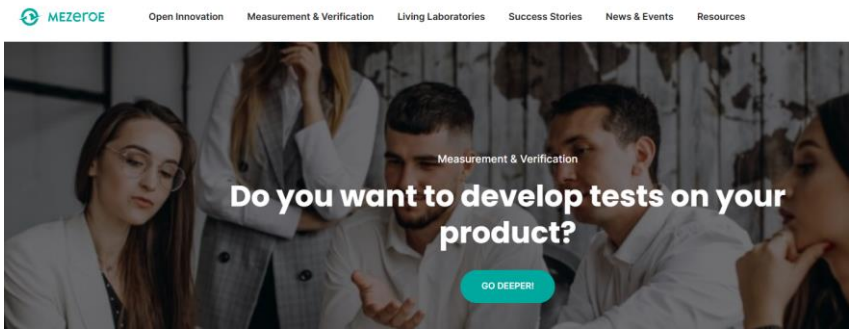


This project has received funding from the European Union's Horizon 2020 research and innovation programme under **grant agreement No 953157**

MEZeroE virtual marketplace

MEZeroE will deliver a **multi-sided digital platform** to serve an ecosystem of stakeholders that contribute to the “value chain” of innovative eco-system building envelops products:

- Industry players (with a specific focus on SMEs)
- Academic & research partners
- Public authorities and citizens
- Business experts and investors
- ICT service providers / private facility test owners/ associations etc.



It is a platform that connects groups or single stakeholders and creates **matchmaking opportunities**.
All stakeholders are enabled and encouraged to contribute, share, review contents and services.

RESEARCH TO MARKET SOLUTION

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under **grant agreement No 953157**

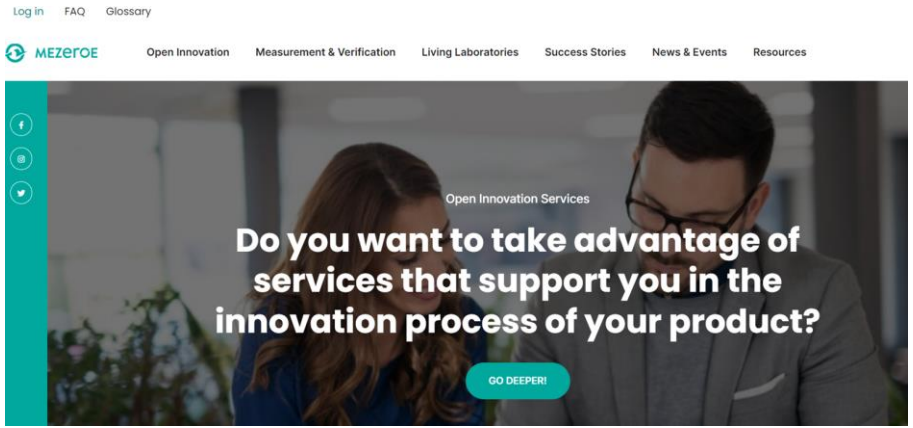
The MEZeroE Open Innovation approach

- A **manufacturer** entering the platform with a specific set of needs is guided through the identification of exactly services and providers necessary to meet these needs.
- When the **producer and the service provider** are connected via the platform, they can make their own arrangements and get the service done
- the **producer** will be encouraged to make a contribution to the platform's contents in the form of knowledge and pre-competitive data either in the spirit of open innovation or because of potential direct benefits

This project has received funding from the European Union's Horizon 2020 research and innovation programme under **grant agreement No 953157**

Platform sections

- **OISs:** thematic section related to the concept of Open Innovation and the OIS developed in the ecosystem
- **PM&VLs:** area dedicated to the PM&VLs, with their descriptions, partners, activities carried out and presence on the territory
- **Living laboratories:** area dedicated to the living labs
- **Success stories:** products, manufacturers, success stories and publicly available information about their process through MEZeroE
- **Resources:** database available to users to find academic articles, normative references, best practices, etc.
- **News&Events:** an area collecting articles and events promoted within the ecosystem
- **Private Area:** dedicated page for registration and login to the platform.



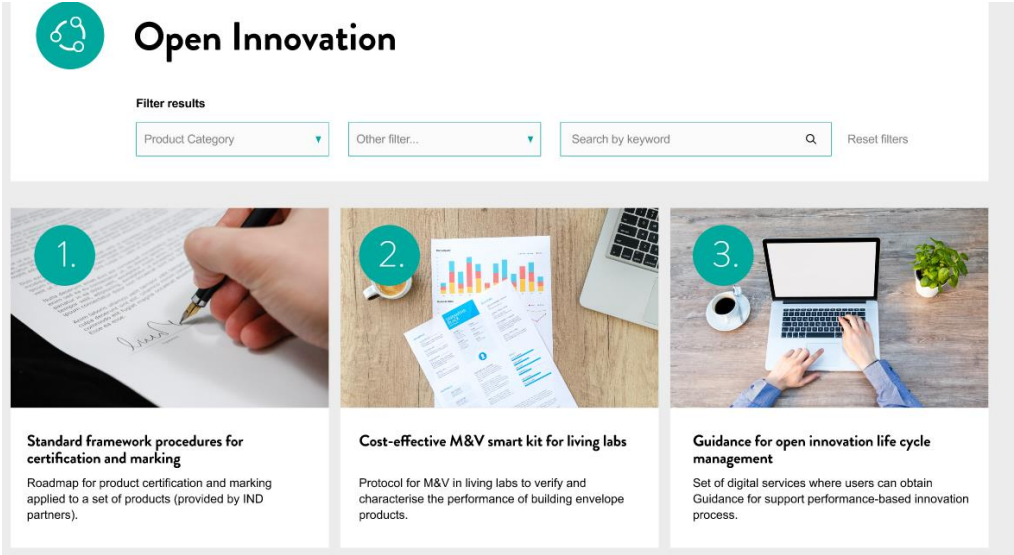
This project has received funding from the European Union's Horizon 2020 research and innovation programme under **grant agreement No 953157**

