



# FORTESIE



## Overview

**“Central Bank Digital Currency (CBDC)  
powered Smart PerFORmance contractS for  
Efficiency, Sustainable, Inclusive, Energy use”**

Research & Development - European Dynamics

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## Project Info - Factsheet



- **Programme:** Horizon Europe, Built4People Partnership
- **Grant Agreement No.** 101080029
- **EC Budget:** 15.000.000 €
- **EC Funding:** 7.367.150,00€
- **Duration:** 36 months
- **Consortium:** 26 Partners
- **Coordinator:** European Dynamics Luxembourg SA (ED), Luxembourg



# Renovation Value chain



ESCO/ ESCO associations	Construction/ renovation sector	Gov /Decision Makers	Energy Cooperatives	Investors/ Financiers	One-Stop-Shops	SSH	Digital Service Providers	Building Owners
MESH CRD OKT APES ECN VEO	TGT +48 JUST GAR	LEIF DEE GSIS GKW	COOP	GOP CCO2	ENE OKT GW	SIN INCL LUH	ED EDGR NTUA CTIC CCO2 IEECP MESH	EEF GKW GSIS



# Challenges



Renovation wave:  
Deep energy  
renovation rate  
should reach 3%  
per year, by 2030



Climate  
Change  
puts at stake  
life on earth



Lack of trust  
and uncertainty  
about energy  
performance  
improvements



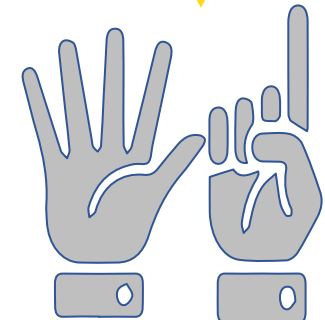
Monetary incentives to  
mobilise mass initiatives  
and construct a  
collective narrative are  
not largely explored



Lack of large  
public  
awareness  
eradicates  
skepticism and  
understanding  
of added value

