VICINITY 2020

Project Overview

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infocom world + infocom media

OTE **GROUP OF COMPANIES**

IoT European Platforms Initiative

Project Overview

- Open virtual neighbourhood network to connect IoT infrastructures and smart objects
- The **VICINITY Consortium** consists of **15** complementary partners from **9** different **European Countries** (*Denmark, Germany, Greece, Norway, Portugal, Slovakia, Slovenia, Spain and United Kingdom*)

Duration:

January 2016 - December 2019

Funding: *7,5 m€*

VICINITY project aims to :

- Provide the owners of connected IoT infrastructures with decentralized interoperability

- Build and demonstrate a platform and ecosystem for IoT infrastructures that offers "Interoperability as a Service".

- Introduce the concept of virtual neighbourhood, where users can share the access to their smart objects without losing the control over them.

- Retain full control of the ownership and distribution of data across the different IoT domains.

- The platform aims to be device- and standard-agnostic and relies on a decentralized and user-centric approach (*it resembles to a social network*)

VICINITY Concept & Approach

VICINITY platform connects different smart objects into a "*social network*" called **virtual neighbourhood,** where infrastructure owners keep under control their shared devices and data, **thanks to a web-*based* operator console** called **VICINITY neighbourhood manager (VNM)**.

Guest IoT infrastructures, VICINITY-*enabled* services as well as the VICINITY auto-discovery space, **are all connected to a VICINITY interoperability gateway,** by using the same VICINITY gateway API.

Using the VNM, **the user can control which of his/her IoT asset is shared with whom and to which extent.** To "get connected" to the VICINITY platform, the users are provided with the **VICINITY open interoperability gateway**
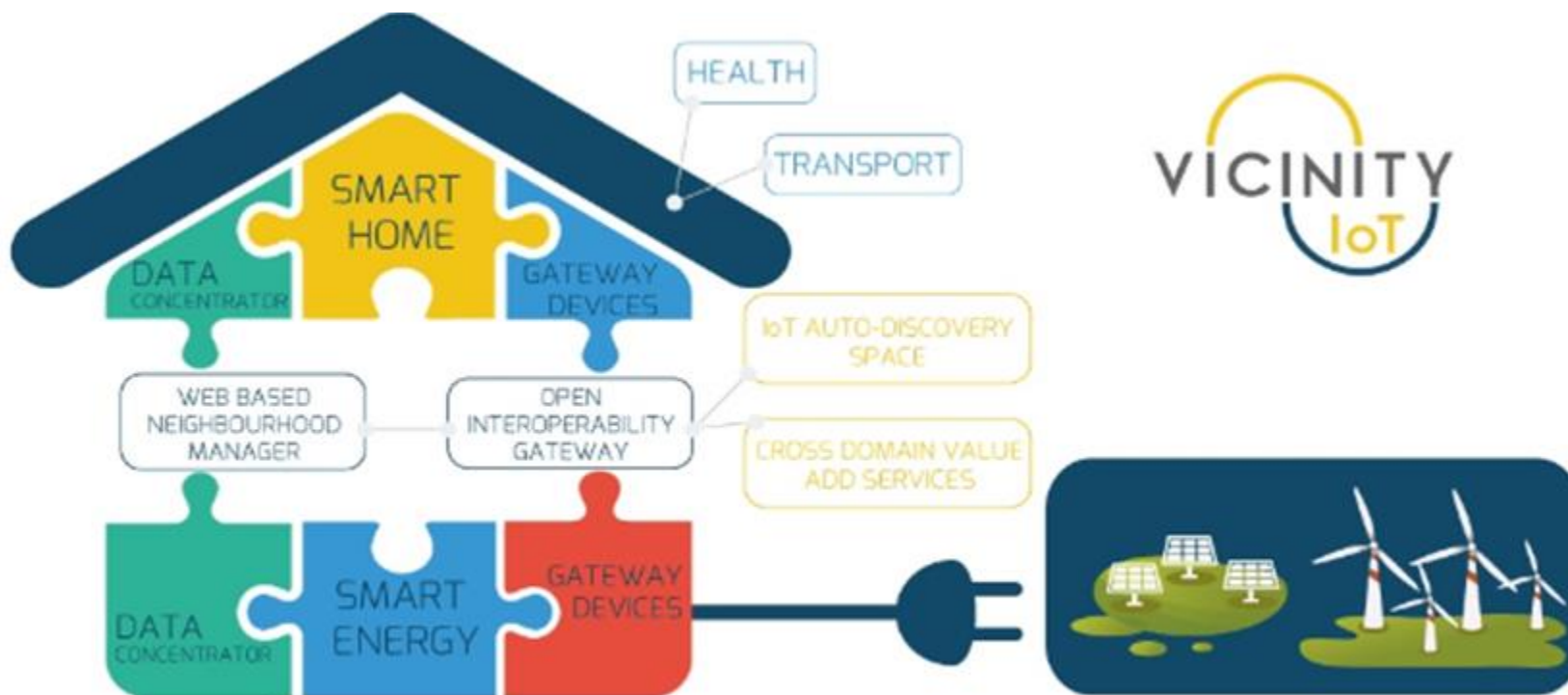
Once an IoT infrastructure is connected to the VICINITY platform, the traditional IoT value chains become unlocked. It "opens the doors" toward **seamless interoperability between IoT islands** present in the current IoT landscape and; It enables the exploitation of **independent value added services,** including various cross-domain IoT applications.