Open Innovation services

- **OIS1 Standard framework procedures for certification and marking**: Product guidance, product certification, Path CE Marking, Product characterization, Support fir experimental methods, environmental-social audits, LCA and LCC analysis, Support methods for digitalization of the construction products
- **OIS2 Cost-effective M&V smart kit for living labs**: Indoor air quality monitoring Post occupancy evaluation, Thermal comfort study, Acoustic performance study, Energy consumption/saving study, Façade performance evaluation, Certification scheme, Pre-post retrofit analysis
- **OIS3 Guidance for open innovation life cycle management**: Expert mentorship in accessing other markets, Market Replication Assessment, Technology Roadmapping (Radar, Tracker, and Watch), Matchmaking focused on product development, Matchmaking focused on product commercialization, Expert mentorship in cross-sectoral innovation, Open Innovation Event Management, Envelope Package Configurator

OISs marketplace path:

- Register as **servicer providers and experts**, apply for the validation of the expertise
- OISs providers can provide services to manifacturers and member of the community



This project has received funding from the European Union's Horizon 2020 research and innovation programme under **grant agreement No 953157**

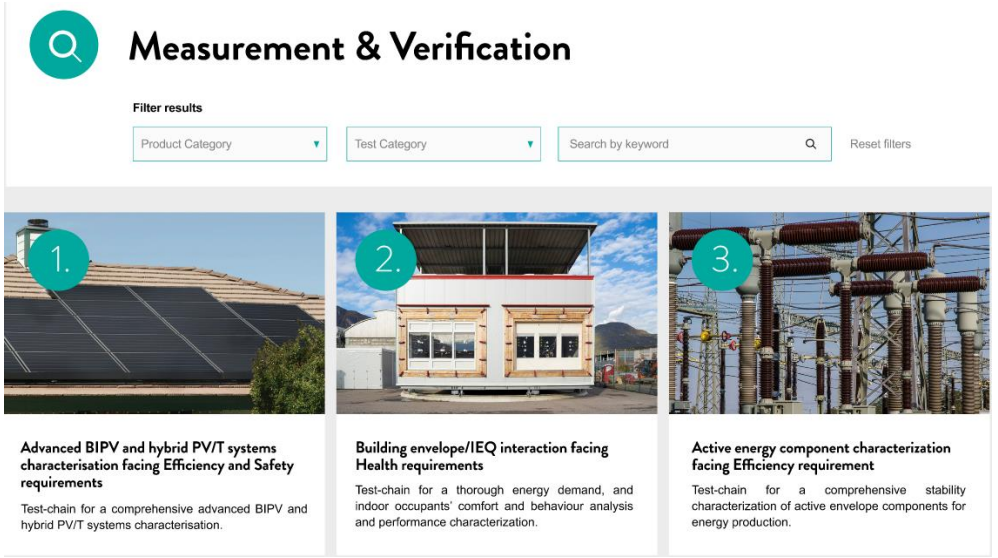
PM&VLs (Pilot lines)

- **PM&VL1** - Advanced Building Integrated Photovoltaic (BIPV) and hybrid Photovoltaic/Thermal (PV/T) systems characterisation facing Efficiency and Safety requirements
- **PM&VL2** - Building envelope/Indoor Environment Quality (IEQ) interaction facing Health requirements
- **PM&VL3** - Active energy component characterization facing Efficiency requirement
- **PM&VL4 -** Visual and thermal performance analysis of dynamic glass systems facing Efficiency requirement
- **PM&VL5** - Building/user interaction characterization facing Efficiency requirement
- **PM&VL6** - Multi-layers dry nZEB Enabler Envelope Solution nEES characterization facing Healthy and Safety requirement
- **PM&VL7 -** Mechanical resistance and stability characterization of connections/joints between component materials and supporting structures facing Safety requirement
- **PM&VL8 -** Solar gain control in semi-transparent envelope
- **PM&VL9 -** Wooden prefab components assessment line facing Safety requirement component, facing Healthy requirement

PM&VLs marketplace path

- Register as pilot line leader
- Insert the details of the PM&VLs service
- Receive requests from client's ecosystem to test the products
- Post news, events and additional info (resources) to promote your pilot line (lead generator) through the private session area.

