European Union
European Regional Development Fund

SANTANDER CIUDAD

EMPOWER
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Monitoring energy usage and environmental impact in Santander's municipal buildings

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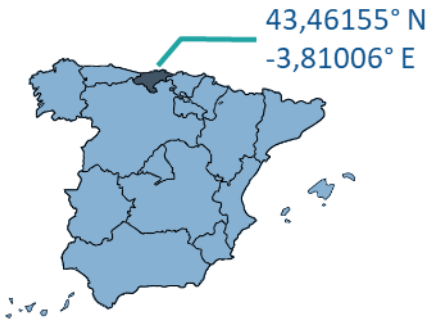
Energy monitoring Technical Workshop

Santander as a glance

- Situated in the North Coast of Spain, Santander is the capital of Cantabria Region
- Santander has about 173.000 permanent inhabitants spread in around 33 km2
- Lively economy based on the service sector
- Municipality is focusing efforts to drive economy in new directions based on the innovation and knowledge

LOCATION

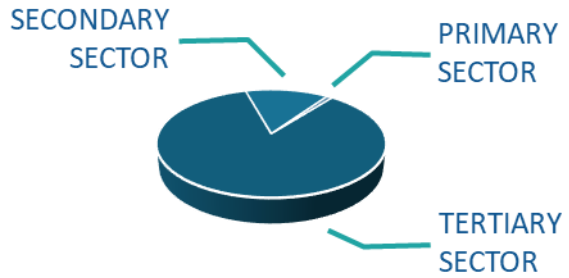


POPULATION

173.589 INHABITANTS

53,86% 46,14%

EMPLOYMENT DISTRIBUTION



Smart city projects

Santander is nowadays an international reference within Smart Cities:

- Active participation in European research projects: Santander urban laboratory
- Development of different city initiatives: efficiency in public services

EU PROJECTS

ON GOING

ENERGY & ENVIRONMENT

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TECHNOLOGY & CITIZEN PARTICIPATION

Urbanage, eCare, Token, Pop-Machina

ENDED

SmartSantander, CLOUT, FESTIVAL, WISE IOT, SYNCHRONICITY, POSEIDON, FED4SAE, MobiWallet, Streetlight-EPC, sociotal, ORGANICITY, URBAN WASTE, SETA, NETfficient Storage for Life, lexnet, RADICAL, BUTLER SMARTLIFE, burba, smart, OUTSMART, FIESTA-IoT

CITY INITIATIVES

- WATER MANAGEMENT
- WASTE MANAGEMENT
- STREETLIGHT MANAGEMENT
- TRAFFIC MANAGEMENT
- PARKING MANAGEMENT
- SMART CITY PLATFORM
- SANTANDER SMARTCITIZEN