VICINITY neighborhood concept

- ***Schematic view of the VICINITY neighbourhood concept, interconnecting smart home and smart energy infrastructures enabling cross domain availability of IoT data.***
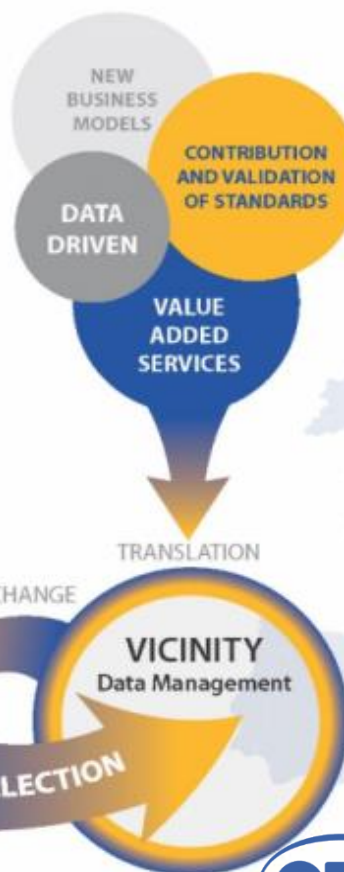
Pilot Use Cases

Horizon 2020
European Union funding
for Research & Innovation

European Commission

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GROUP OF COMPANIES

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Ehealth & Assisted Living
(eHealth, Smart Building)

Fitness & Preventive Medicine
(eHealth, wearable IoT)

- **Detecting and provide reports** on abnormal behaviour, based on information collected about health profile combined with current status measurement and household .

- **Triggering alarms** for Municipality Call Centre and respective doctors.

- Evaluation of citizens health and offering health improvement advice, based on measurement data and registered exercise performed.

- **Monitored on a daily basis by municipality** with doctors/ nutritionist and physiotherapist.