MEZeroE

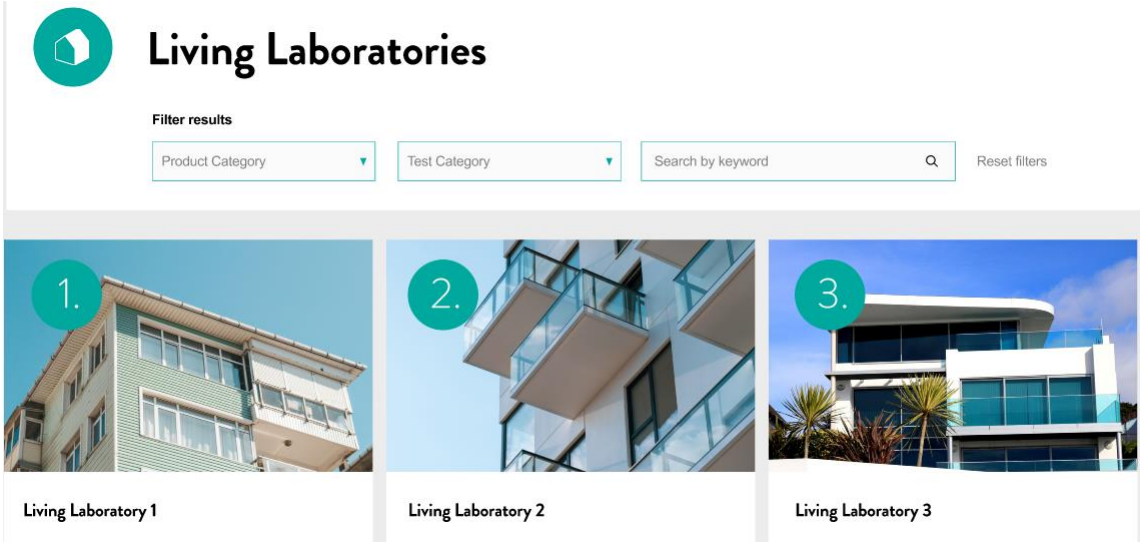


This project has received funding from the European Union's Horizon 2020 research and innovation programme under **grant agreement No 953157**

Living Lab Owners

Living Lab owner's marketplace path

- Registration as living lab owner
- Insert the living lab in the marketplace
- Receive requests from the manifacturers to test in the living lab in a specific geographical area.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under **grant agreement No 953157**

Become an MeZer0E virtual Marketplace AMBASSADOR

The platform is under development, and it will be officially published in January 2024

Initial validation phase kicks off on month **37 (Jan 2024)**… you are welcome to join as AMBASSADORS or early adopter (Free registration for the marketplace)!

- AMBASSADORS: Training expected in November/December 2023
- EARLY ADOPTERS: test the platform before being launched (experts in a specific domain)

https://mezeroe-platform.r2m.cloud/

If interested in becoming AMBASSADORS or early adopters, please send an email to fabrizio.perrotta@r2msolution.com, eva.coscia@r2msolution.com

This project has received funding from the European Union's Horizon 2020 research and innovation programme under **grant agreement No 953157**

SUSTAINABLE PLACES 2023

Speaker:

- Alessandro Pracucci
  Focchi S.p.A.'s Innovation Manager

CE4CON

Circular Economy for Construction

KYKLOS 4.0 RESEARCH TO MARKET SOLUTION FOCCHI SINCE 1914 HOLONIX MATERIALLY

Outline

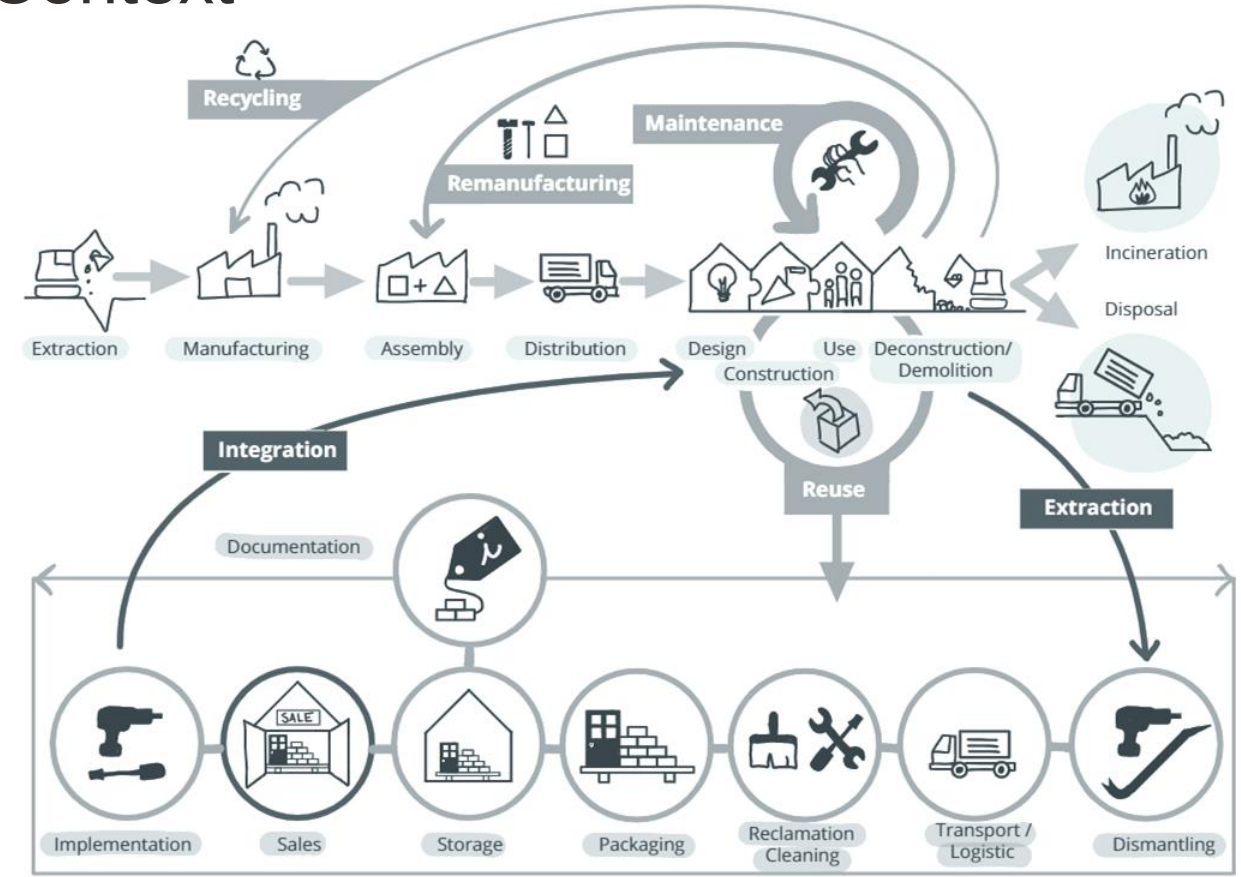
- Context
- CE4Con
  - Objectives of the project
  - Ongoing activities
  - Further Developments

Context

The construction sector is responsible for over **35%** of the **EU's total waste generation** and for about **50%** of **all extracted material**.

