# Workshop: Behavioural Change towards EE by Utilizing ICT Tools

## Session 2: Validation and Impact assessment methodologies

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HYPERTECH energy labs

SUSTAINABLE PLACES 2020
October 27-30, 2020
Digital Event

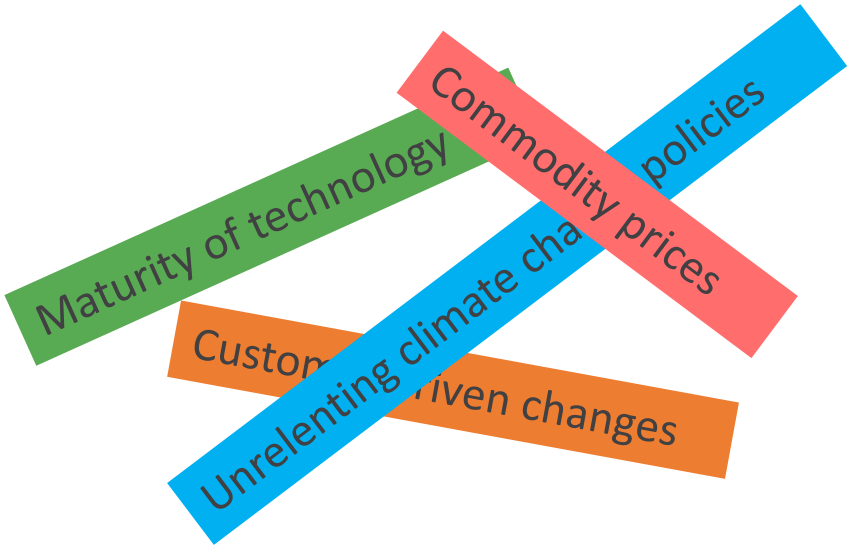
# UtilitEE

– Utility Business Model Transformation through human-centric behavioural interventions and ICT tools for Energy Efficiency

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 768600

# Energy transition: Problem or opportunity

- Less grid dependant
- A Digital & Data driven world
- Out of Touch

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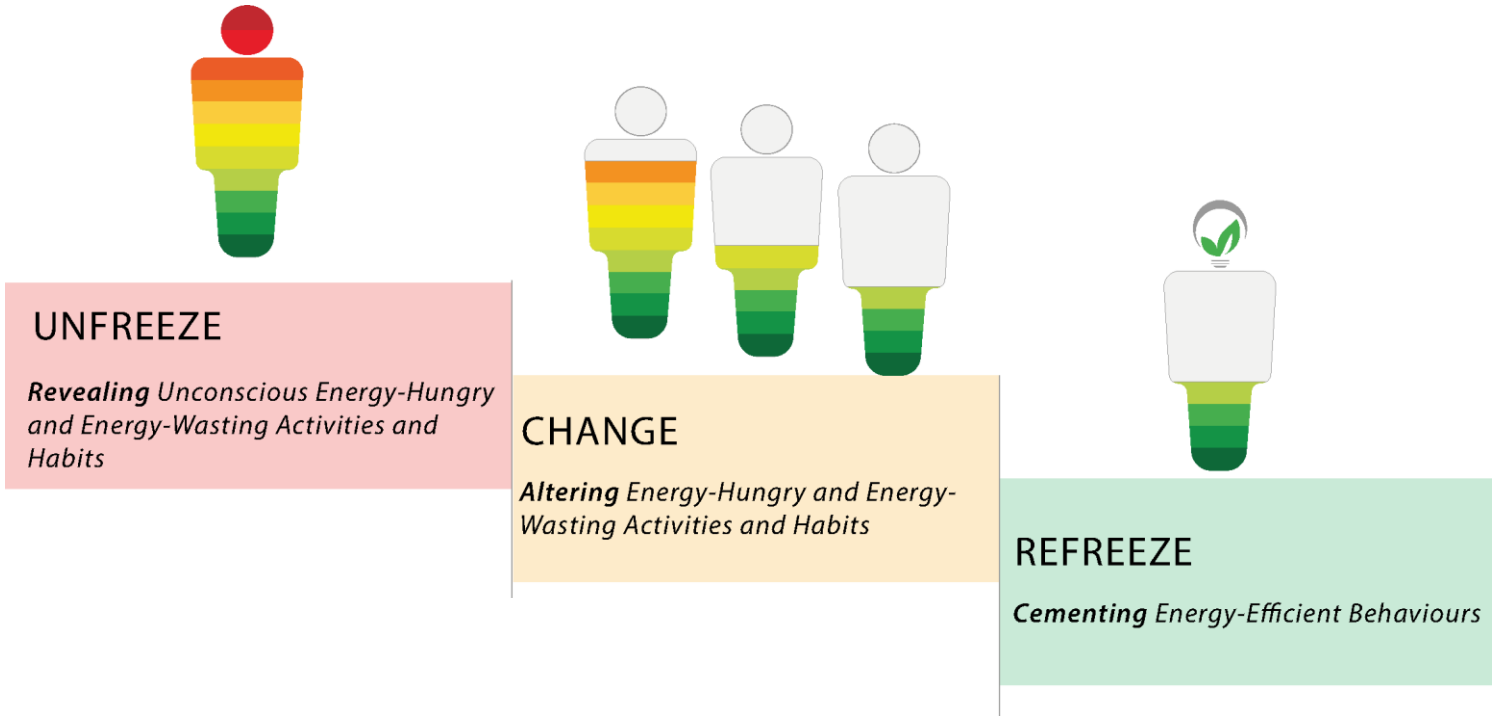
# The customer journey in energy efficiency