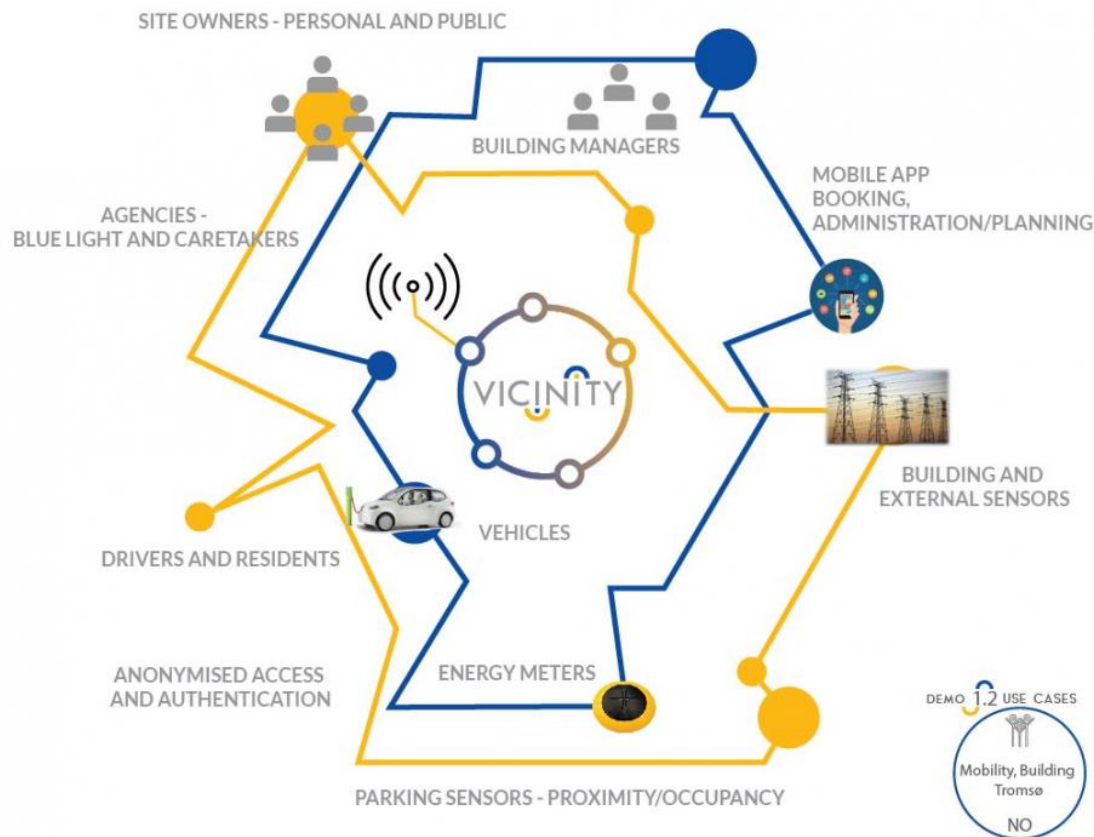MUNICIPAL SCALE ASSISTED LIVING & EHEALTH ECOSYSTEM, GREECE

Transport, parking, eHealth and Assistive Living Demo
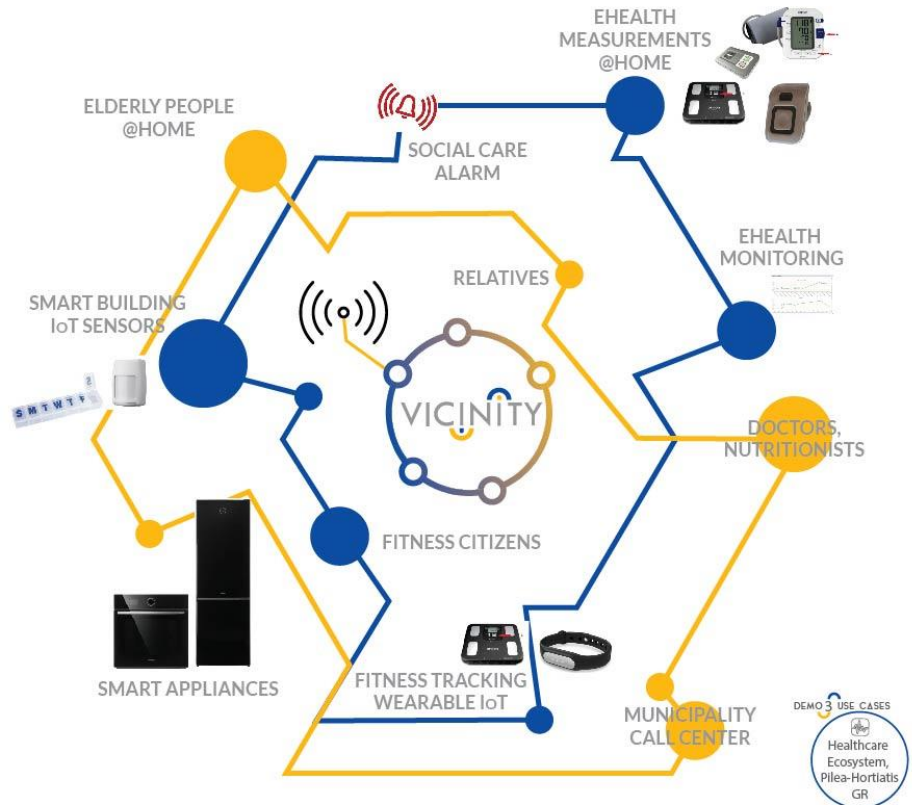
Shared parking
Access for bluelight agencies

- Predicting occupancy and assign parking space, based on priority for blue light agencies, particular needs from driver or passengers due to disabilities, and weather conditions.