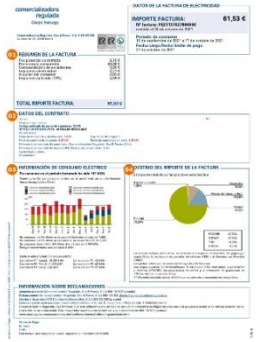
Santander SmartCitizen

Energy situation in municipal buildings

- More than 200 municipal buildings

Municipal schools	Sport facilities	Other municipal facilities

- Paper electricity & gas bills

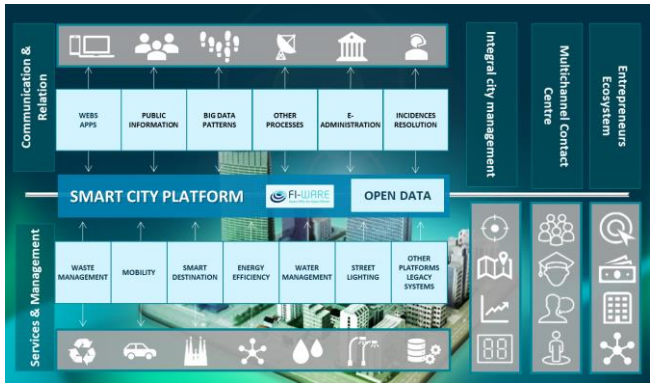


Energy monitoring tool for municipal buildings

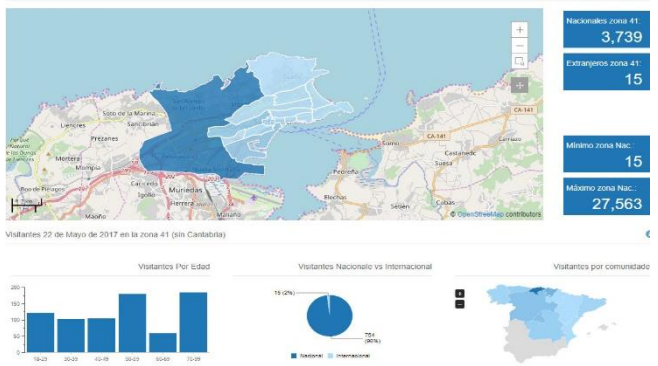
- Energy data (digitalisation)

Electricity data		Gas data
Monthly invoices	Smart meters	Monthly invoices

- Integration into Santander Smart City Platform



- Dashboard definition: Municipal managers & technicians



Evidences of success: electricity & gas

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Evidences of success: electricity (I)