## Universal behavioural change framework to engage customers through meaningful feedback

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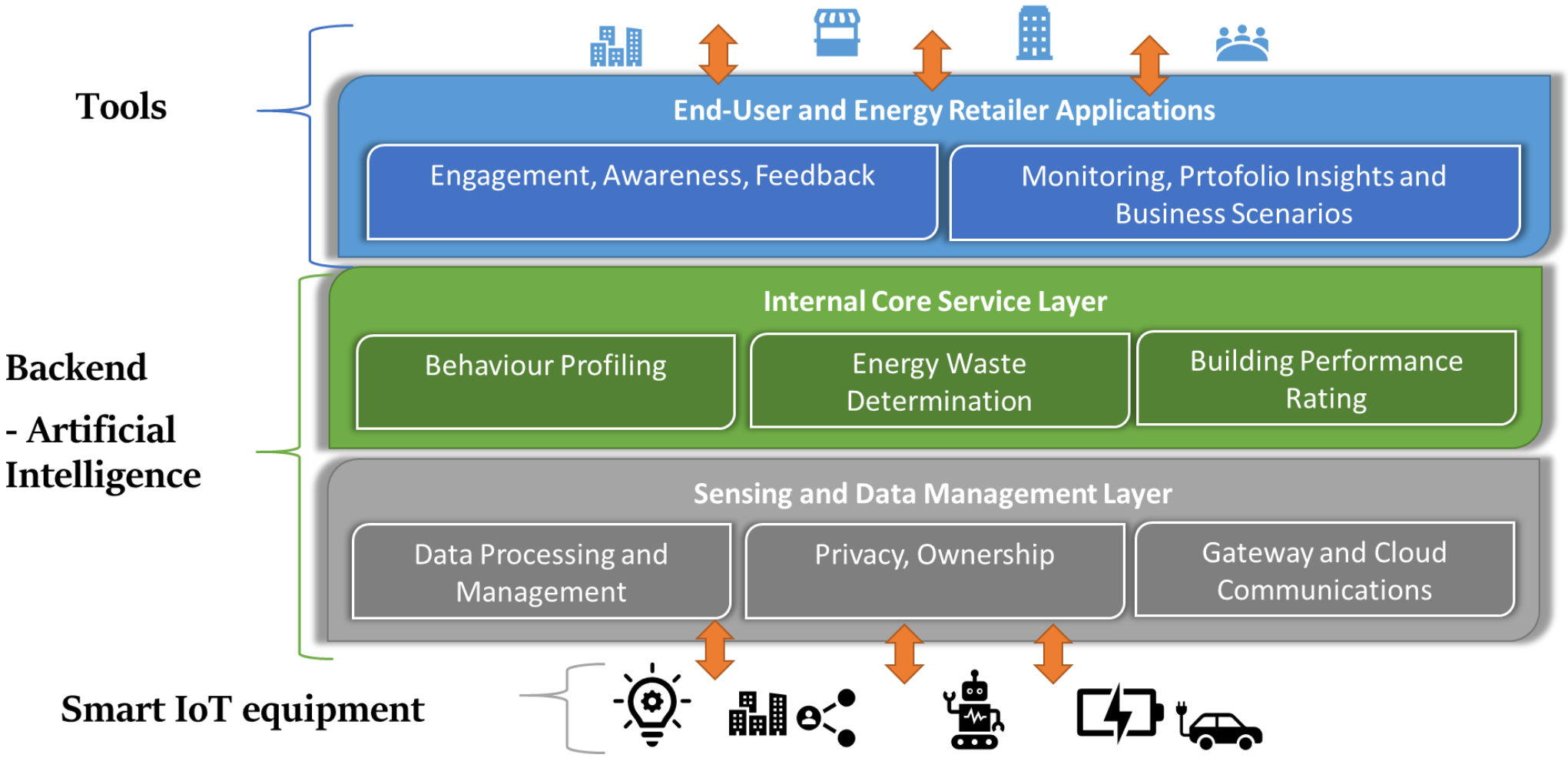
# Technology solution conceptual overview

