



# TOKEN: When the Data Marketplace Meets DLT

## The Paradigm of the Data Economy

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Token has received funding from the European Union's Horizon 2020 research and innovation programme under the Grant Agreement no 825268.

[Token Website](#)

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# TOKEN project



***“Easing the adoption of DLTs as drivers for far more open, transparent, trusted and efficient public services”***

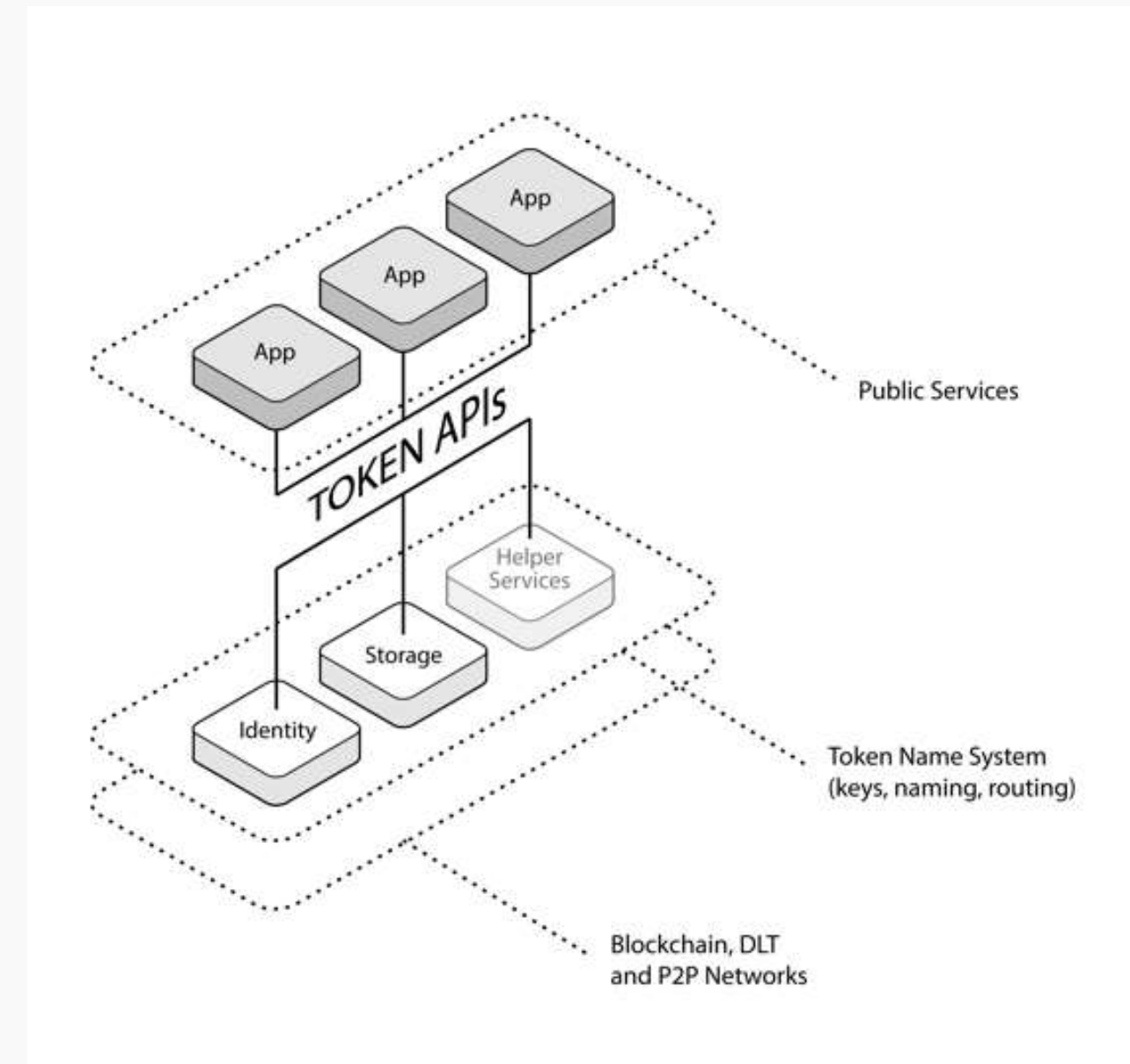
- Funding from the European Union H2020 research and innovation program
- On going project (2020 -2022)
- 4 use cases implementation to prove its added value