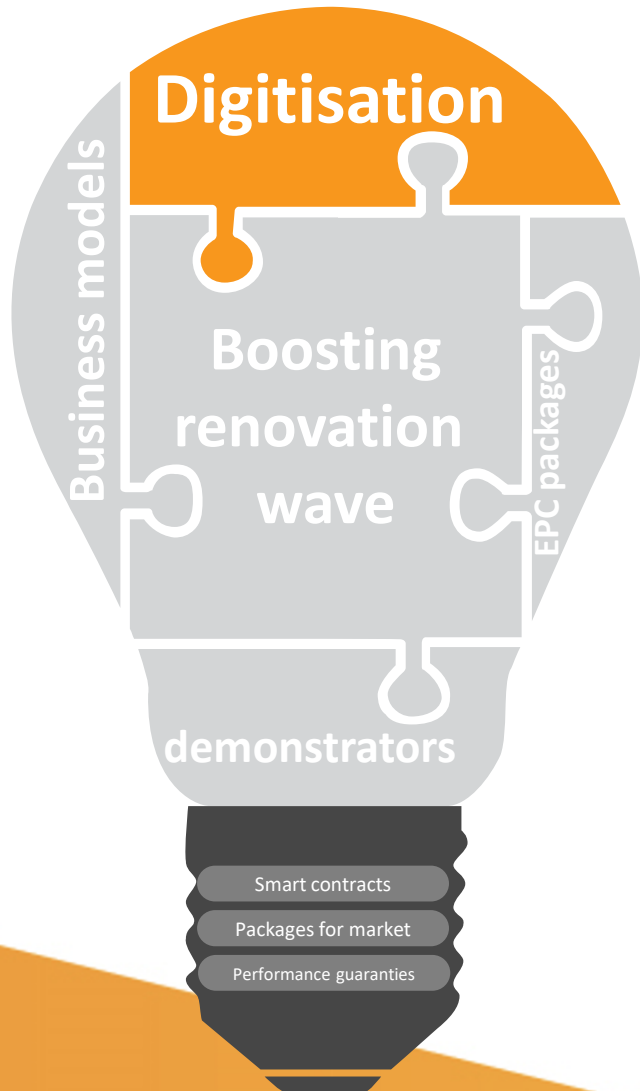


Large  
investments  
require  
novel  
financing  
schemes

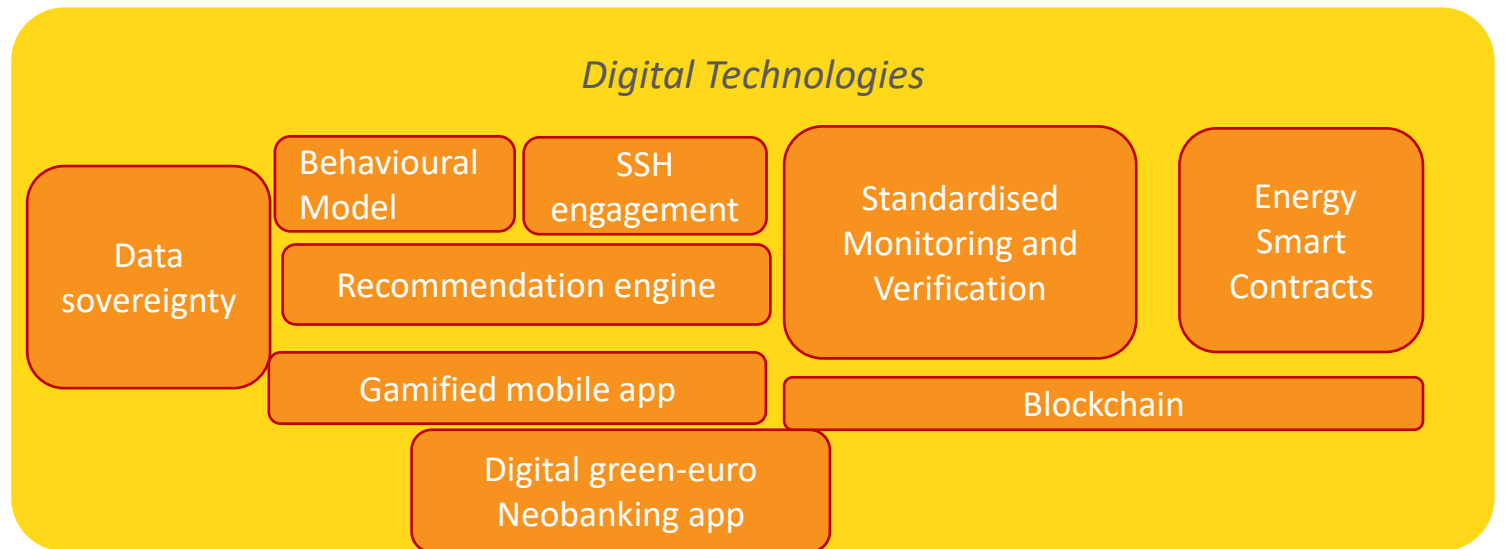




# Objectives and Expected Results

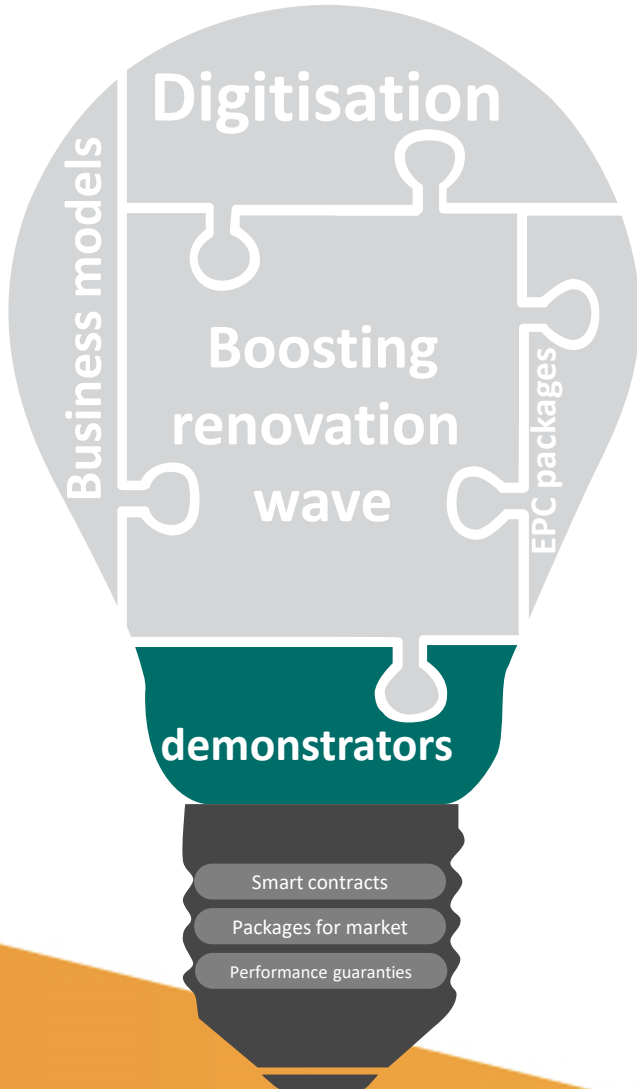


## Digitisation and automation enablers





# Objectives and Expected Results



## Real demonstrators targeting several different Stakeholders



1. SSH Engagement and inclusive methods
2. 3 target groups, 8 real life demonstrations in 6 countries
3. At least 10 ESIE and behavioural KPIs evaluated and improved