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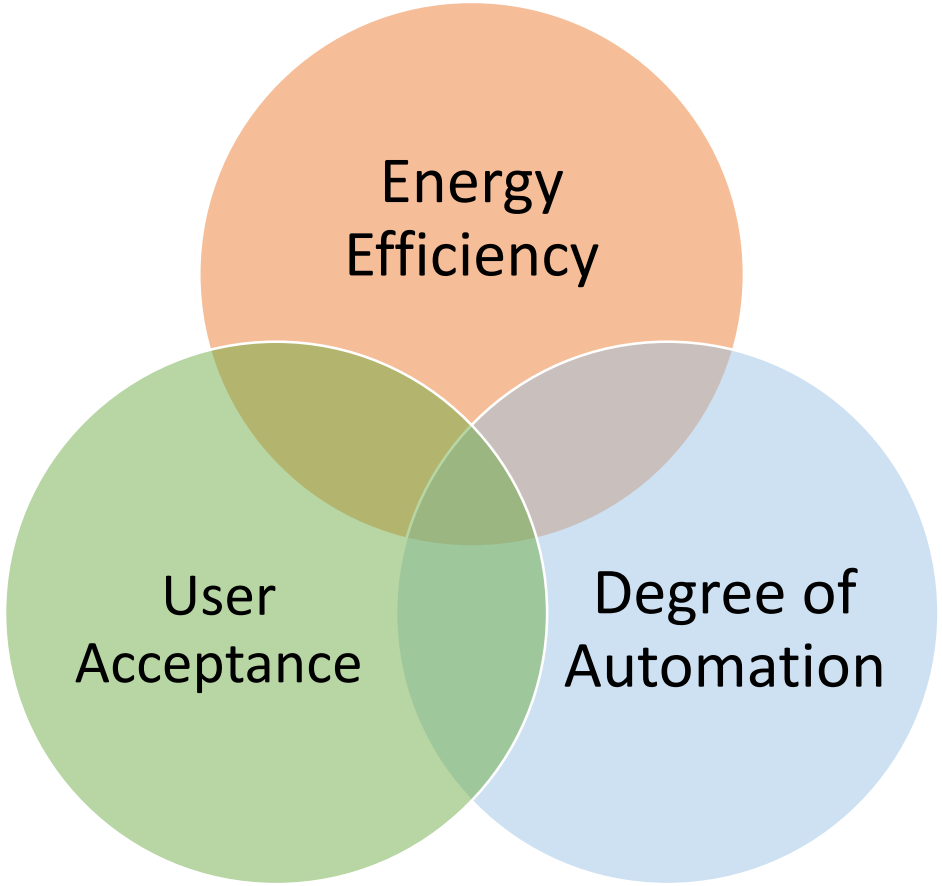
# Validation of the solution

