



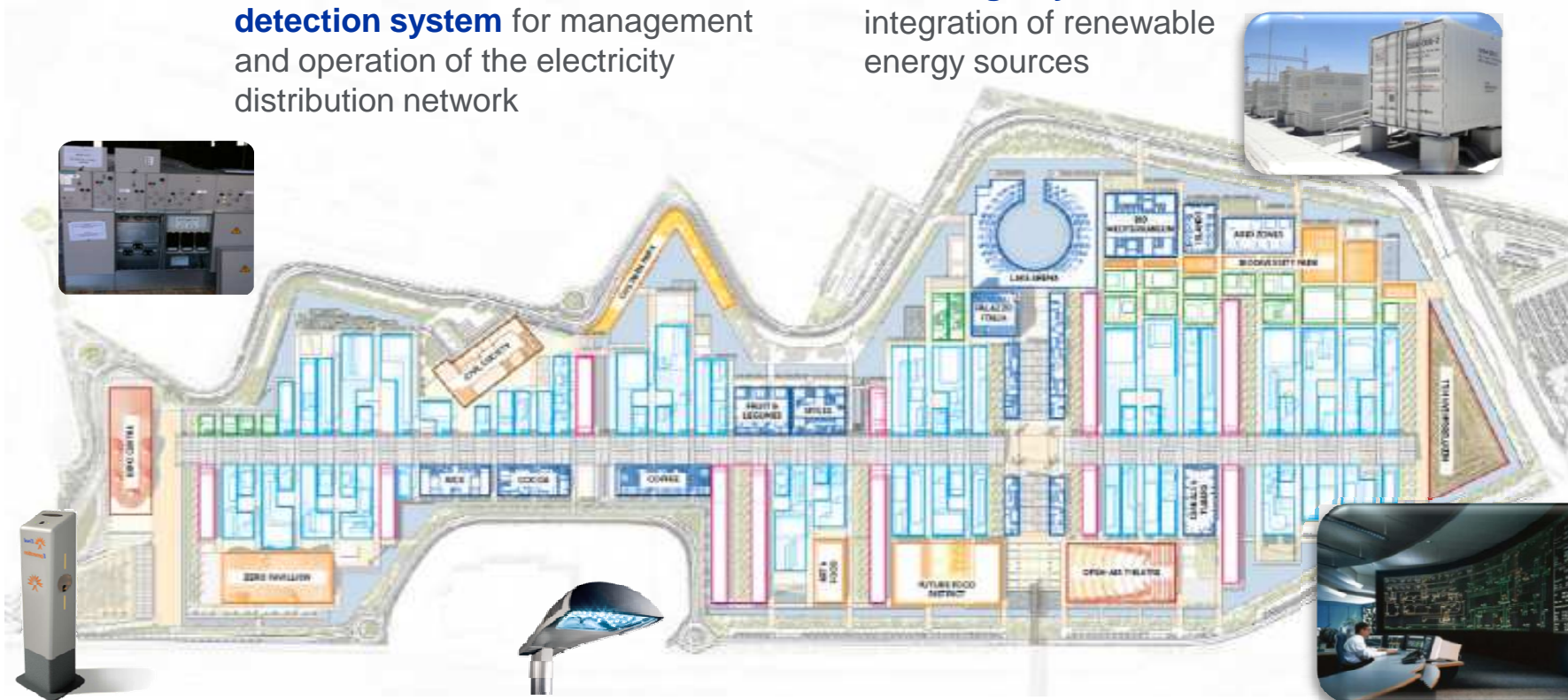
Expo 2015

Technologies



➤ **Innovative control and fault detection system** for management and operation of the electricity distribution network