Ref.: European Commission

Context



Ref: Emilie, G. (2021)

Context

CONSTRUCTION SECTOR REQUIREMENTS

- **Reduction of** energy and material **consumption**
- Better design to **facilitate recycling**
- **Pre-demolition material auditing** and waste management planning
- **Accurate and selective disassembly** operations

OBJECTIVE

- Support the **design and production stage**.
- Serve the value chain providing:
  - **Technical information**
  - **Sustainability assessment**
  - **Circular entities**

CE4Con - Outcome

CE4Con - **Circular Economy for Construction**

Funded under the **KYKLOS 4.0** research project (H2020).

Integration of an existing platform for Circular Entities with some KIKLOS's tools for manufacturing:

- **PLM** (Product Life Management)
- **LCA** (Life Cycle Analysis)
- **Blockchain**

KYKLOS 4.0

Funded by the Horizon 2020 Framework Programme of the European Union

CE4Con - Partners

CONSORTIUM LEADER (SME) - ITALY

ENGINEERING & INNOVATION COMPANY

Business and exploitation expert

Owner of Rialto technology

PROJECT PARTNER (LE) – ITALY

END USER

Smart facades designer and producer

PROJECT PARTNER (SME) – ITALY

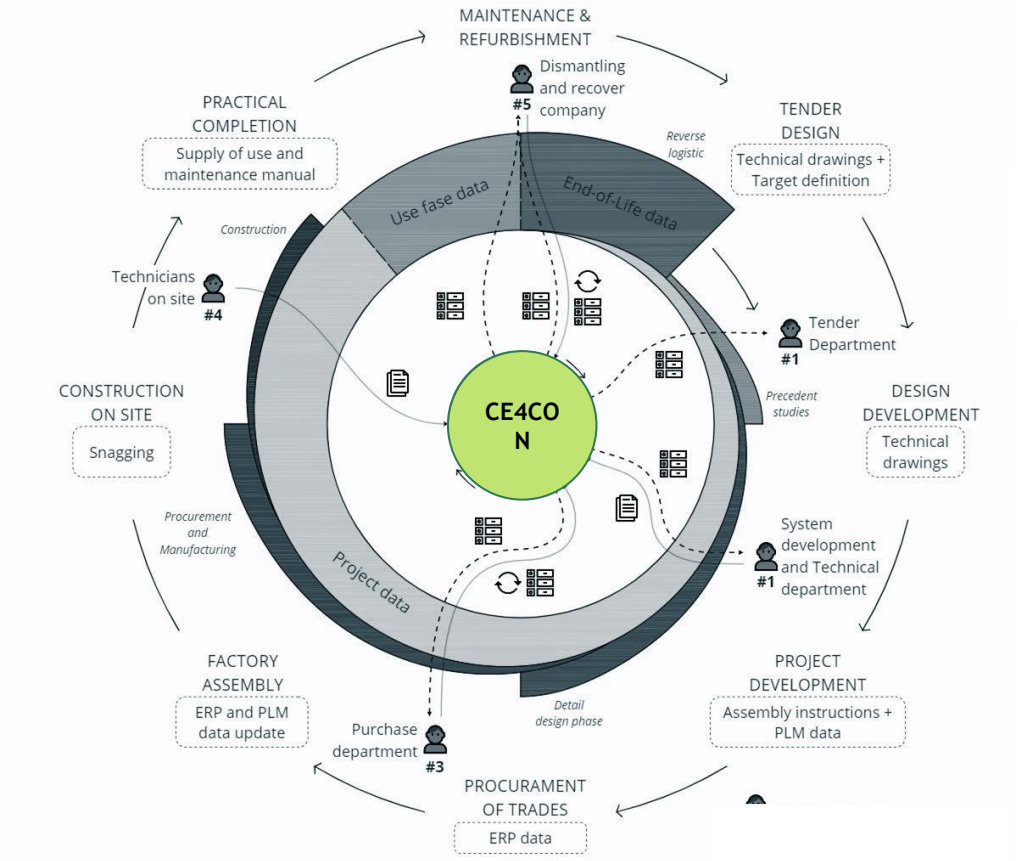
ICT company specialised in IoT and platform development

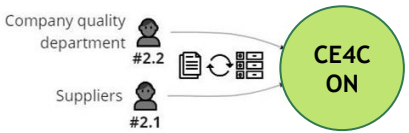
Owner of REUSE platform

SUBCONTRACTOR (SME) – ITALY

Provides competences and data about secondary raw materials for the BECs and construction sectors