**A trade-off between:**
**Energy Efficiency** – How much energy can be saved?
**User Acceptance** – What's the tolerance of the end-users with regards to their behavioral habits and comfort preferences to achieve energy consumption reduction?
**Degree of Automation** – How automated an energy management system should be to fulfil the user' preferences?

**Validation of the solution under different Level of Services**:

- Pure Awareness
- Real time monitoring
- Real time triggering
- Real-time personalized feedback based on historical data regarding user preferences
- Semi-automation & control

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# UtilitEE Demonstration Site activities: Overview

## Validation scenarios

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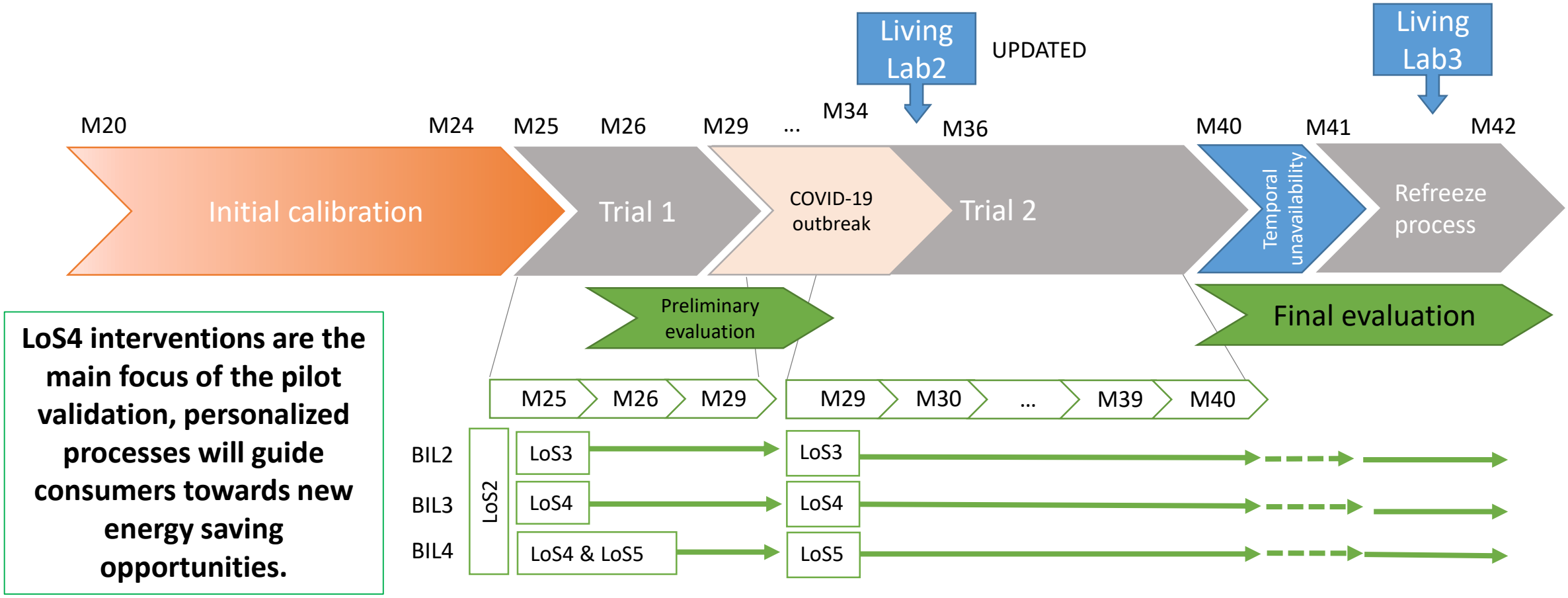
# UtilitEE Demonstration Site activities: Overview