- Assigning charging stations, based on availability within time slots and availability of affordable, green energy.

- Ensuring that only authorised and authenticated visitors gain access to the garage facilities, in case of an emergency situation arise with one of the residents.

MUNICIPAL SCALE TRANSPORT, PARKING, EHEALTH AND ASSISTED LIVING, NORWAY

SITE OWNERS - PERSONAL AND PUBLIC
BUILDING MANAGERS
MOBILE APP BOOKING, ADMINISTRATION/PLANNING
AGENCIES - BLUE LIGHT AND CARETAKERS
BUILDING AND EXTERNAL SENSORS
VICINITY
VEHICLES
DRIVERS AND RESIDENTS
ANONYMISED ACCESS AND AUTHENTICATION
ENERGY METERS
PARKING SENSORS - PROXIMITY/OCCUPANCY
DEMO 1.2 USE CASES
Mobility, Building Tromsø
NO

Smart Energy and Buildings Demo

Solar Demonstration Platform (RES generation), Solar Lab (Energy, Building)
Municipal buildings cluster

- Continuously measure energy consumption and consumption profiles.

- Load balancing of energy in municipal buildings like schools and nursery homes.

- Generate energy profile for households and public spaces.

MUNICIPAL SCALE SMART ENERGY ECOSYSTEM, PORTUGAL, ALCOUTIM
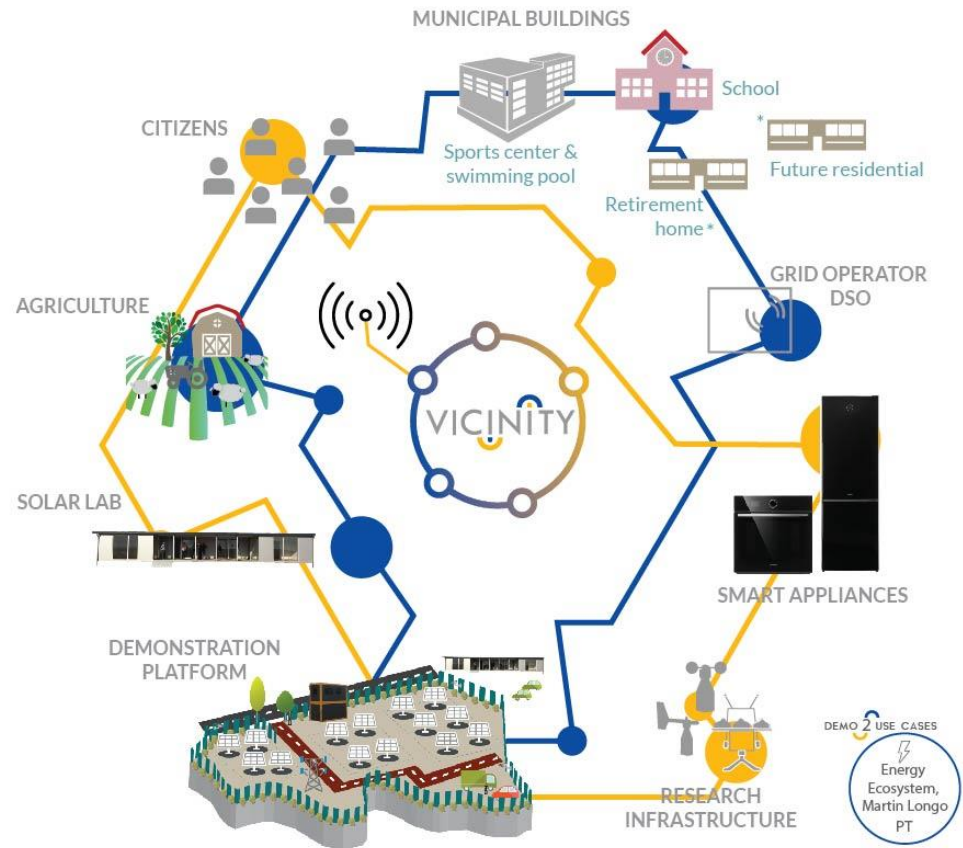
Smart Buildings, Neighborhood and Cities Demo