# TOKEN platform

## Blockchain as a Service (BaaS):

- Notarization Services
- Decentralized Identity
- Decentralized Storage
- Messaging and events streaming

- **Ready to integrate services**
- **DLT agnostic**



# Use Case: IoT Data Valorization Services

## Santander at a glance

### Located on the north coast...

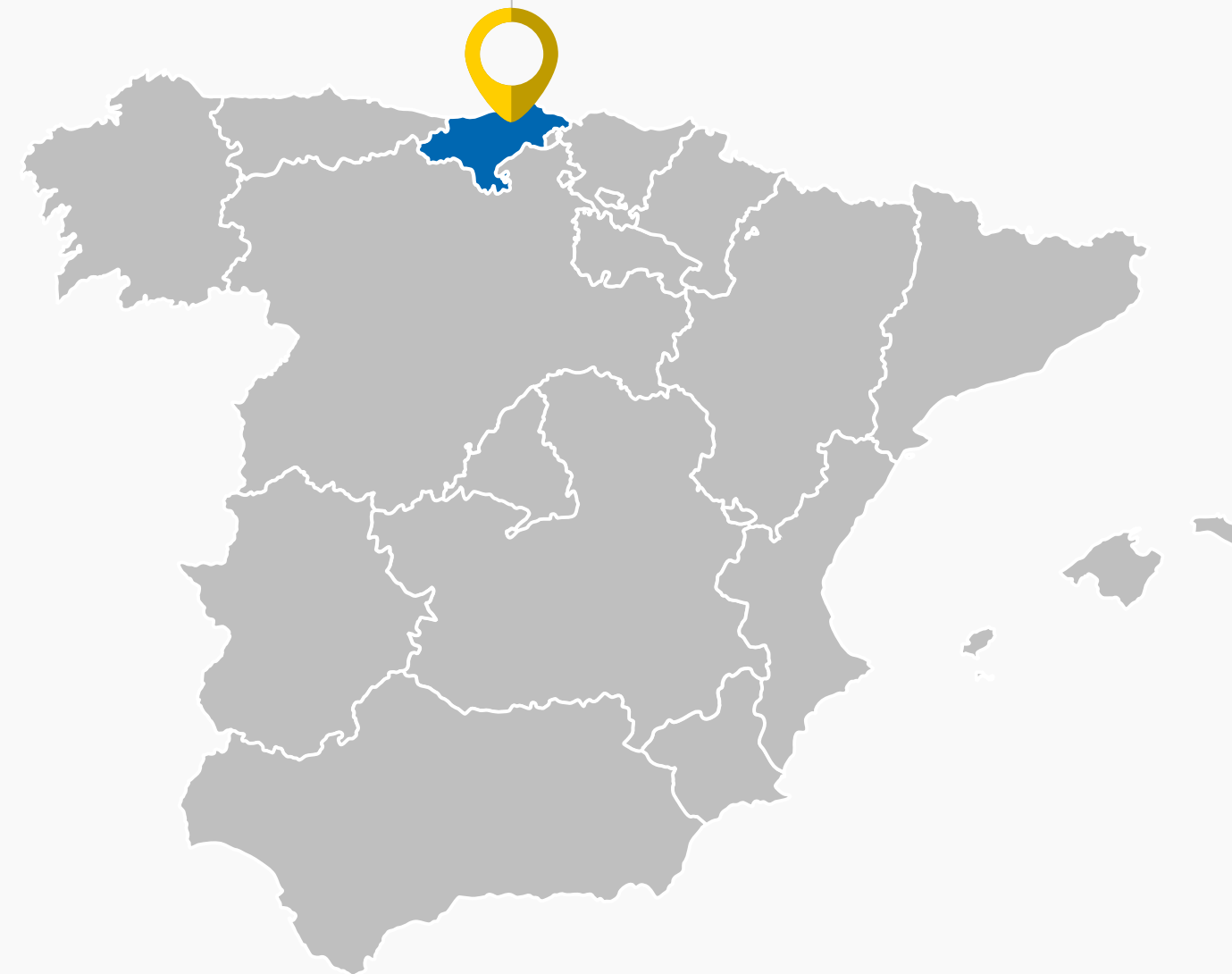
Santander is the capital of the region of Cantabria.

### Population

Santander has about 180000 inhabitants spread in around 33 Km<sup>2</sup>.

### Economy

Lively economy based on the service sector. Municipality is focusing efforts to drive economy to new directions based on the innovation and knowledge.