**LoS4 interventions are the main focus of the pilot validation, personalized processes will guide consumers towards new energy saving opportunities.**

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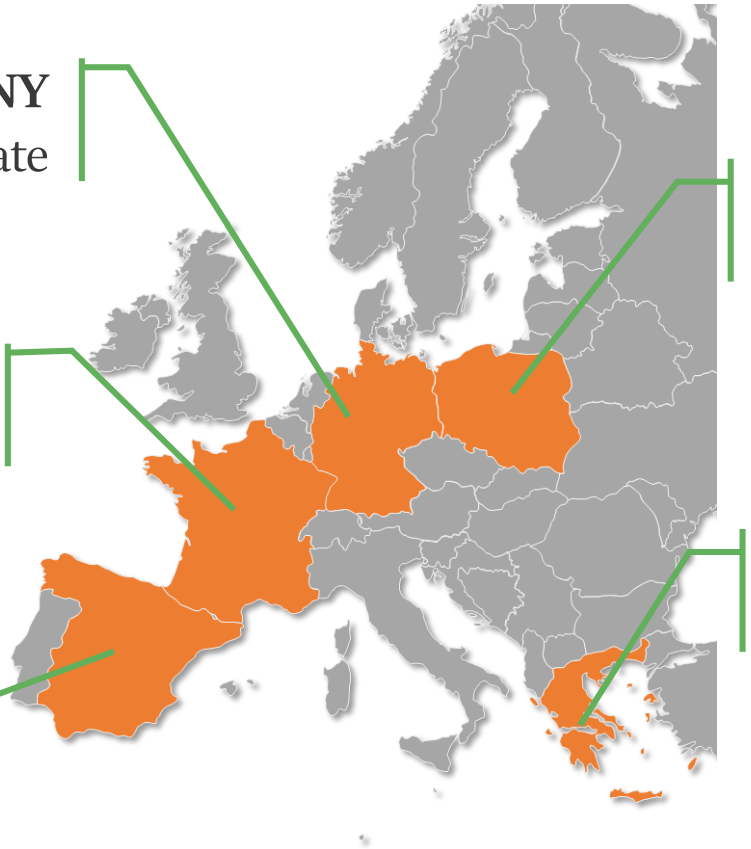
# The Validation Sites

53
154
**TRIER, GERMANY**
Atlantic Central Climate

42
104
**MAURIENNE, FRANCE**
Alpine South Climate

40
141
**MURCIA, SPAIN**
Mediterranean
South Climate



**WROCLAW, POLAND**
Continental Climate
37
114

**ATHENS, GREECE**
Mediterranean
North Climate
26
136

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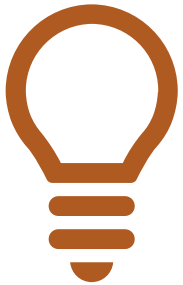
# Validation of Novel Business Models

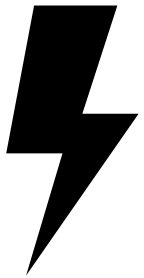
**From Sensor data to innovative business models**



## Retailer as an ESCO

Comfort preserving energy efficiency

Energy Efficiency Audits towards Near Zero Energy Building



## Retailer as an Aggregator

Supply-demand / Imbalance management

Community VPPs

DSO Costs Minimization

Dynamic Retailer Pricing Schemas

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# Validation of Business Models



## Validation of BMs implemented at pilot sites

| Business Model | GREECE | FRANCE | GERMANY | POLAND | SPAIN |
|---|---|---|---|---|---|
| Energy Efficiency Audits towards Near Zero Energy Building | | | x | | |
| Comfort preserving energy efficiency | x | x | x | x | x |
| Community VPPs | | | | x | |
| DSO Costs Minimization | | x | | | |
| Dynamic Retailer Pricing Schemas | x | | | (x) | |
| Supply-demand / Imbalance management | | | | | x |