Poland

GK	+48
ED	CTIC
CCO2	NTUA
SIN	

Latvia

MESH	LEIF
DEE	SIN
ED	CTIC
CCO2	NTUA

Spain  
France  
Portugal

OKT	GAR
VEO	ENE
JUST	COOP
ED	CTIC
CCO2	NTUA
SIN	GOP

Greece

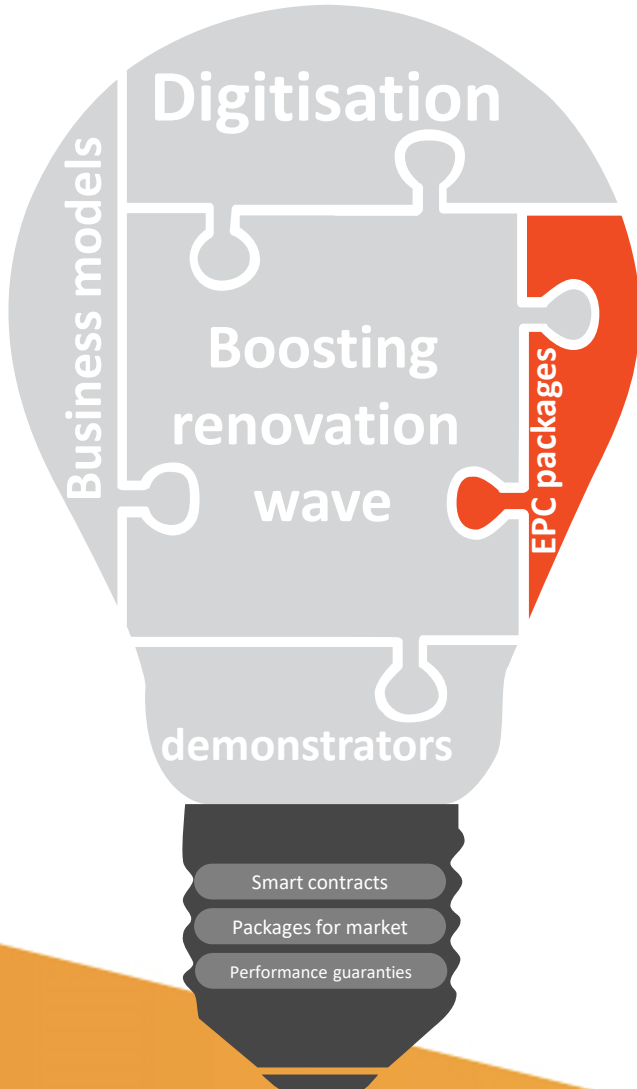
CRD	TGT
GSIS	SIN
ED	CTIC
CCO2	NTUA

Greece

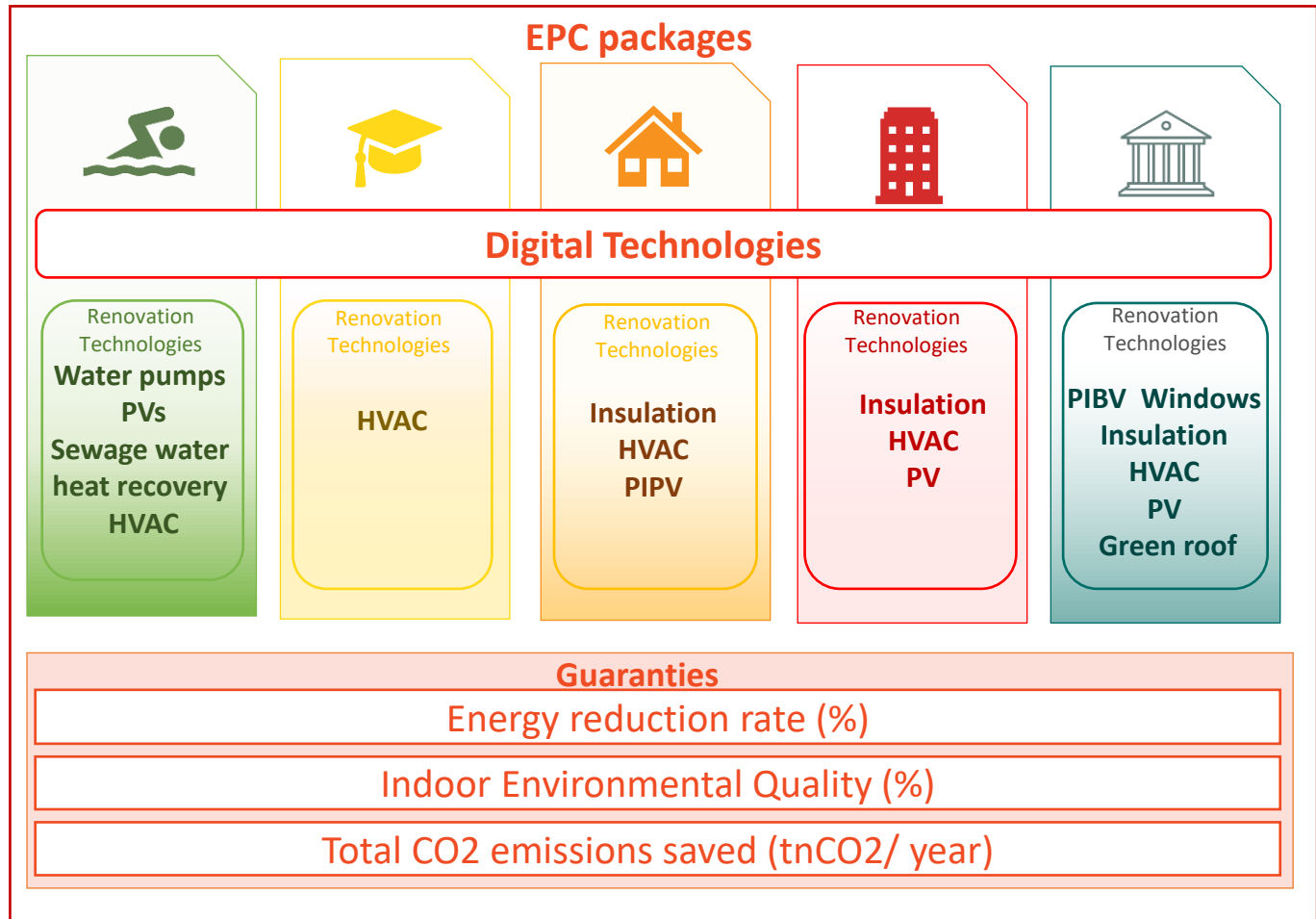
CRD	TGT
EEF	SIN
ED	CTIC
CCO2	NTUA



# Objectives and Expected Results



## Integrated EPC packages to raise overall EPC value proposition





# Public Swimming Pool



## The Goal

Inclusive and efficient pool management



## The Team

Public Entity  
Construction  
Digitization  
Companies

GKW  
+48  
ED/ CTIC/  
NTUA/CCO2/SIN



Public  
School



## The Goal

An exemplary school  
for energy efficiency  
with improved air  
quality and HVAC  
management



## The Team

Public Entity  
Construction  
Digitization  
Companies

DEE  
LEIF / MESH  
ED/ CTIC/  
NTUA/CCO2/SIN





Households

## The Goal

Sustainable Efficient  
and Comfortable  
homes, including  
poverty and  
prosumers homes



## The Team

Construction	VEO/ OKT/GAR
Voluntary Construction	JUST
One-Stop-Shop	ENE
Cooperative	COOP
Financing Bale	GOP
Digitization	ED/ CTIC/
Companies	NTUA/CCO2/SIN



Created with mapchart.net



**Public Building**



## **The Goal**

**Sustainable and efficient workplace**



## **The Team**

**Public Entity  
Construction  
Digitization  
Companies**

**GSIS  
TGT / CRD  
ED/ CTIC/  
NTUA/CCO2/SIN**

**Greece**





Museum

## The Goal

An exemplary museum for energy efficiency, with comfortable Green Roof.