CE4Con - Façade Circular Value Chain

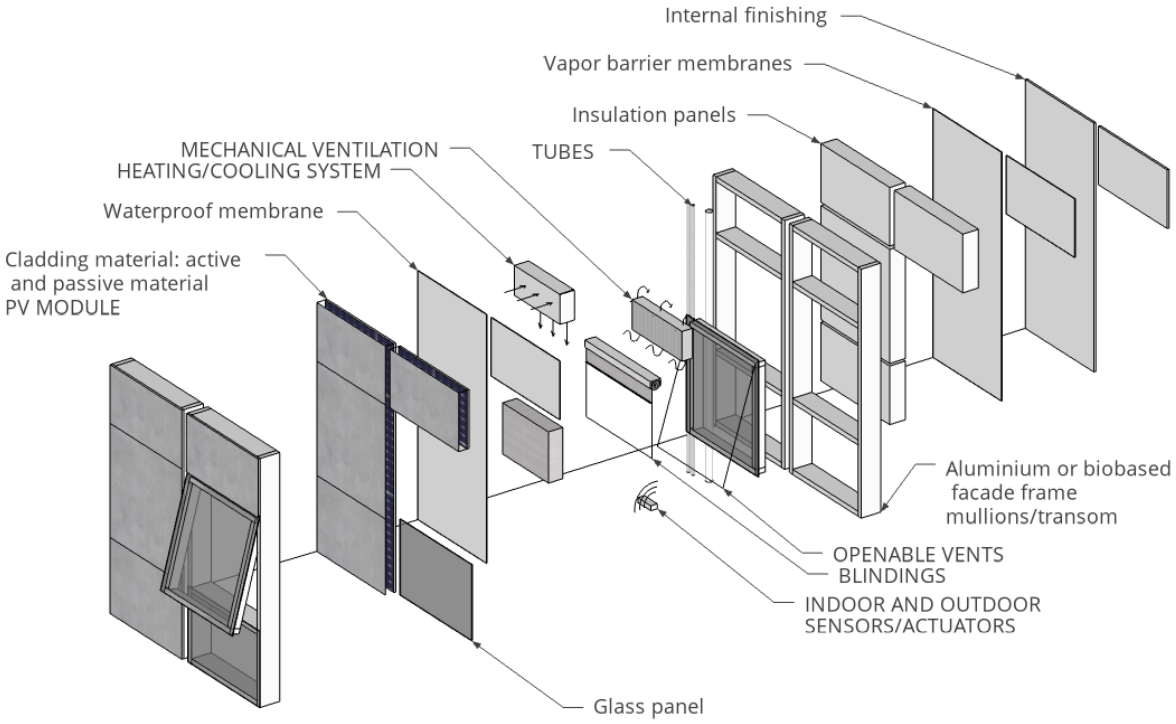




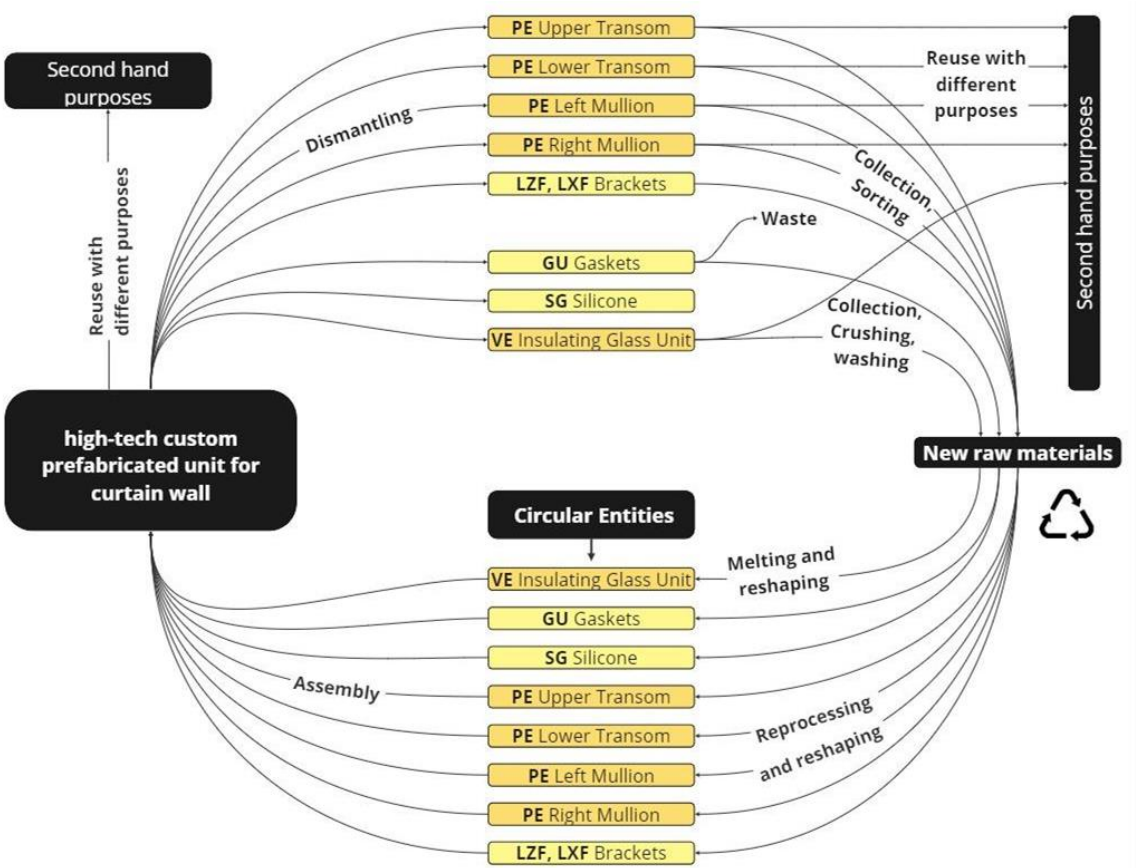
- Platform User
- CE and Attributes Upload
- CE and Attributes Update
- Documentation
- Data upload
- Data consultation

Ref.: CE4Con - Kiklos 4.0 (2023)