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# The Value proposition: a *win-win* approach

**B2B segment**

- **Energy Efficiency** & energy bill reduction/control
- **Energy performance optimization** for different space use
- Meet **legal obligations** for **public buildings**
- Enhanced **energy analytics**
- Employees **health, wellbeing and productivity**

**B2C segment**

- Enjoy **Home Automation** & **Energy Management** Services
- Increased Home **Comfort**, **Efficiency** & **Safety**
- Cut down on **Energy Bills**
- Advanced **Services tailored to Consumer Profile**

- Scalable and flexible **Energy-as-a-Service** model
- **Create Value Proposition with Personalized Service Bundles –** *Lifestyle – Convenience – Ease of Use – Savings* for specific customer segments
- Enhanced **customer retention** and acquisition
- **Optimize** the **trade-off** between **Self-Serve** and **Out-of-touch**
- **Portfolio data insights**
- Expand to **new market segments** - engage the next generation
- Enabling exploration of **novel business models**

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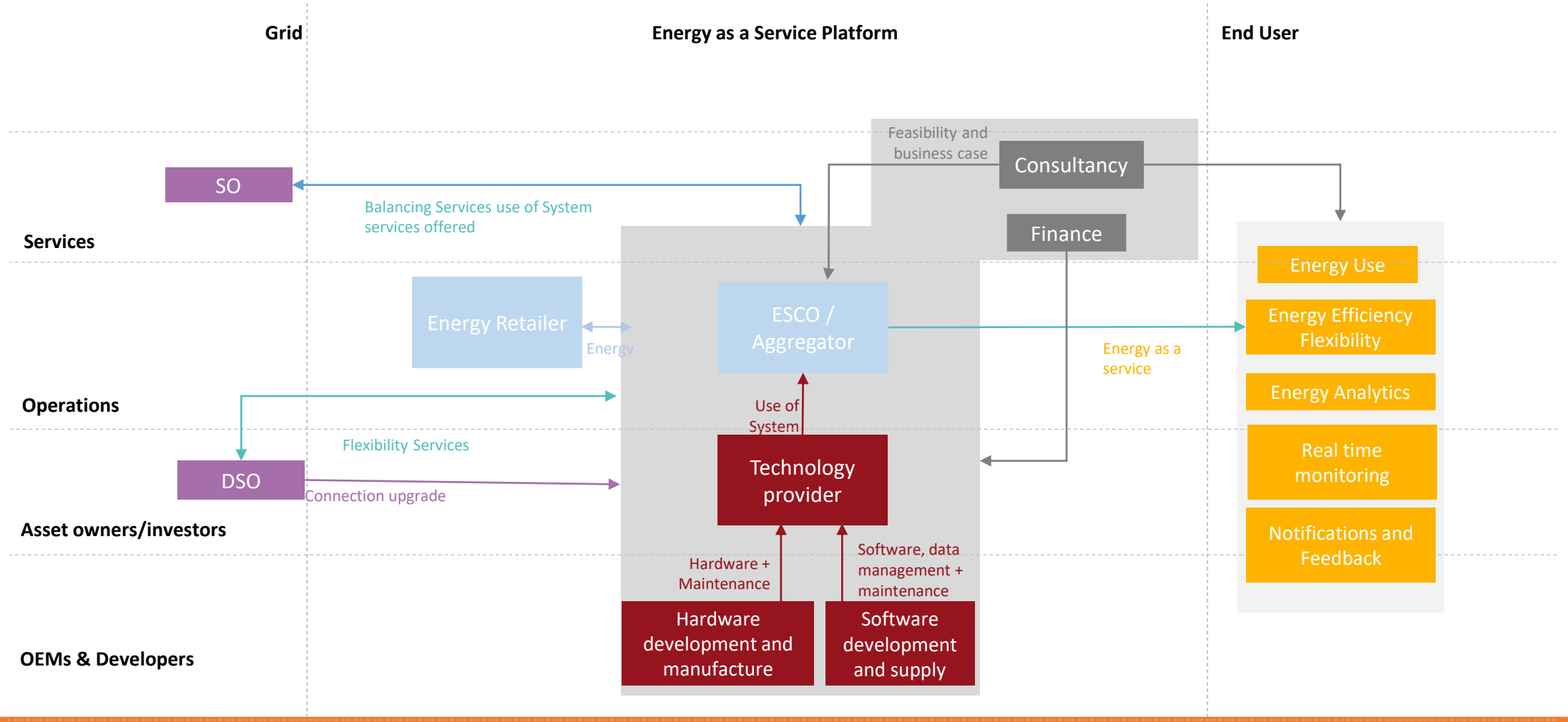
# ENERGY AS A SERVICE – Value creation