The Team

Museum Entity  
Construction  
Digitization  
Companies

EEF  
TGT / CRD  
ED/ CTIC/  
NTUA/CCO2/SIN



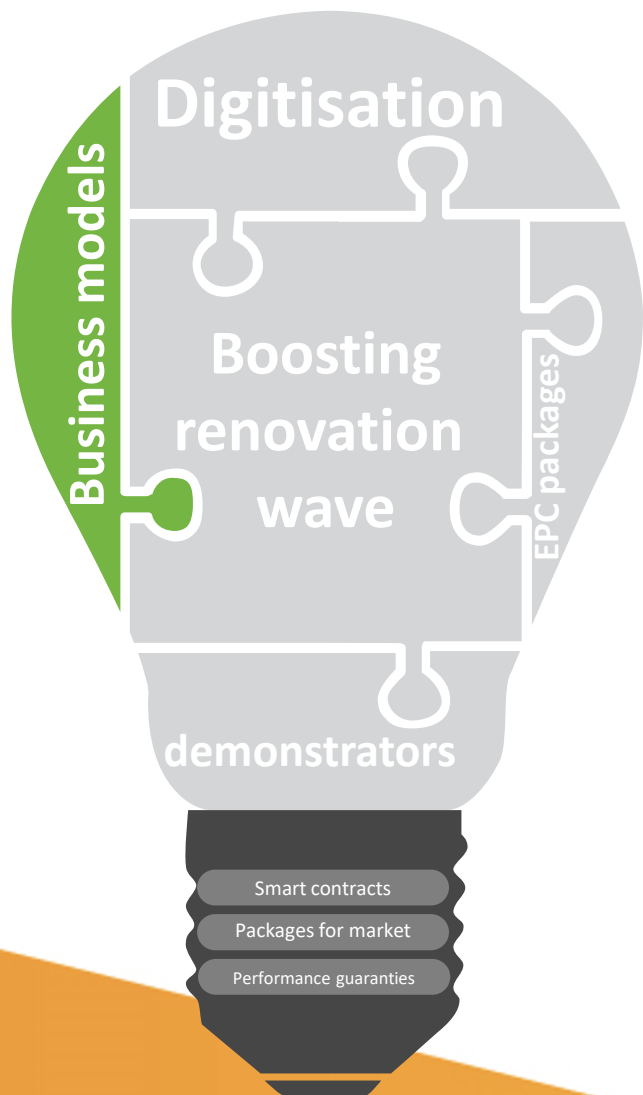
Greece



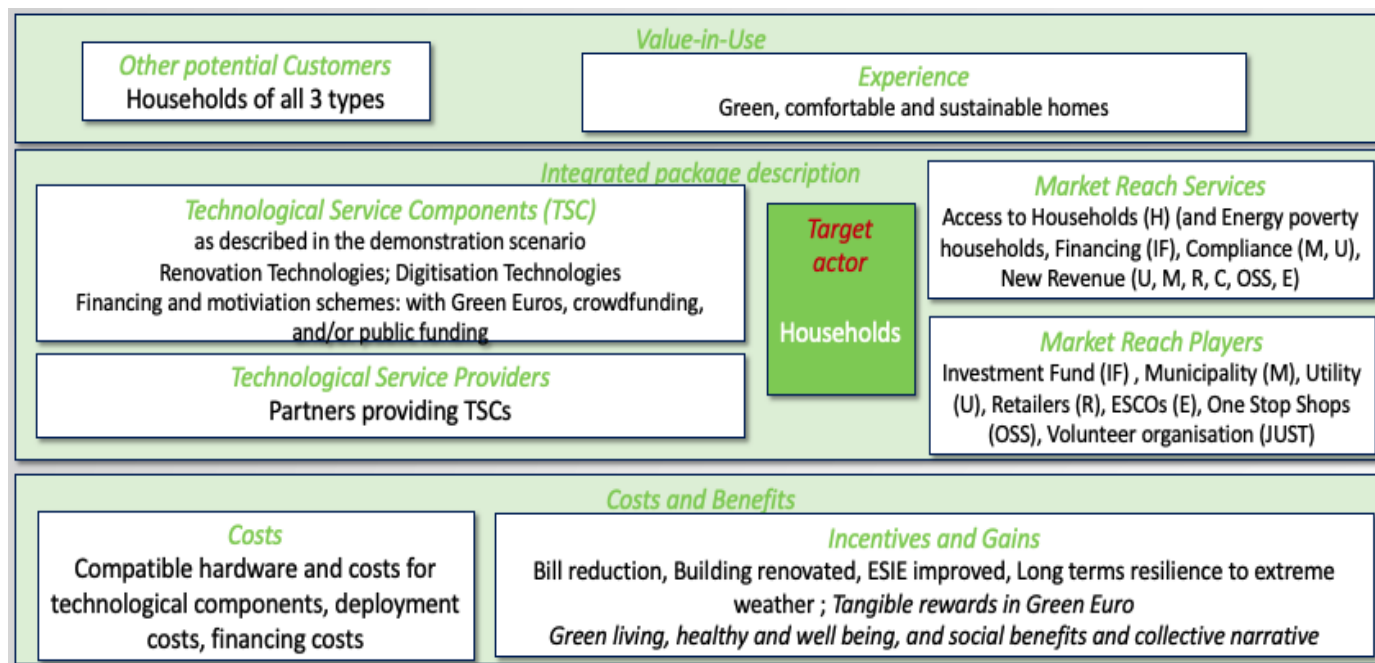
PHILHELLENISM MUSEUM  
MUSEE DU PHILHELLENISME  
ΦΙΛΗΛΛΗΝΙΣΜΟΥ ΜΟΥΣΕΙΟ



# Objectives and Expected Results

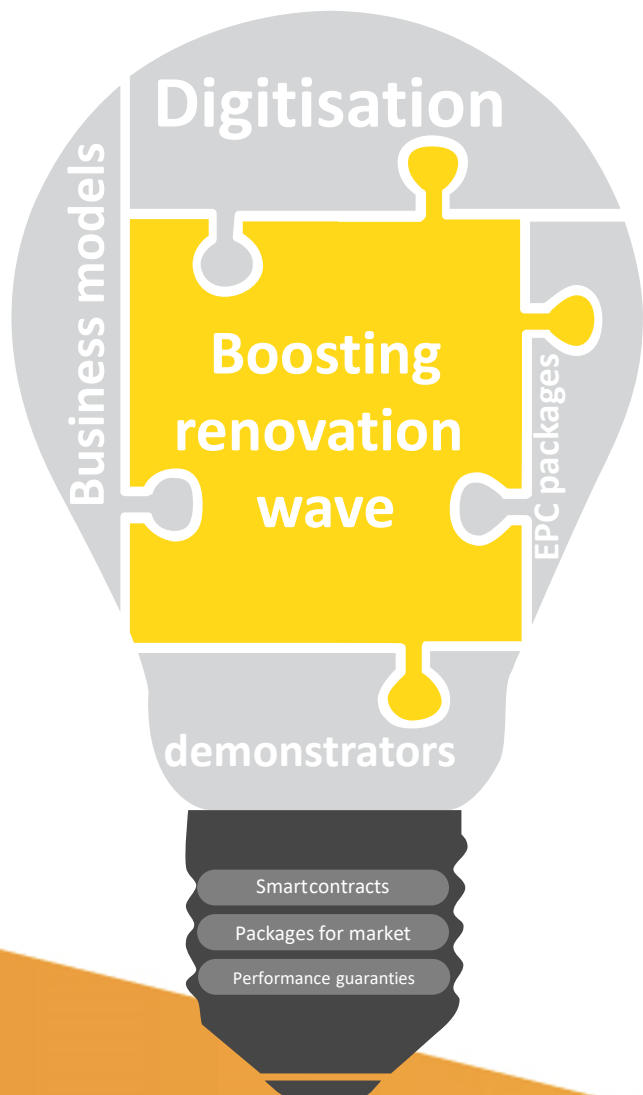


## New business models for original and replicated packages serving, immediate market take up





# Objectives and Expected Results



## Boosting renovation wave with performance guaranties



Online network of One Shop Shop



Replication

- value chains formation and offering optimization
- roadmaps and value chains in each partner country promote packages of all target groups
- roadmaps adopted by ESCO association