CE4Con - Façade use case

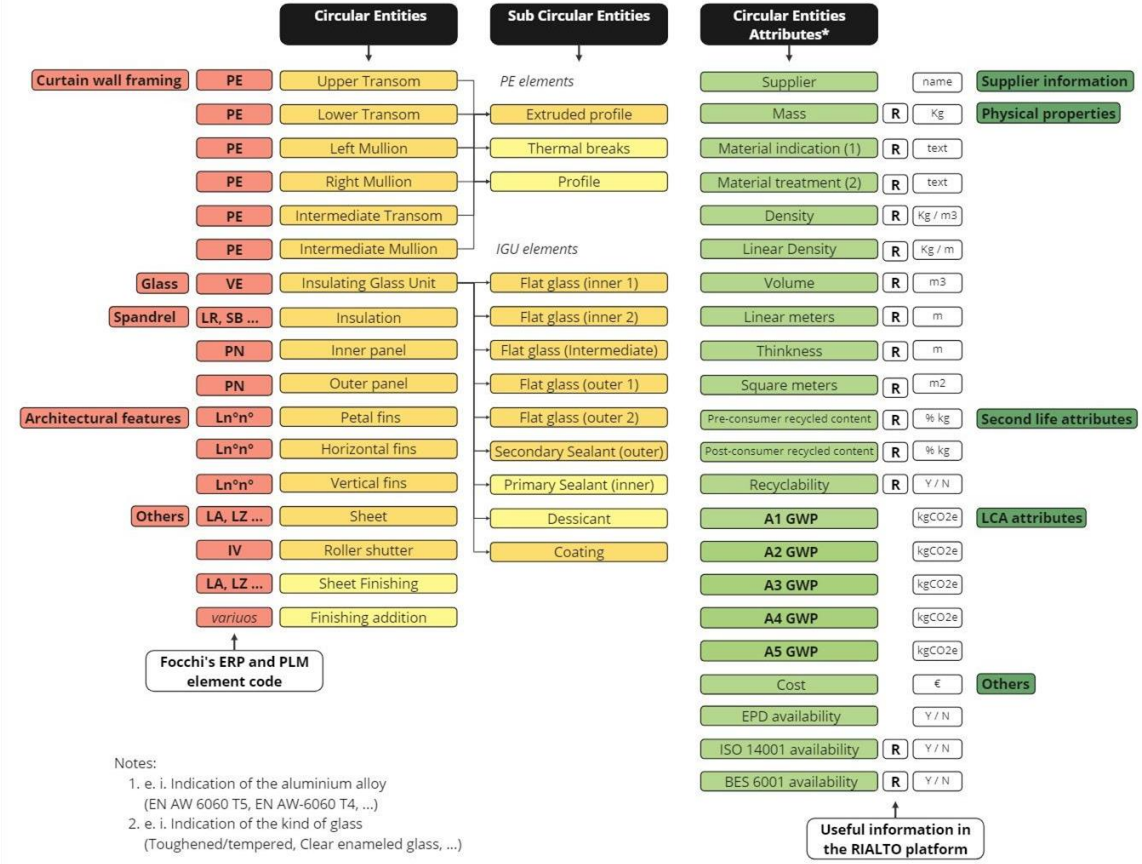


CE4Con - Façade Circular Entity



Ref.: CE4Con - Kiklos 4.0 (2023)