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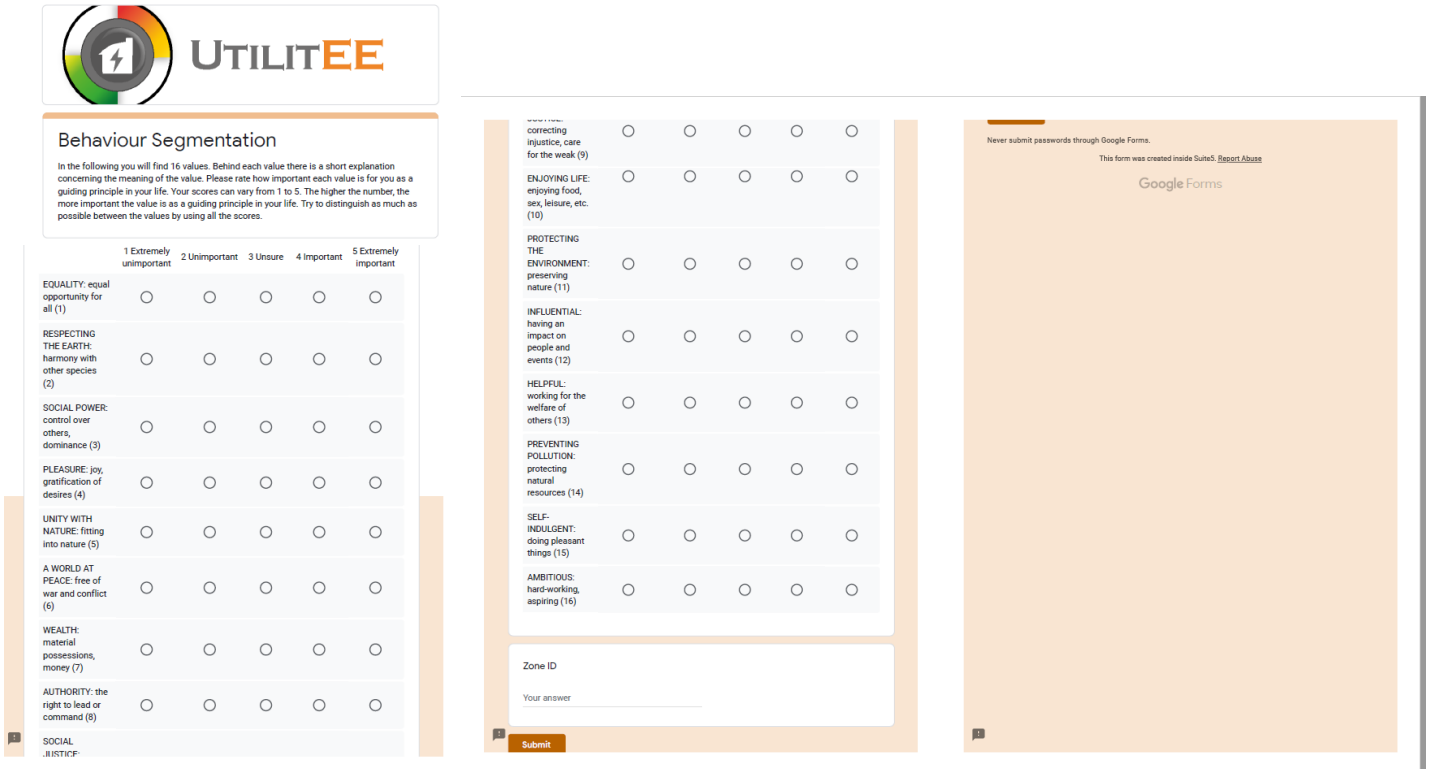
# Validation Activities

## Step 1 - Behavioral Segmentation

- Position the end users to particular “personas” categories based on the BCA questionnaire.