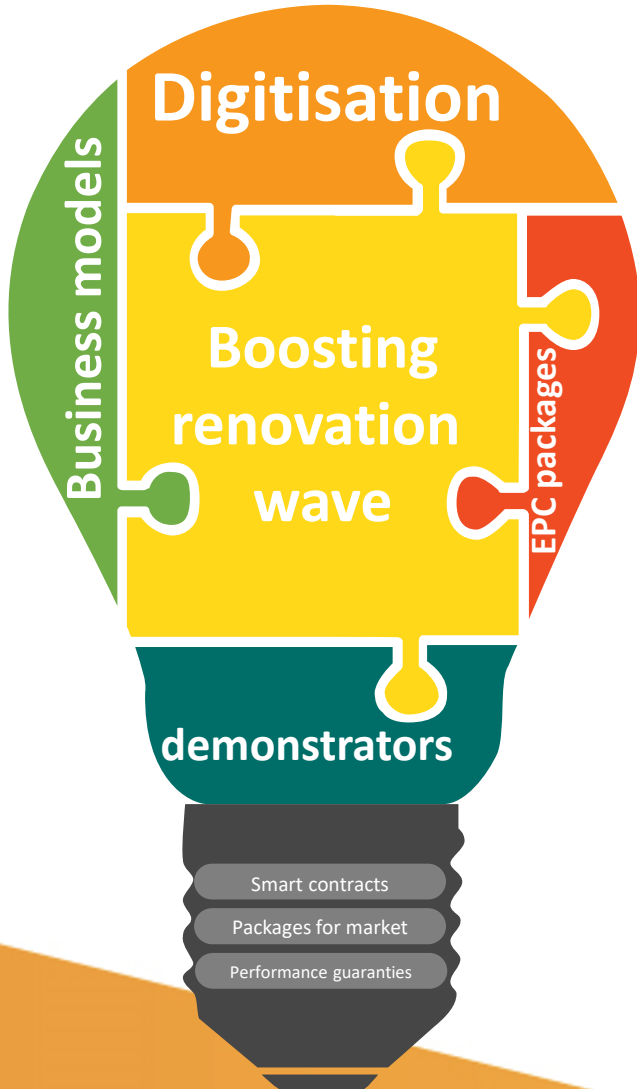
Financing incentives boost adoption



Dissemination channels



# Overview of objectives



**Digitisation and automation enablers**



**Real demonstrators targeting several different stakeholders**



**Integrated EPC packages to raise overall EPC value proposition**



**New business models for original and replicated packages serving, immediate market take up**



**Boosting renovation wave with performance guaranties**



## Monetary innovation

New financing schemes based on Crowdfunding and Green-euro loans and rewards (€G).

## Gamified app User interaction

Visualization of the consumption and reporting for energy savings.

## Blockchain technology

Interaction of energy and non-energy actors.