➤ **Storage System** and integration of renewable energy sources



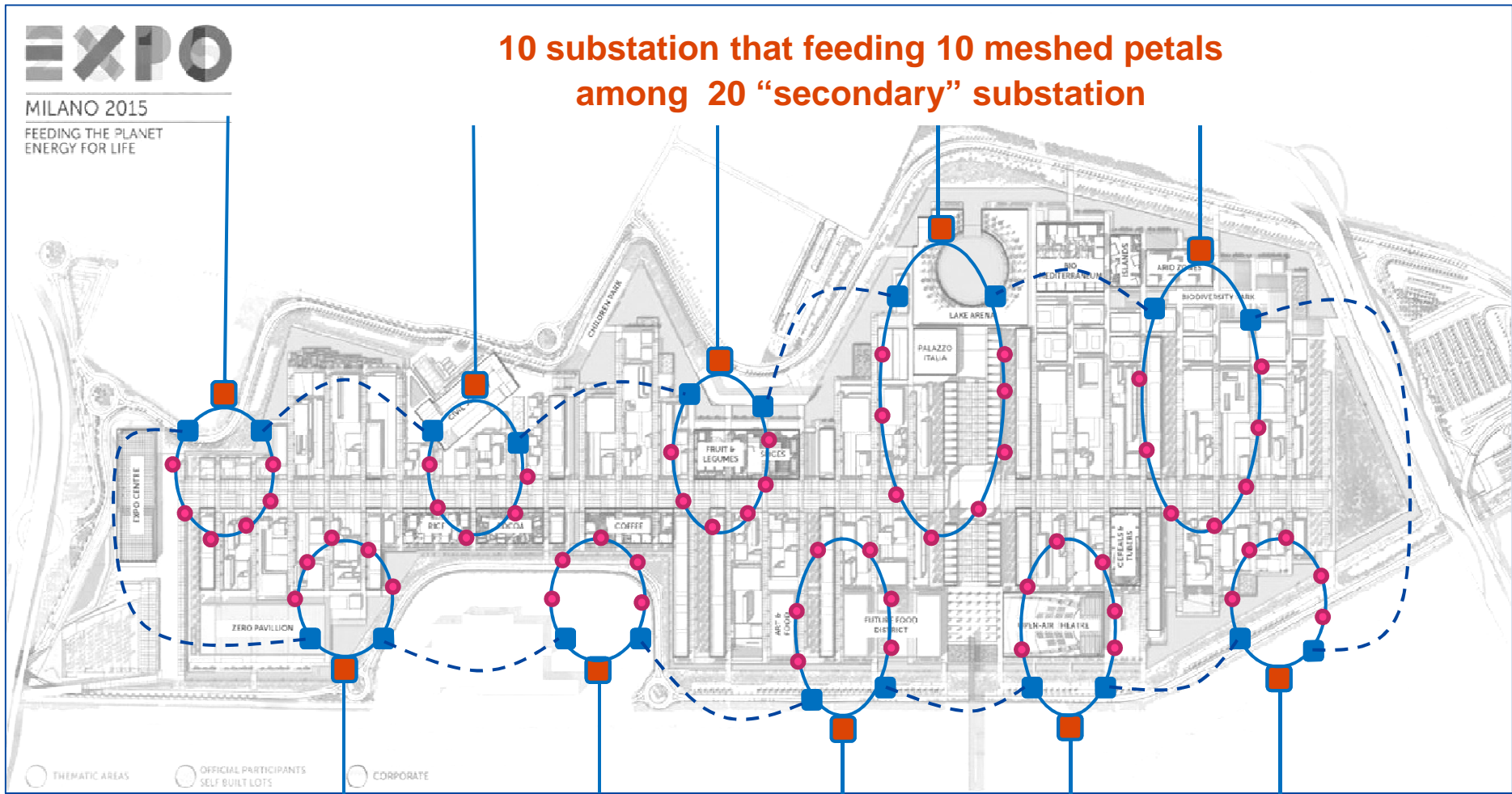
➤ Enel **electric mobility infrastructure** (with Pole Charging Stations) to recharge the Expo Electrical Vehicles

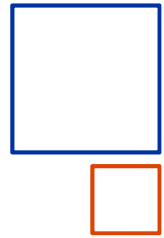
➤ **8.500 lighting points** LED technologies with high efficiency