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# Validation Activities



**Step 2 - Setting of campaigns based on defined Business Models per pilot partners**

- The pilot partner sets campaigns to validate the effectiveness of a business model under study based on specific KPIs (user engagement & response, targeted energy efficiency percentage etc.)
- Main focus has been given to Comfort Preserving Energy Efficiency Business model

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# Validation Activities



## Step 3 - Trials and Validation of LoS and BIL combinations

- Each pilot building is assigned a Building Intelligence Level and several Level of services are offered throughout the validation activities in an attempt to validate the most effective combination regarding specific and defined KPIs related to business models.

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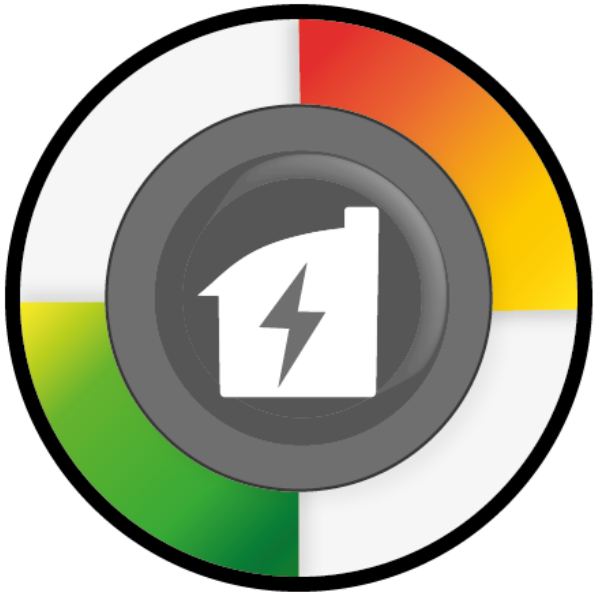

# *Thank you!*

www.utilitee.eu

UtilitEE

*Call: H2020-EE-2016-2017*
*Topic: EE-07-2016-2017*
*Duration: Nov 2017 – Oct 2020 (36 months)*

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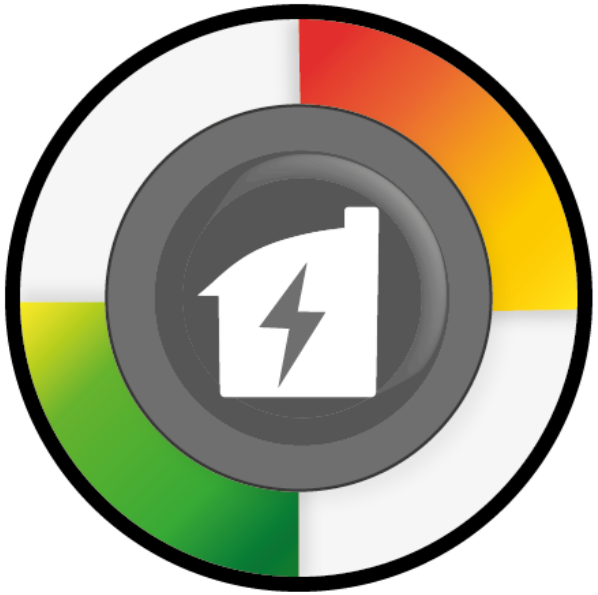

# Partners

etra I+D
HYPERTECH energy labs
MIW ENERGÍA
MYTILINEOS
Solintel
sorea Energies & Communications
Suite5 We Deliver Intelligence
SWT
TAURON POLSKA ENERGIA
University of Basel
vaasa ETT

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