



# Workshop: Behavioural Change towards EE by Utilizing ICT Tools

Session 3: Technical & Legal  
challenges

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## UtilitEE

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



# UtilitEE solution overview



## Analytics & core services

All back-end components responsible for raw data analysis, processing & user profiling



## End-user application

End-user interface providing energy usage information, performance analytics & personalized notifications and recommendations



## Wireless Sensor Network

Locally installed infrastructure including gateways, smart meters, sensors & actuators for real-time collection of raw data



## Pilot site monitoring application

UI for the business stakeholders (utilities) offering portfolio overview & analysis, installations health status, and functionalities for behavioural change campaign definition & campaign performance statistics



## Remote control and Semi-automation

Remote control functionalities and human-centric automation for comfort neutral energy efficiency

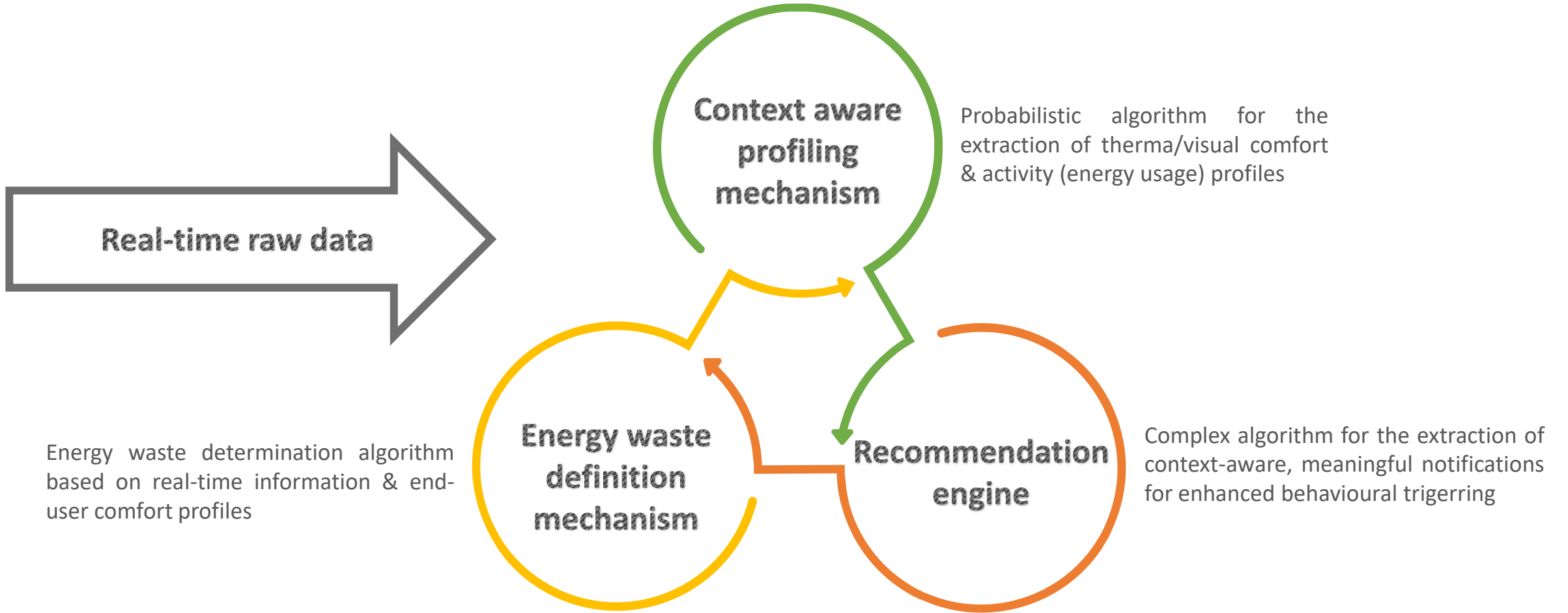
# Deployment challenges

- Wireless sensor network deployment at the pilot sites at 5 European countries
- Loss of data due to communication disruptions
- Handling personal data
- Data quality issues

## Solutions

- Creation of a detailed commissioning manual at each pilot partner's native language
- Continuous communication between technical partners and pilot partners
- Fully GDPR compliant data transmission and storage
- Establishment of local backup mechanism
- Development of an advanced Data Management system

# UtilitEE core services







# UtilitEE – Pilot site monitoring (Utility stakeholders)

**Campaigns Management**

Active Campaigns

Business Strategy ID | Name | Business Model Type | Start Date | End Date | Status |

Business Strategy ID	Name	Business Model Type	Start Date	End Date	Status
40	SP-Camp...				
41	SP-Camp...				
39	SP-Energy E...				
42	SP-Energy E...				
43	SP-Energy E...				
44	SP-Camp...				