## Rewards policy

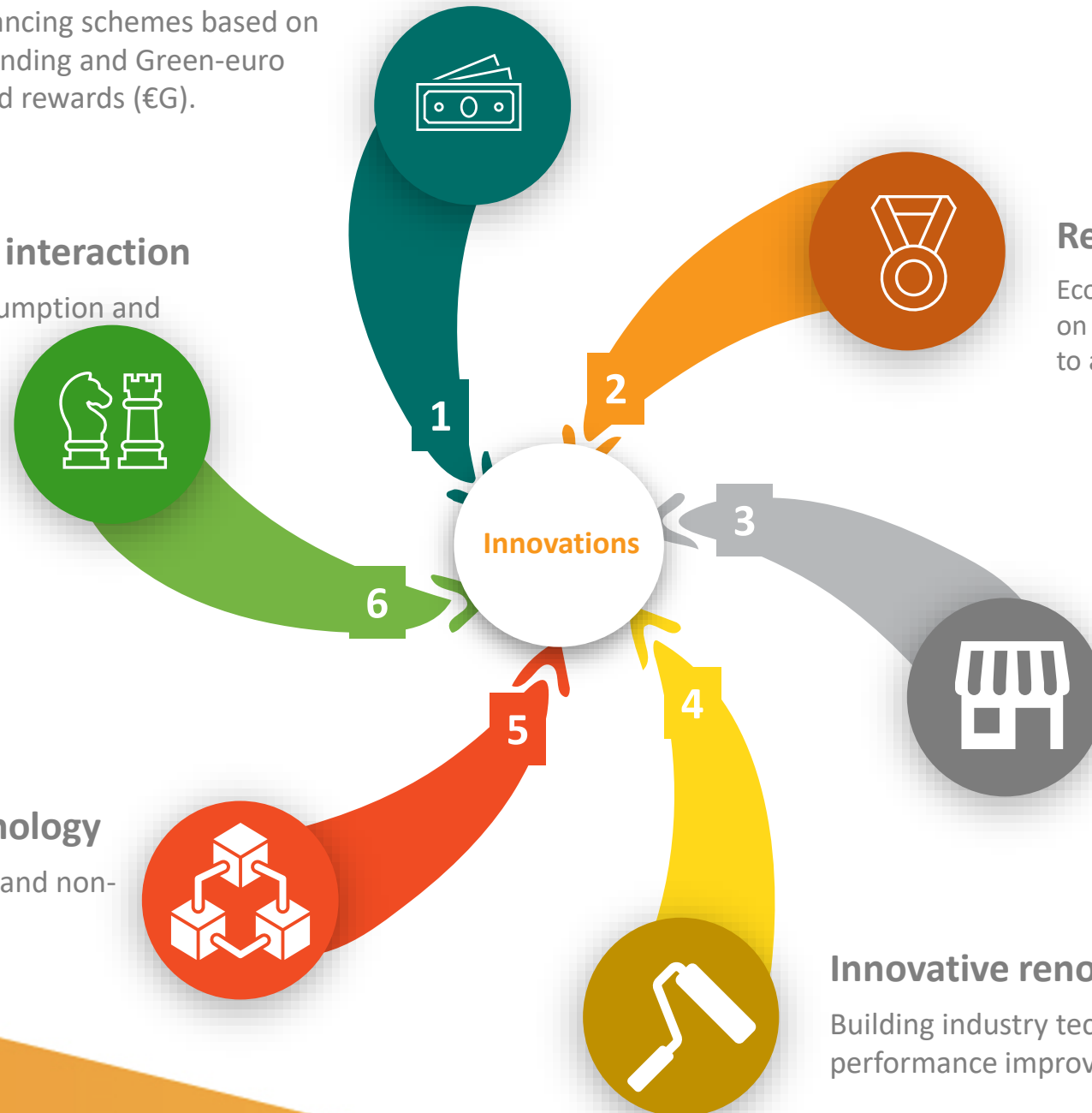
Economic policy based on monetary rewards to achieve ESIE.

## One-Stop-Shop

Online marketplace as an One-Stop-Shop for renovation, eliminating geographic barriers.

## Innovative renovation packages

Building industry technologies with performance improvements.

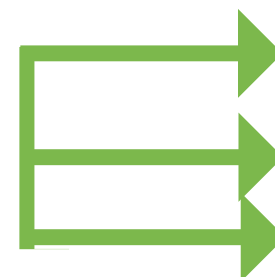
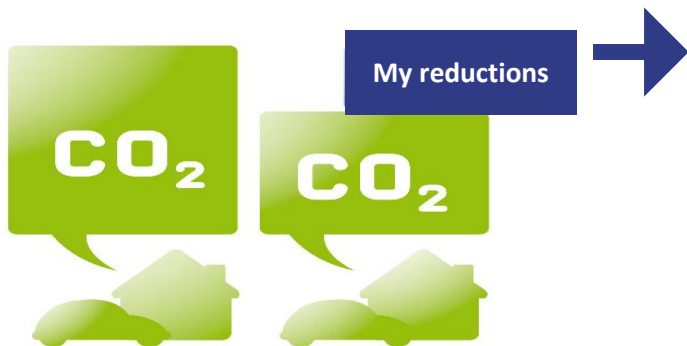




# Monetary Innovation **€G** and crowdfunding



## 1) Positive value of CO<sub>2</sub> reductions with €Gs



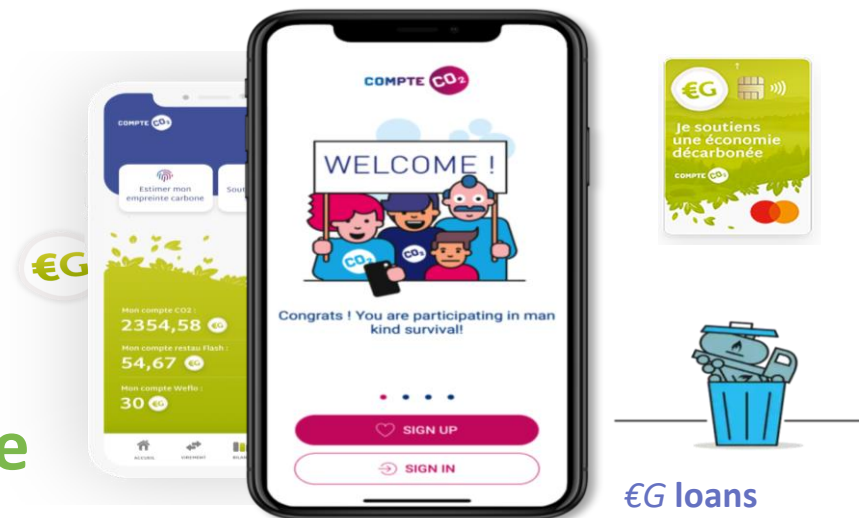
One ton CO<sub>2</sub> abated = 44.60 €G