➤ **Operation Center** to monitor and control all the electrical parameters



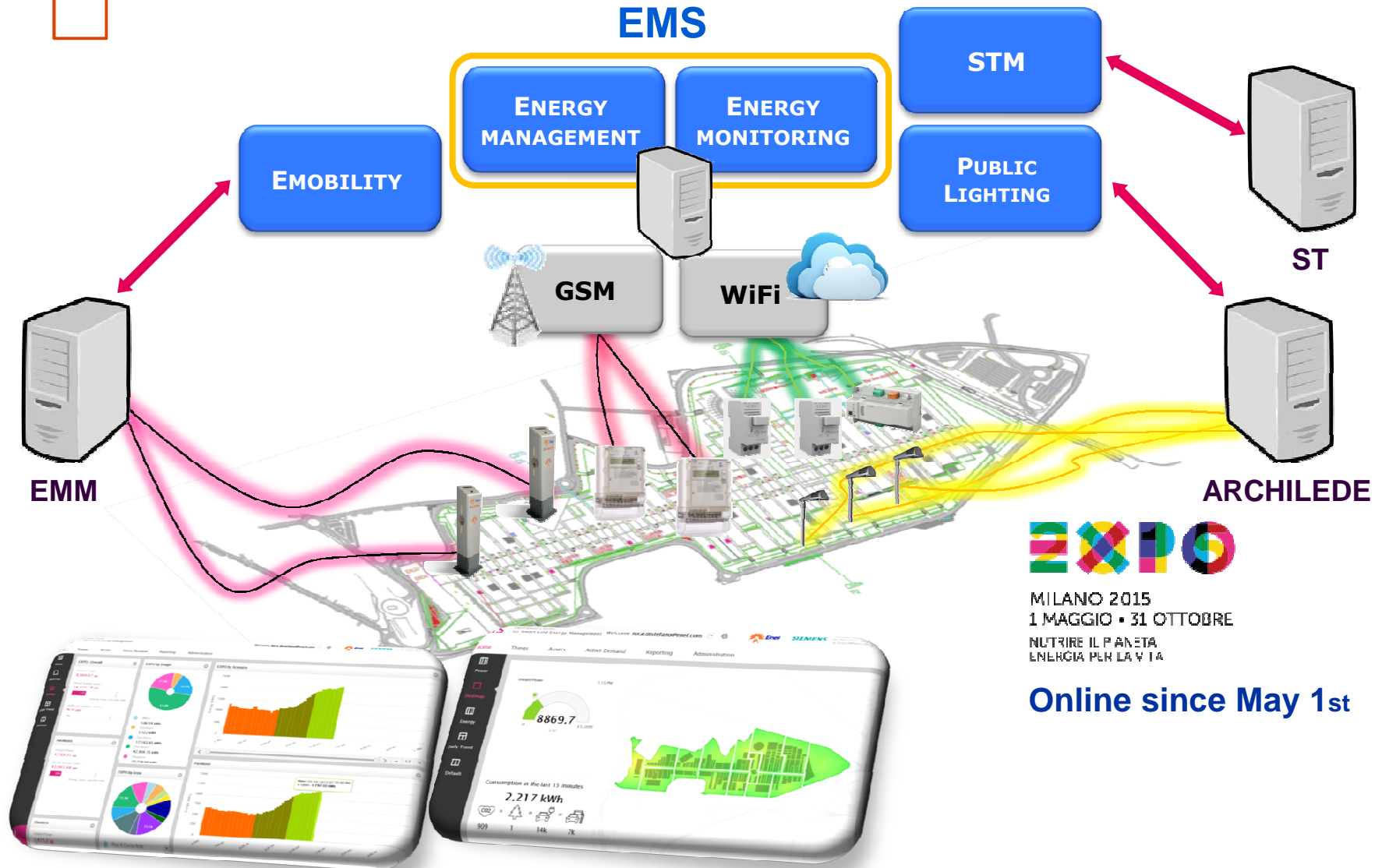
Expo 2015
Configuration





Enel Energy Management

Energy Management System - EMS



MILANO 2015
1 MAGGIO • 31 OTTOBRE
NUTRIRE IL PIANETA
ENERGIA PER LA VITA

Online since May 1st



EXPO 2015

An innovative system for energy efficiency



The system is designed to enable energy efficiency management in a smart city environment

