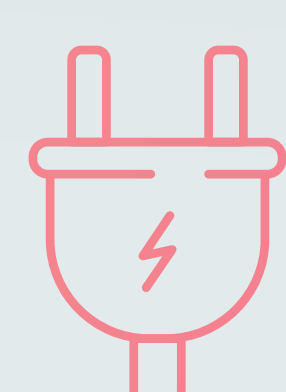# PHOENIX

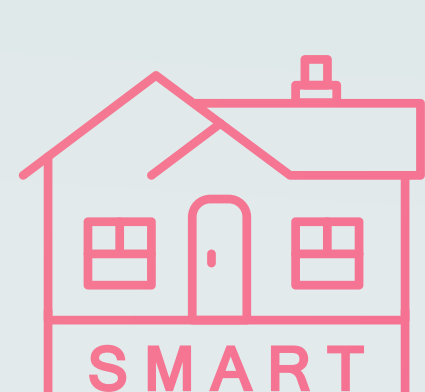**THE SOLUTION**

The envisaged PHOENIX solution will be a Smartness hub based on ICT with modular components to integrate seamlessly the legacy equipment of buildings in order to offer user-friendly and cost-effective services adaptable to the specific needs of buildings users and grid utilities.
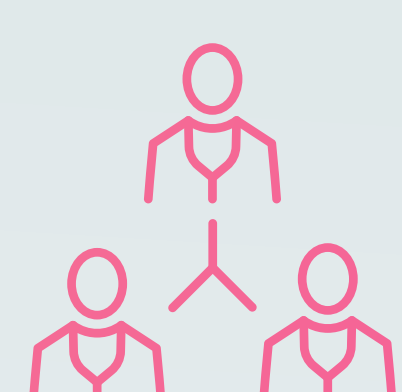
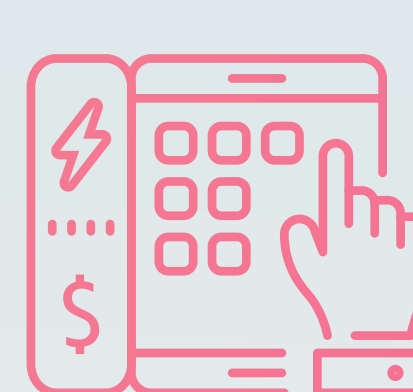## The Phoenix project focuses on 7 MAIN OBJECTIVES:
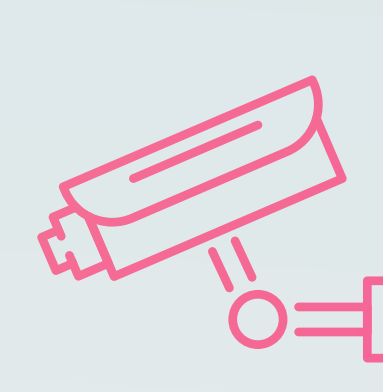
- Seamless Adapt & Play
- Innovative Technologies
- Real-time Communication
- Human-centric approach
- Cost-Effective Services
- Security and Building Privacy
- Suitable Building Strategies

THE PHOENIX ARCHITECTURE

In accordance with the key objectives of the project, the reference architecture of PHOENIX project was defined in the 1st year of the project and consist of five interlinked layers:

- The asset layer consists of heterogeneous legacy equipment and systems already deployed in the buildings that must be integrated and managed intelligently. This layer covers integration with building appliances, energy building equipment, BMS systems etc.

- The Integration layer provides the mechanisms for the remote control and data monitoring of different building equipment, systems and external data sources, namely IoT Gateways and Smart Controllers, building management systems integrations and external data source wrappers to incorporate weather data, energy prices etc.

- The knowledge layer consists of modular tools that create knowledge through data processing and analytic techniques on the way to upgrade the smartness of the buildings. A knowledge graph is defined to facilitate the extraction of building related information, while artificial intelligence data algorithms (e.g., machine learning and deep learning) to enable self-learning capacities and automatic decisions to improve energy savings and the overall performance of buildings

- The function layer includes multiple smart cost-effective services offered to the end users to optimize energy saving, occupants' satisfaction, overall performance of the buildings and grid related operations.

- The business layer represents the point of view of the different business stakeholders through the incorporation of innovative business models at the different demonstration sites of the project. On top of the different business services, PHOENIX will provide adaptable dashboards for collecting the user preferences and behaviour in the use of the building equipment and energy resource.

DEMONSTRATION CASES
Validation & Evaluation

SPANISH PILOT SITE #1
Region of Murcia
Commercial & Residential Building
Relevant Equipment & Systems

SPANISH PILOT SITE #2
University of Murcia
Two office buildings at University Campus
Relevant Equipment & Systems

IRISH PILOT SITE
RISEC, Dublin city
a) Commercial building – Rediscovery Centre.
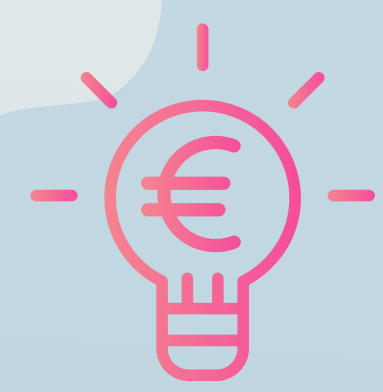b) Social Housing Block Relevant Equipment & Systems

SWEDISH PILOT SITE
Skellefteå
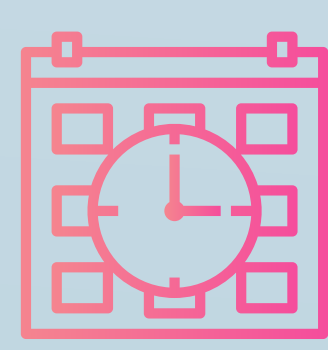Mixed-use building, commercial & residential
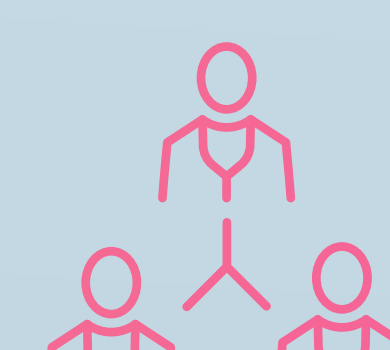Relevant Equipment & Systems

GREEK PILOT SITE
KaMa in Thessaloniki
Relevant Equipment & Systems

PROJECT BUDGET:
approx
5,2 million

PROJECT DURATION:
36 months
(09/2020 – 08/2023)

PROJECT TEAMS:
12 partners
from 7 member states

PARTNERS

UNIVERSIDAD DE MURCIA · OdinS · verd · MiW ENERGÍA · KaMa · Suite5

arden energy · UBITECH · SKEBIT · LULEÅ UNIVERSITY OF TECHNOLOGY · SIEMENS · MERIT CONSULTING HOUSE

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