**Performance**  
Id: 39 Type: Energy Efficiency

 Consumption Min 172.48 KWh	 Consumption Max 887.06 KWh	 Consumption Overview 3.05 MWh
 Low Performance -0.48 %	 High Performance 19.83 %	 Mean Performance 9.66 %
 Notifications 75	 User Acceptance 80 %	 Rate 4.2

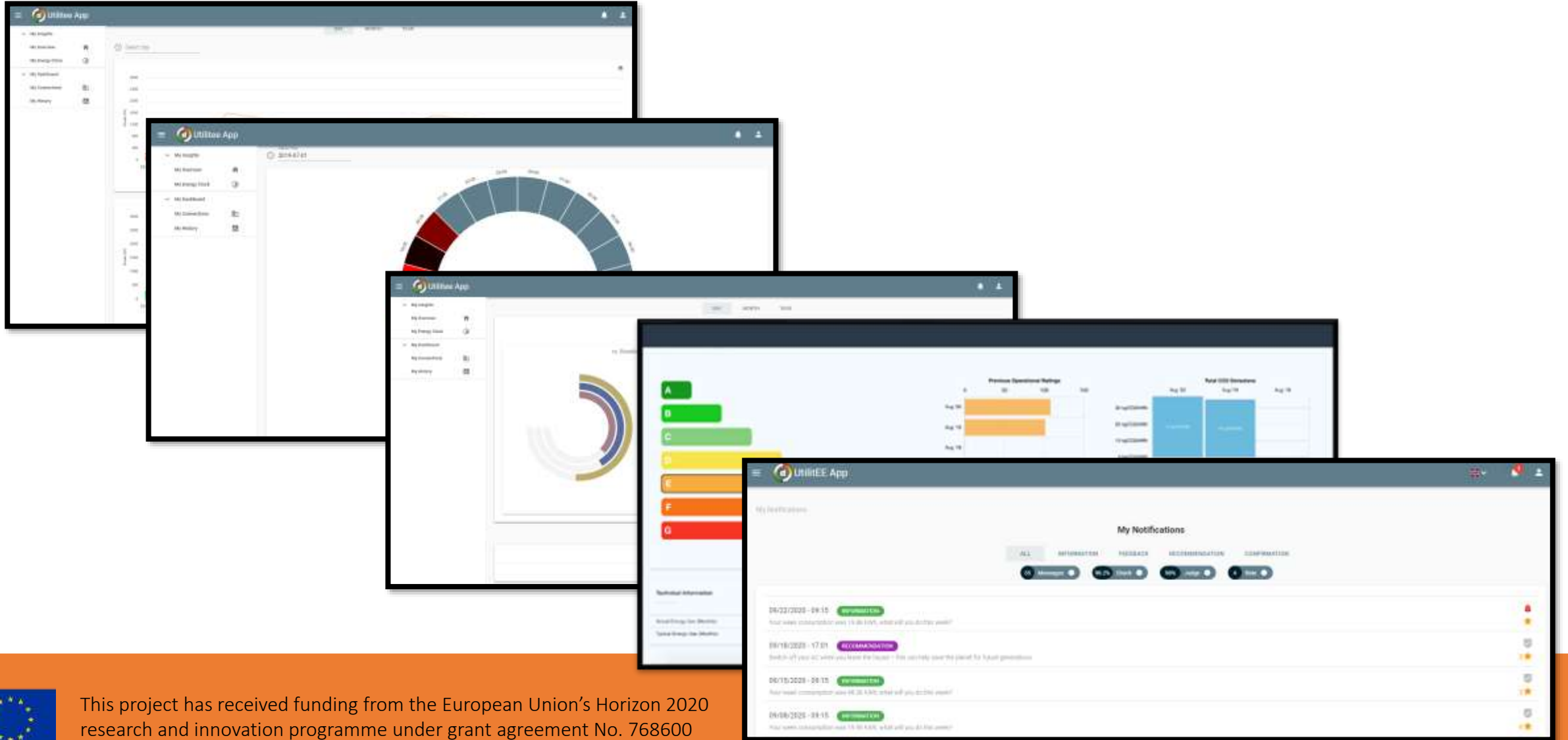
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# UtilitEE – End-user application



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# UtilitEE – Remote control & Scheduling UI

The screenshot displays the UtilitEE user interface, which is divided into several functional panels:

- Commands:** Located at the top left, it includes a "RETURN TO AUTOMATIC MODE" button and three device control sections: "Eclairage Bureau S", "Heating system Sy", and "Prise Benjamin", each with a "On/Off" toggle switch.
- My Scenes:** A central panel showing scene management. It has a "New scene" button and two sections: "Active scenes" (displaying "No scenes defined") and "Inactive scenes" (displaying "New scene 1").
- Scheduling:** The largest panel, featuring a "CREATE EVENT" button at the top. It contains a monthly calendar grid where the date 17 is highlighted with a blue circle. Below the calendar, there are event bars for "Scene 1" on various dates. At the bottom, there are navigation buttons for "PREVIOUS" and "NEXT", a "Type" dropdown set to "Monthly", and a legend for event types: "Action" (purple square), "Scene" (yellow square), "Interval" (radio button), "All day" (checkbox), "Punctual" (radio button), and "Repeated" (radio button).





# UtilitEE – Remote control functionalities

## Remote control & Scheduling UI

- Remote control & scheduling of control actions for the available controllable loads
- Event scheduling based on time and/or user-specified conditions
- Energy savings and added value for the end users

## Human-centric control semi-automation

- Energy efficient operation of HVAC and lights & preservation of end user comfort boundaries
- Upon detection of potential energy savings
- High-level behavioural triggering



Personalised notifications

# Integration challenges

- Uninterrupted communication
- Seamless interoperability
- Unified interface design
- Long communication lines - Who should I call?
- Trouble shooting – What went wrong?

## Solutions

- Continuous communication between the developing partners
- Clear responsibility definition
- Open error reporting – others might be facing the same issues



# *Thank you!*

[www.utilitee.eu](http://www.utilitee.eu)



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# Partners



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