The exposition areas are going to be equipped with field devices for energy monitoring and management

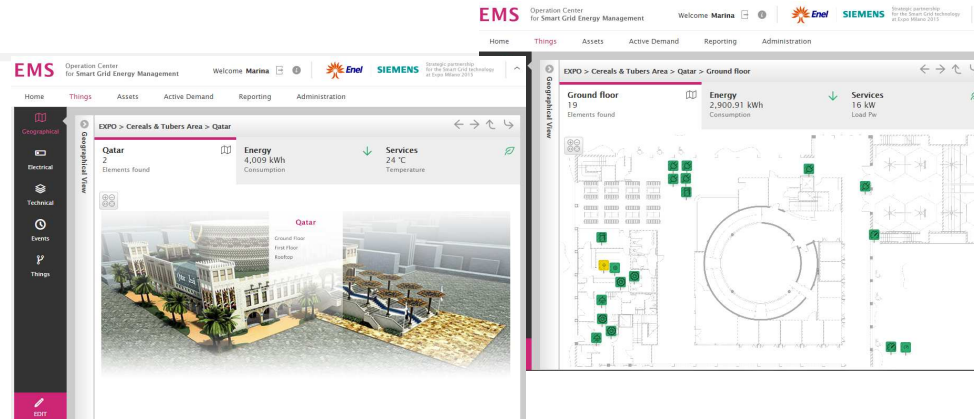
Functionalities

- Asset and Site Management
- Energy Efficiency
- Energy Management
- Trouble ticketing
- Dashboard & Reporting



Field equipment for energy monitoring and management

- Smart meters + Smart Info (WiFi)
- Local BMS
- Presence and temperature sensors
- Lighting, HVAC, Load controllers