CE4Con - Façade Technical Attributes

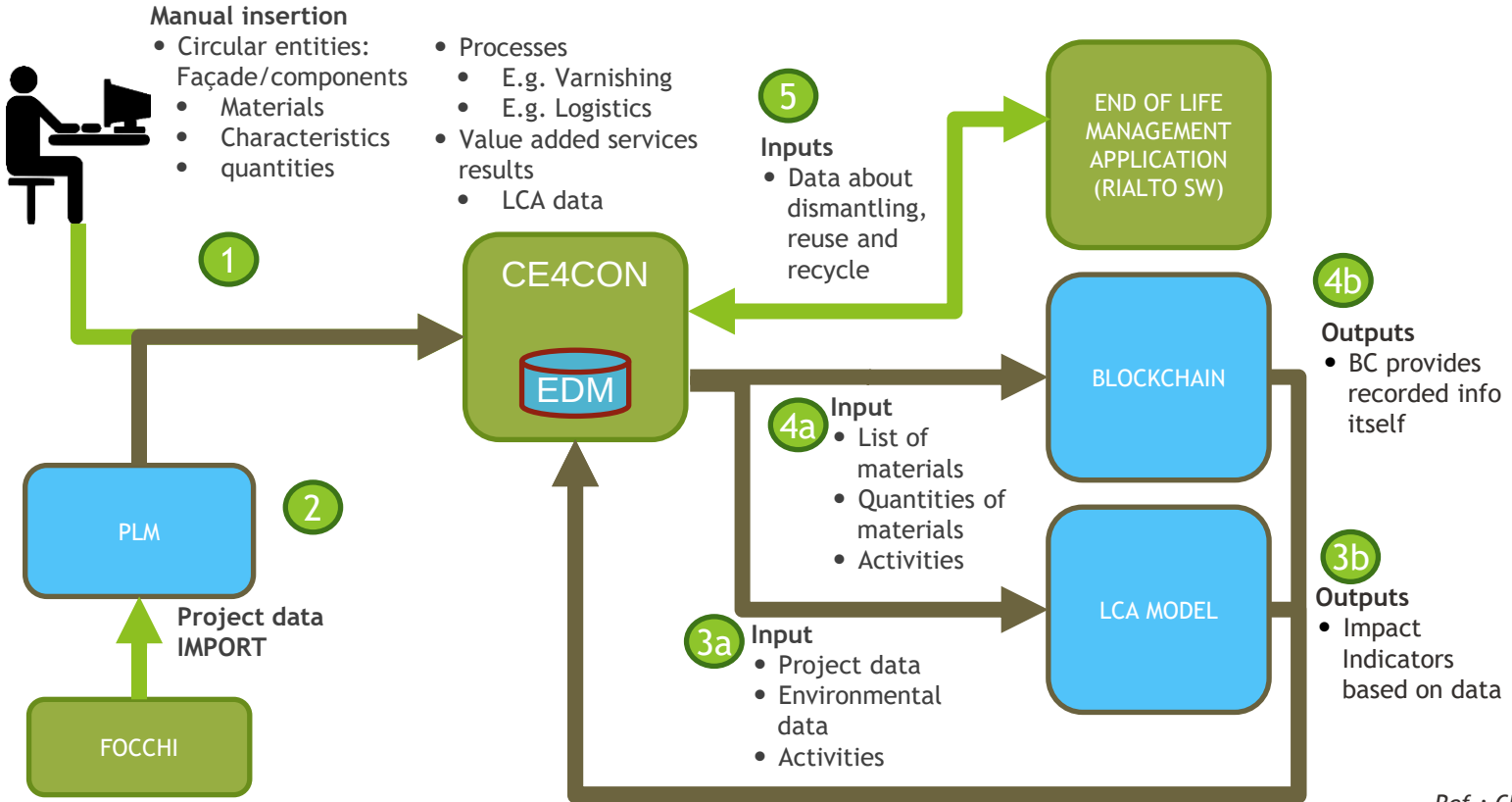


Notes:

1. e. i. Indication of the aluminium alloy (EN AW 6060 T5, EN AW-6060 T4, ...)
2. e. i. Indication of the kind of glass (Toughened/tempered, Clear enameled glass, ...)

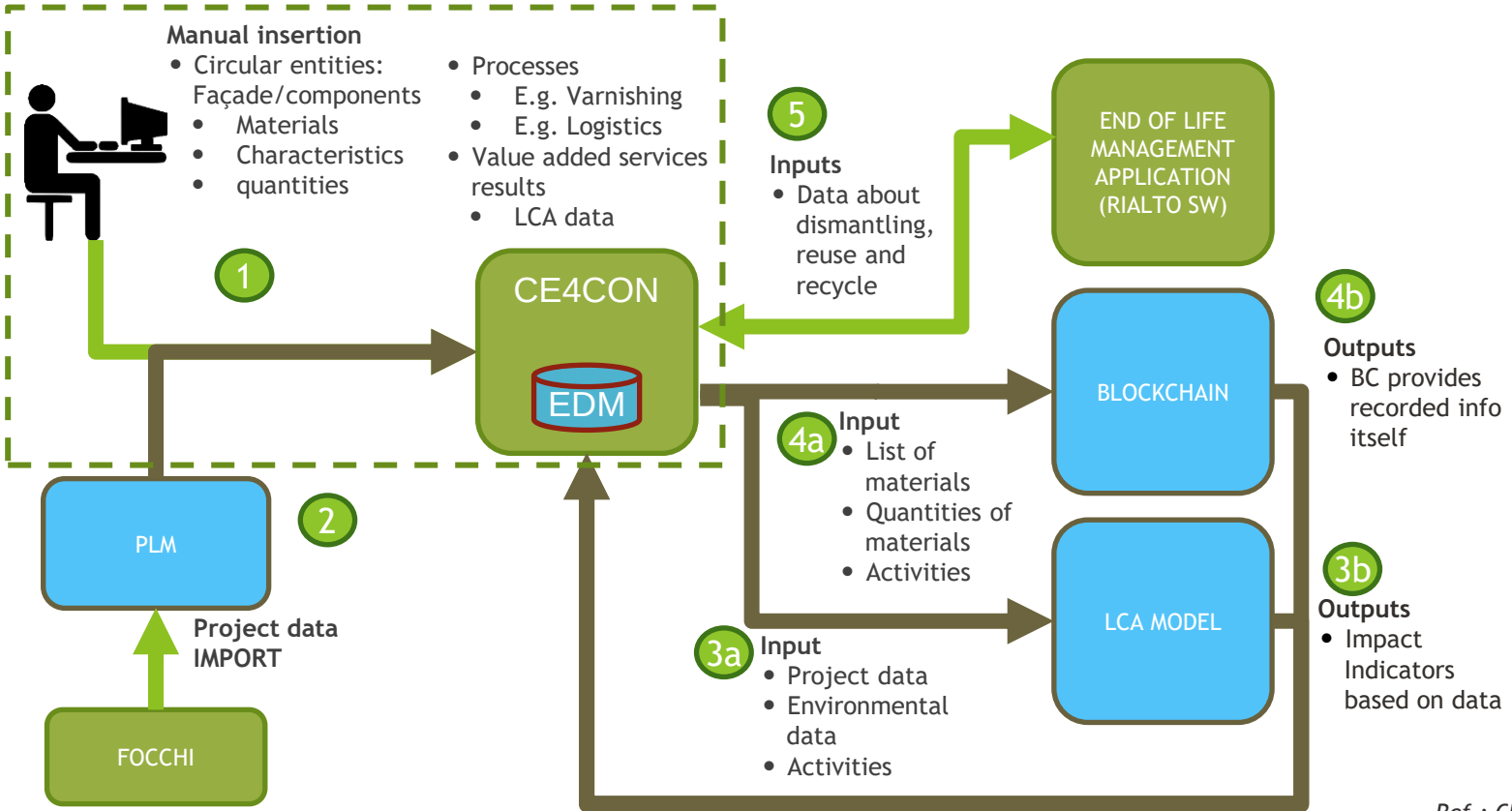
Ref.: CE4Con - Kiklos 4.0 (2023)