By design total money supply is *limited*

Real *ex-post* measures



## 2) €Gs circulated with the neobank app



## 3) Innovative Crowdfunding to lend

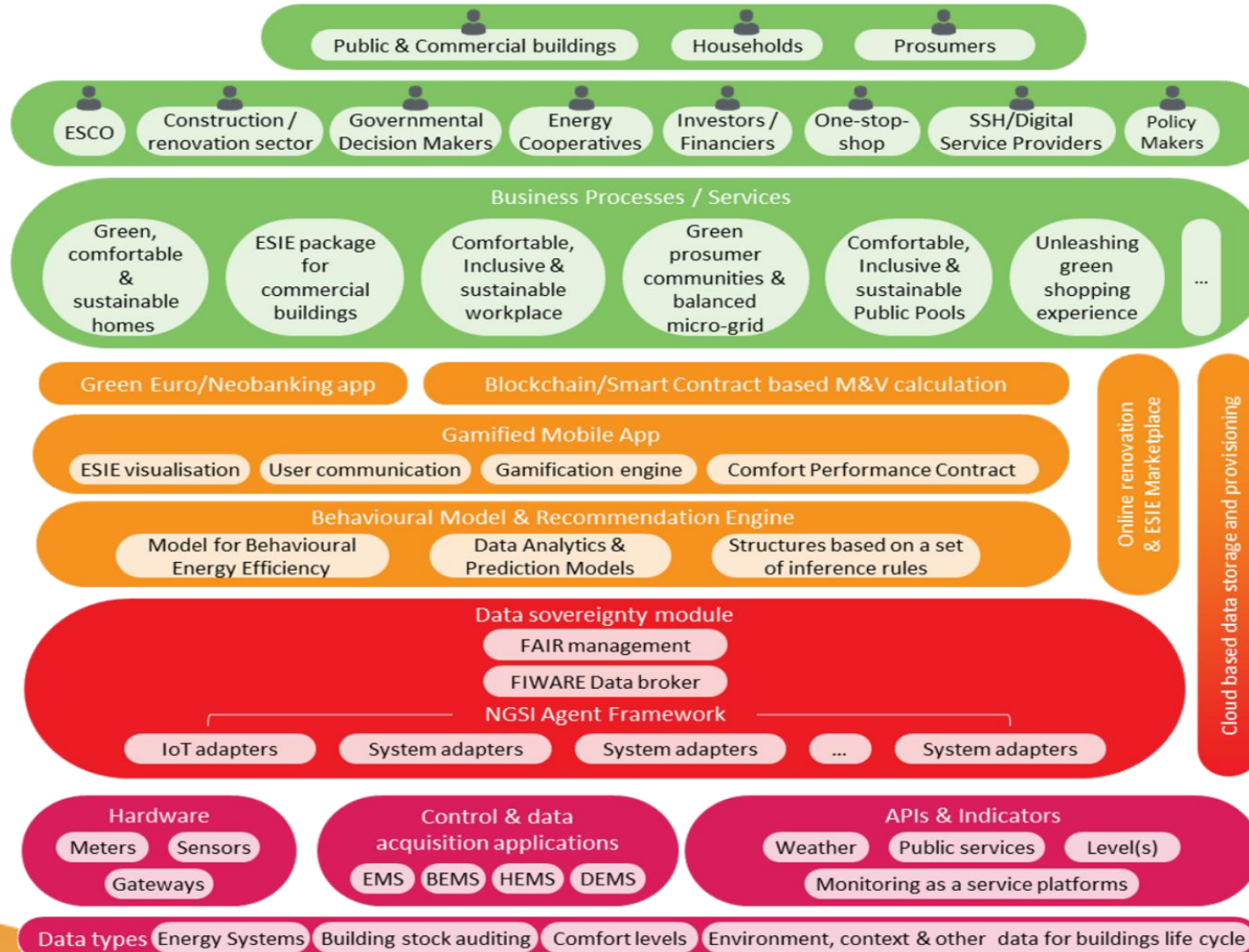
bottom-up approaches to finance and mobilise investments.

Measurement system available





# FORTESIE Reference Architecture





## Expected Measurable Impact



- Measured and validated renovation packages with performance guarantees ready for fast replication
- Perceived improvement in users' trust
- Enhanced capacity of value chain to perform renovation projects. Due to the gained experience, packaged and optimised services, reduced costs and deployment time
- New business models driven by novel financing concepts
- Replication roadmaps in all countries and Slovakia
- One Stop Shop for renovation (1 portal gathering experience and 3 enhance OSS (Spain, Poland, France))



# Who we are



## FORTESIE



**dss·lab**  
Decision Support Systems Laboratory  
National Technical University of Athens



# 48



## GOPARITY



SOCIETY FOR  
HELLENISM AND  
PHILHELLENISM



Ministry of Economics  
Republic of Latvia



ASOCIÁCIA POSKYTOVATEĽOV  
ENERGETICKÝCH SLUŽIEB



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# Find out more



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Fortesie EU Project

[https://zenodo.org/communities/fortesie\\_eu\\_project/](https://zenodo.org/communities/fortesie_eu_project/)



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