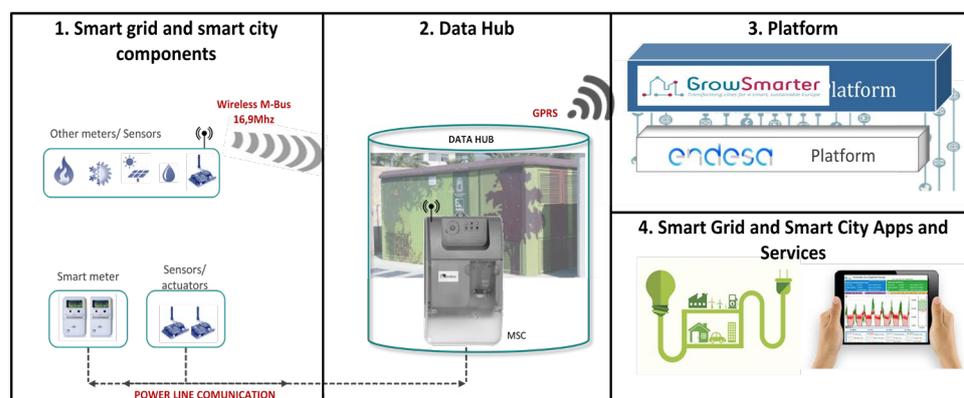


Smart meter information analysis and actuators

PART OF SMART SOLUTION 5: SMART LIGHTING, LAMPOSTS AND TRAFFIC POSTS AS HUBS FOR COMMUNICATIONS



- Efficient infrastructures in public areas integrate different utilities' technologies, such as smart meter infrastructures, and urban and environmental sensors.
- Awareness-raising on energy consumption behaviour aimed at lower energy consumption and a reduction in CO2 emissions.
- A new communication channel will provide direct access to the energy data through the City Platform (GrowSmarter Platform).

INTEGRATED
INFRASTRUCTURES



Barcelona

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What is the solution?

In Barcelona, Endesa will deploy an innovative “Data Hub”, named Multiservice Concentrator (MSC), allocated in the secondary substation. This new device will serve as a data node collecting and managing city data. This will allow for increased efficiency in infrastructures thanks to the integration and optimisation of several utilities, such as electric, water and heating smart meter infrastructures, and urban and environmental sensors.

Endesa will share the data collected by the MSC with the City Platform facilitating the creation of some added value applications with the objective of obtaining different efficiency related benefits and of offering new smart grid services.

How does it work?

Within the GrowSmarter project, the infrastructure’s architecture is composed of four main layers:

1. Field Components
 - a. Meters (electrical, gas, water, heating, cooling).
 - b. Urban and environmental sensors.
 - c. Data Hub, composed of an MSC installed at the secondary substation.
 - d. Platform
 - e. Energy Services and Apps.

The MSC installed at the secondary substation collects data from the different field components and then transfers it to the GrowSmarter Platform through a central system (Endesa Platform). This

data will be managed through the GrowSmarter Platform and will offer some added value energy services.

The main communications technologies supported are:

Radiofrequency (RF) based on wireless M-Bus protocol, used for communication between the concentrator and gas, water and heating meters.

PLC (Power Line Communication), used for communication between the concentrator and electrical meters.

Expected Impact

In Barcelona, Endesa will demonstrate a big step in the evolution of efficient infrastructures installed in public areas thanks to the integration of the infrastructure of different utilities with the capacity to integrate water, gas, heating, and also urban and environment sensors and actuators data.

This measure will contribute to the city’s development in energy efficiency thanks to the collection of a variety of high city data, providing greater awareness of energy consumption and enabling tenants to manage their own.

For example, the provision of energy meter data is expected to encourage tenants to optimise their consumption, reducing the cost of energy.

New added value energy services and apps are expected to be developed by third parties, which would benefit from the information collected and managed through the City Platform.