CE4Con - Data Flow Architecture



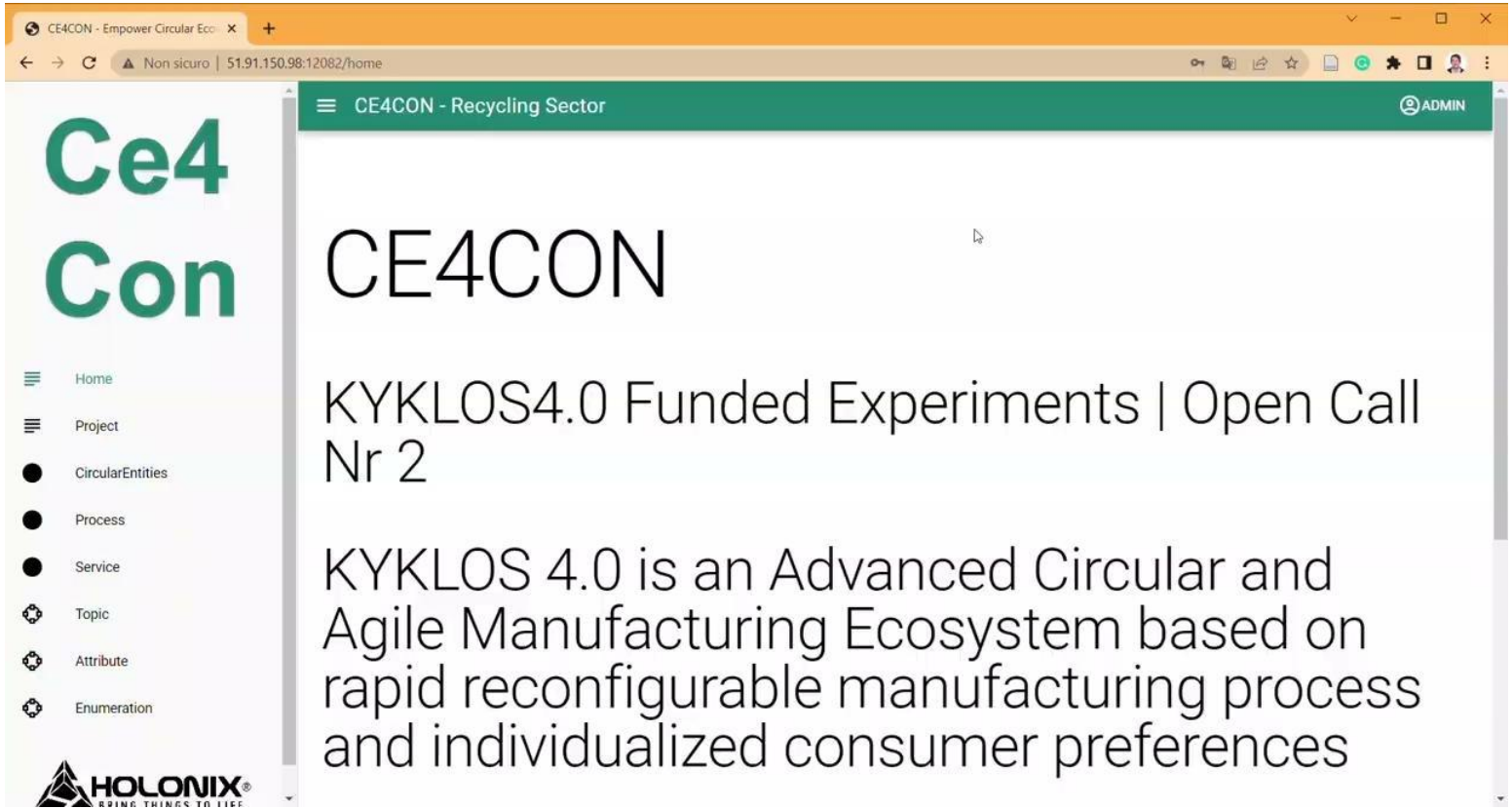
Ref.: CE4Con - Kiklos 4.0 (2023)

CE4Con - Data Flow Architecture



Ref.: CE4Con - Kiklos 4.0 (2023)

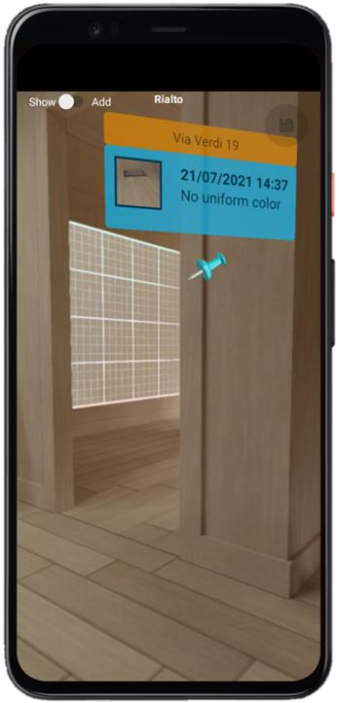
CE4Con - Platform presentation



CE4Con - End-of-Life App Presentation (RIALTO SW)

- **Augmented Reality-based snag listing tool**

- In CE4Con:
  - **Examination of the façade placing**, to obtain or update a snag list
  - **Retrieval of dismantling and pre-treatment information** to facilitate the disassembly
  - **Update of end-of-life information**



CE4Con - Further development

- CE4ON further activities:
  - CE4Con **platform development**
    Implementation with PLM, LCA and RIALTO
  - Demo in **Pilot scenarios**
    Complete platform population with real data and preliminary testing of the integrations

CE4CON

Circular Economy for Construction

KYKLOS 4.0

SUSTAINABLE PLACES 2023

Project contacts

- Eva Coscia
  eva.coscia@r2msolution.com
- Alessandro Pracucci
  a.pracucci@focchi.it
- Paolo Perillo
  paolo.perillo@holonix.it
- Anna Pellizzari
  apellizzari@materially.eu

Slides by:

- Marco Demutti - R2M
- Luca Morganti - Focchi
- Ioakeim Fotoglou - Holonix