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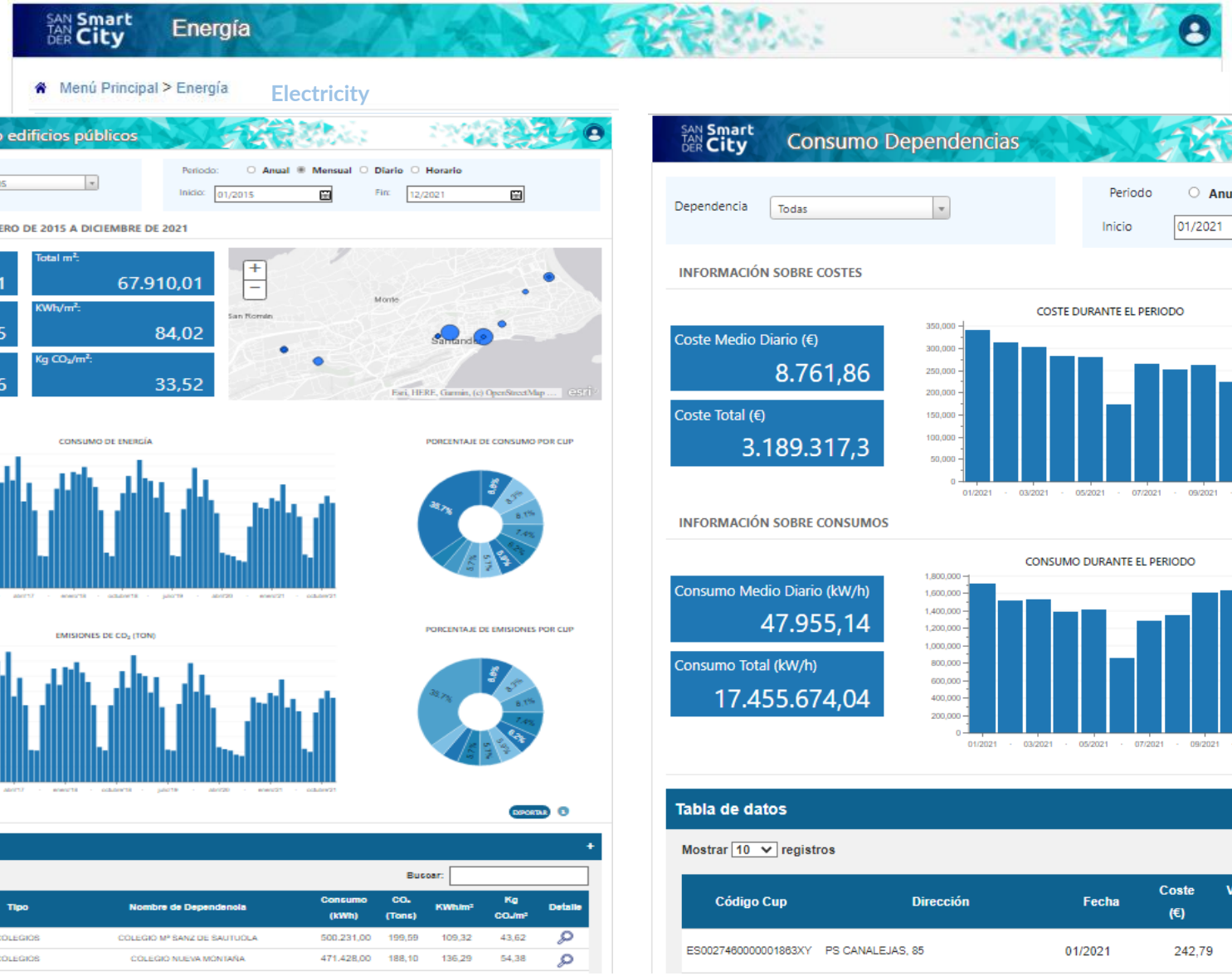
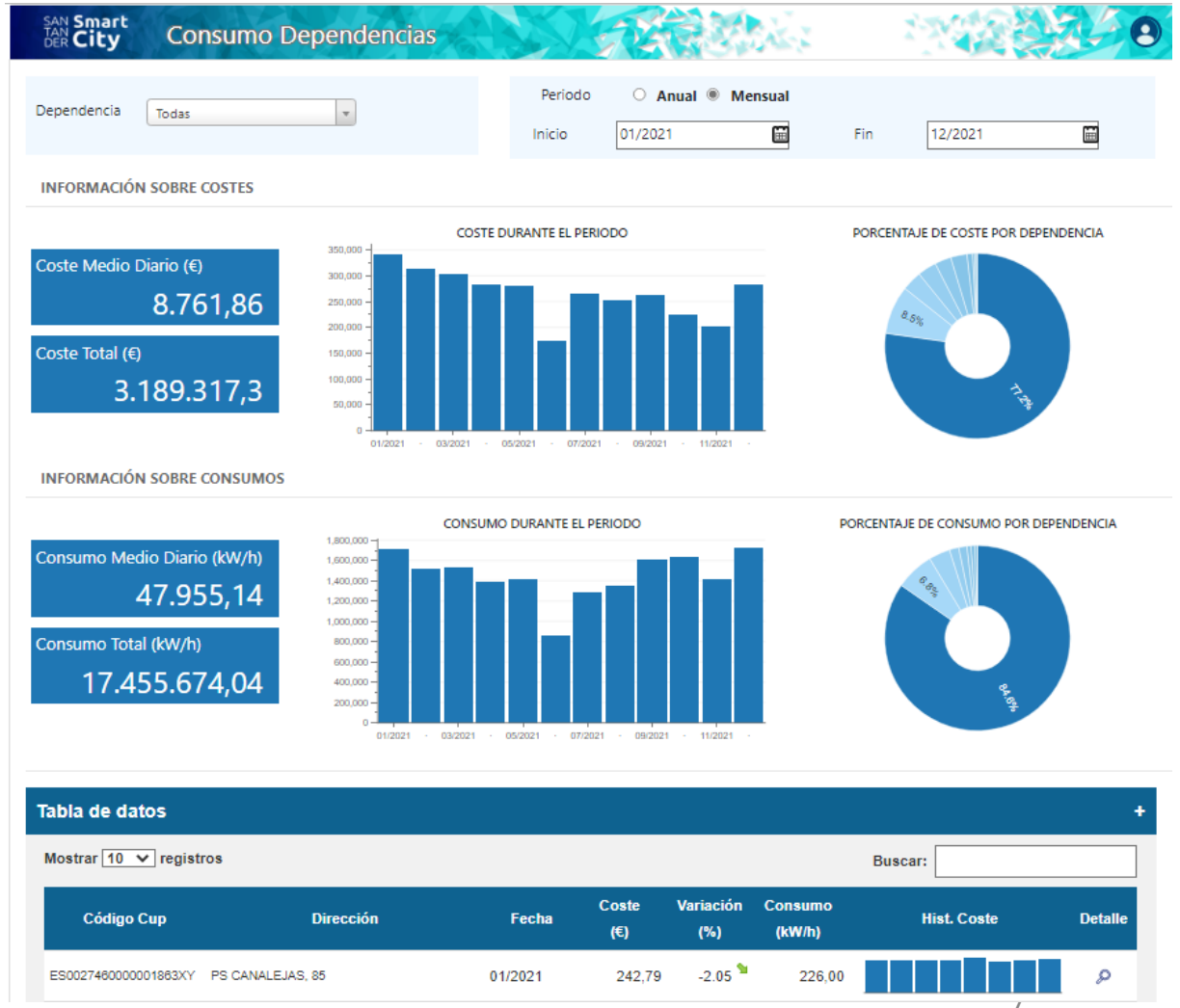
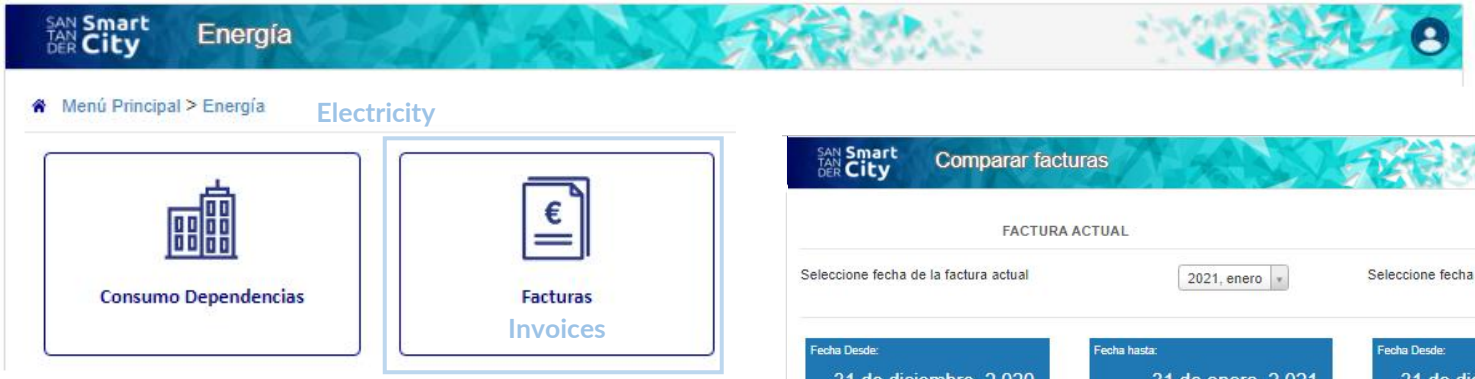
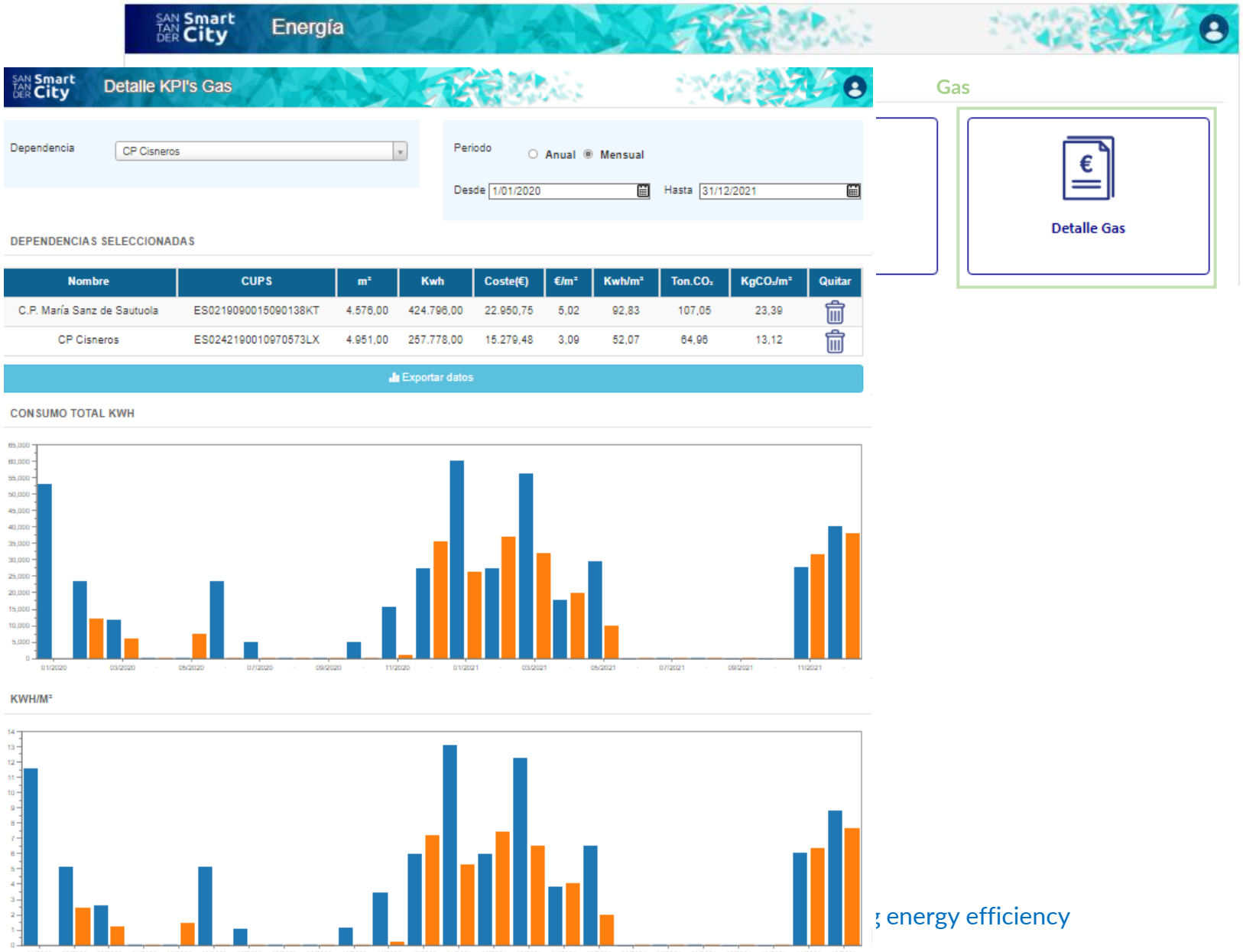




Evidences of success: electricity (II)



Evidences of success: Gas



; energy efficiency

Main Benefits

- Digitalization of energy data (no more paper invoices)

- A tool has been made available to:
  - monitor energy usage & environmental impact at different levels (buildings) and over different time periods
  - make benchmarking among buildings
  - make invoice management more user-friendly

- In-depth monitoring thanks to hourly data (electricity):
  - unwanted latent consumption
  - off-hour consumption

Main challenges

- Technical and bureaucratic aspects impacted by coronavirus situation

Next steps

- Based on available historical data:
  - Assess savings achieved (consumption, costs & CO_2 emissions) after applying Energy Efficiency measures
  - Improve decision making for future actions

How replicable is the Good Practice

- Energy monitoring is a common need to other cities/public bodies
- Data collection, integration and visualization will depend on each entity

Thank you!