Building Performance (Building, Energy, Environment)
Municipal buildings cluster

Information from the **energy part of the intelligent building system** and the **Living Lab VICINITY Demonstration site**, together with real-time information about **Indoor Environmental Quality (IEQ)**

and **information about buildings physics** from a *Building Information Model (BIM),* can give an estimate of :

- The **use load** of the building,

- The **performance** of the building and enable the calculation of a real-time estimation of the building's energy flexibility.

- Smart parking and EV Charging combined with information and services form the building and energy domains.

MUNICIPAL SCALE SMART BUILDINGS, ENERGY AND MOBILITY ECOSYSTEM, NORWAY

DRIVERS

BUILDING MANAGERS

IoT ENERGY METERS

BOOKING APP PARKING CHARGING

GRID OPERATORS

SMART APPLIANCES

EV CHARGER

GARAGE OCCUPANCY DETECTOR

DEMO 1.1 USE CASES
Multiuser Science park, Oslo NO

Questions & Answers

For Further Communication
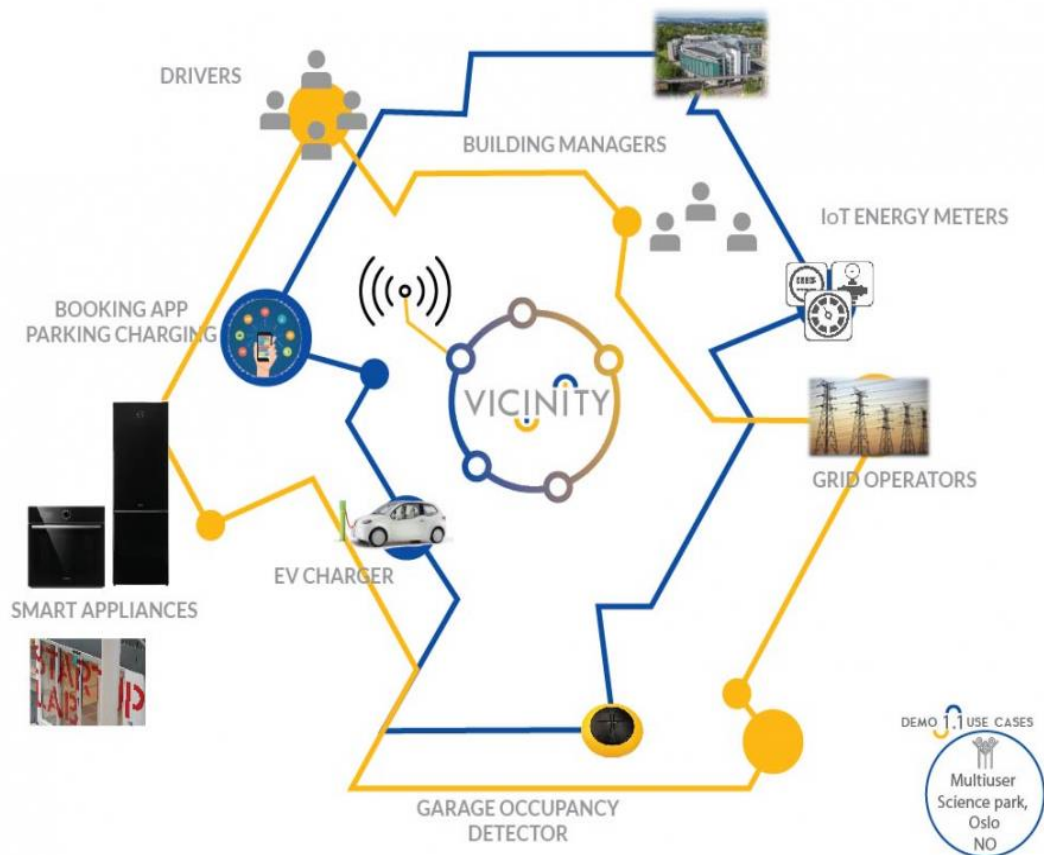
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