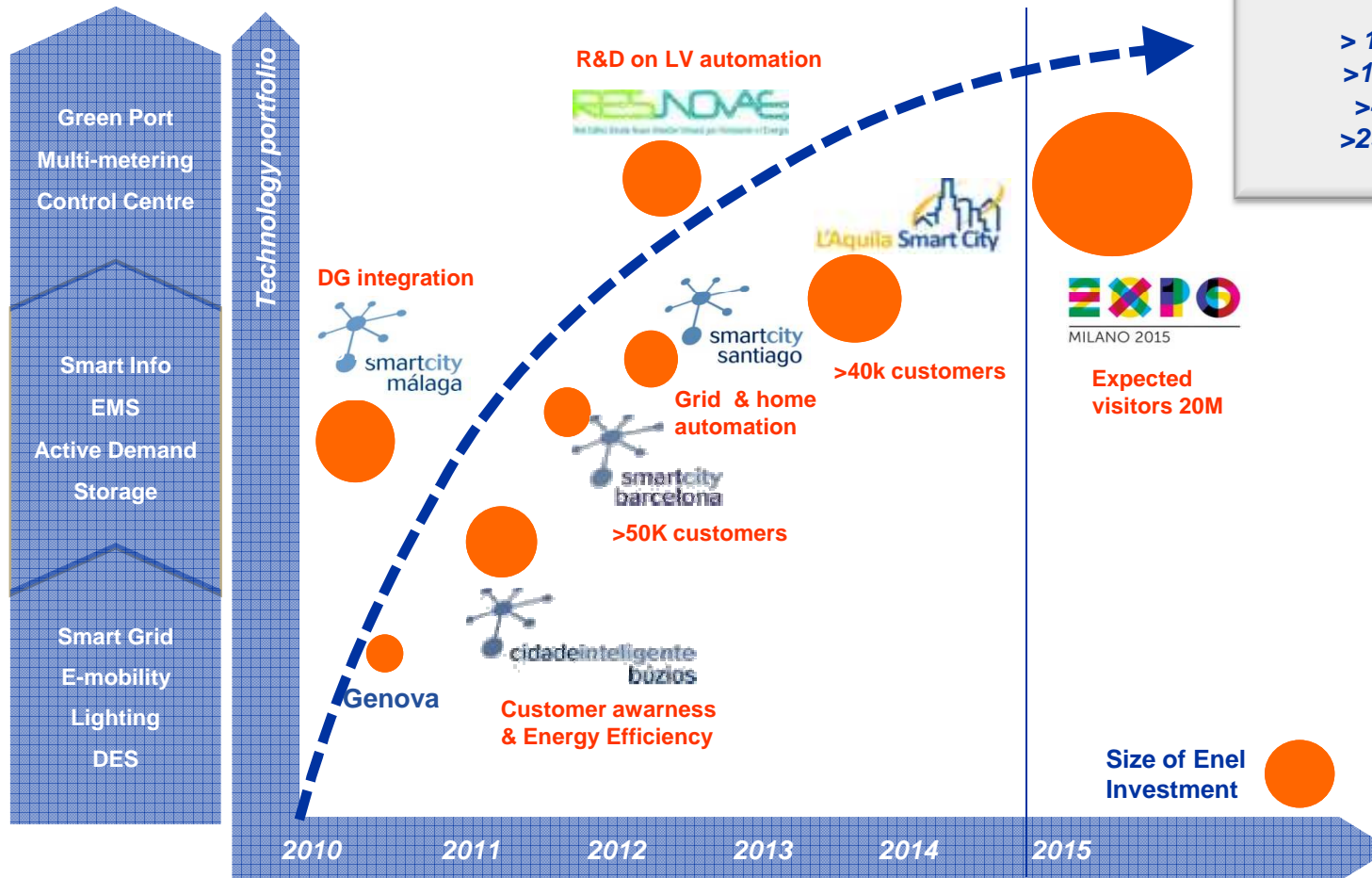


The system is conceived to manage multivendor devices, to be multitenant, to serve different stakeholders (e.g. customers, asset managers, ESCOs, retailers) and to offer targeted services



Enel Smart City Main Reference

Worldwide consolidated track record





Smart Cities projects in Italy

L'Aquila



Large scale demonstration project

- Budget: 16M€ – Funded by Italian Ministry of Territorial Cohesion



L'Aquila – 40,000 customers involved. Scope:

- Network Enhancement aimed at **Smart Grids: 6 PS / 380 SS**
- Development of **50 charging infrastructure for EV**
- Widespread installation of **Smart Info 40,000**
- **Fiber Optics** for grid applications



Expected Annual CO₂ emission savings 90,000 ton





RES NOVAE

Most innovative and integrated Smart City pilots in Italy



R&D Project

- **Coordinator:** Enel Distribuzione S.p.A; **Main partners:** General Electric Transportation Systems, IBM Italy, Polytechnic of Bari, National Council for Research, ENEA
- **Budget:** 24M€ – Co Funded by Italian Ministry of Research



Energy Box and BEMs

To enable Active Demand
Citizens play a central
role in the project



Smart Grid

To achieve an advanced
monitoring and control model for
the LV grid, optimize energy
flows, RES and Storage



Urban Control Center

To enable new services for
citizens and Local Authorities
(LAs)



Show Room

Aimed to increase citizens
participations



Smart City Best Practices

Ongoing Smart City Projects – Spain and LATAM



chilectra

ampla

smartcity santiago

cidadeinteligente búzios

Budget 5 mln €
Funding Chilectra and Partners

Budget 15 mln €
Funding Ampla, Regulatory Authority and Partners



movele

**Madrid
Barcelona
Sevilla**

Funding IDAE, Spanish Government and Partners

smartcity barcelona

Funding Endesa, Municipality

Canary Islands

El Hierro and La Graciosa Projects

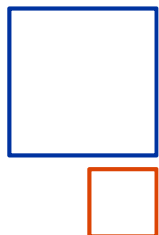
smartcity máLAGA

ZOM2ALL

Budget 64,7 mln € (El Hierro)
Funding Endesa, IDAE, Spanish Government

Budget 31 mln €
Funding Endesa, Municipality





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