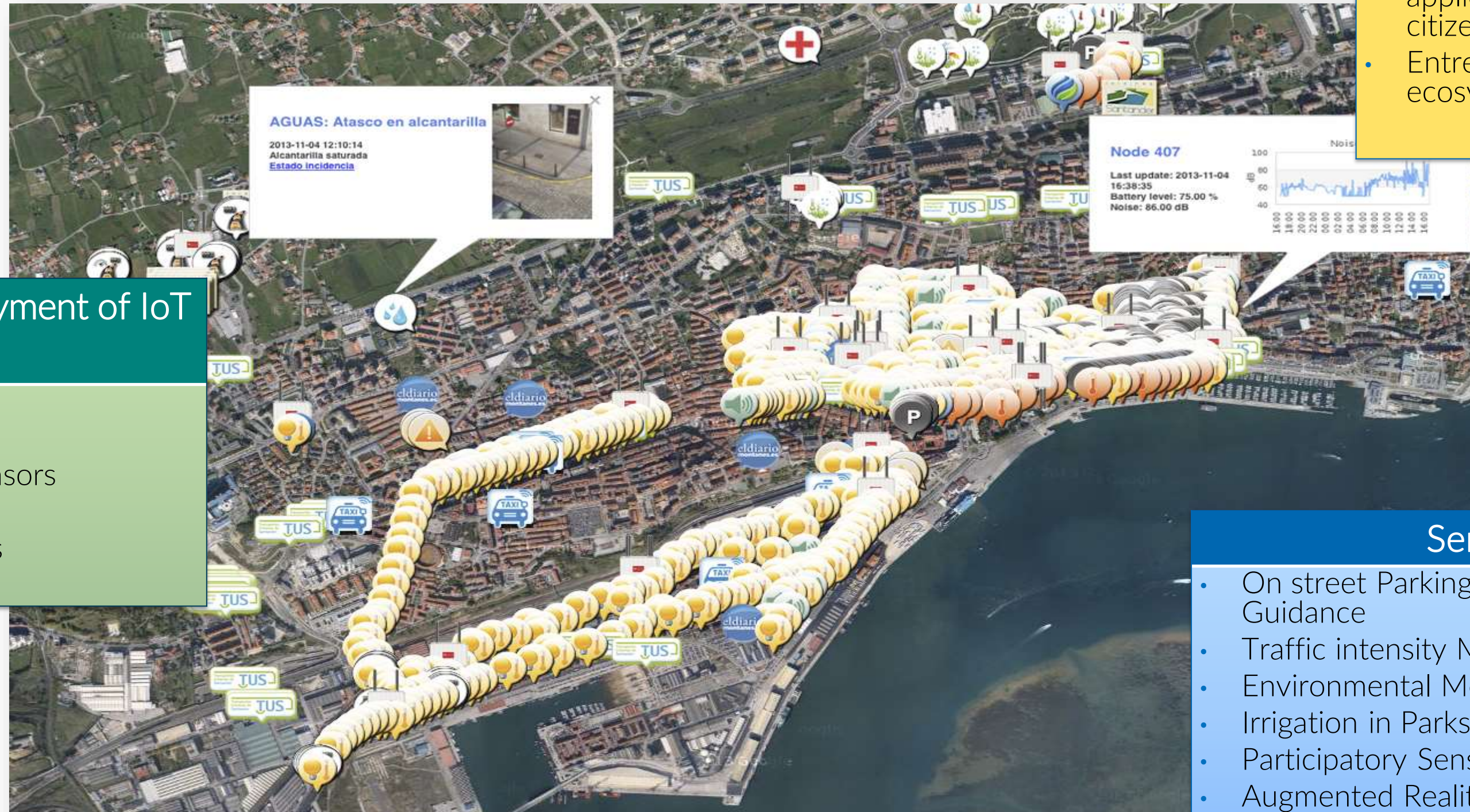
# Use Case: IoT Data Valorization Services

## Co-creation

- New urban services, new applications... relying on the citizen
- Entrepreneurship, business ecosystem set up

## Massive deployment of IoT devices

- Fixed nodes
- Mobile nodes
- Citizens as sensors
- Citizens Apps
- Urban services



## Service Provision

- On street Parking and Parking Guidance
- Traffic intensity Monitoring
- Environmental Monitoring
- Irrigation in Parks and gardens
- Participatory Sensing
- Augmented Reality

SmartSantander ecosystem: City-scale deployed IoT infrastructure.



# City-scale deployment



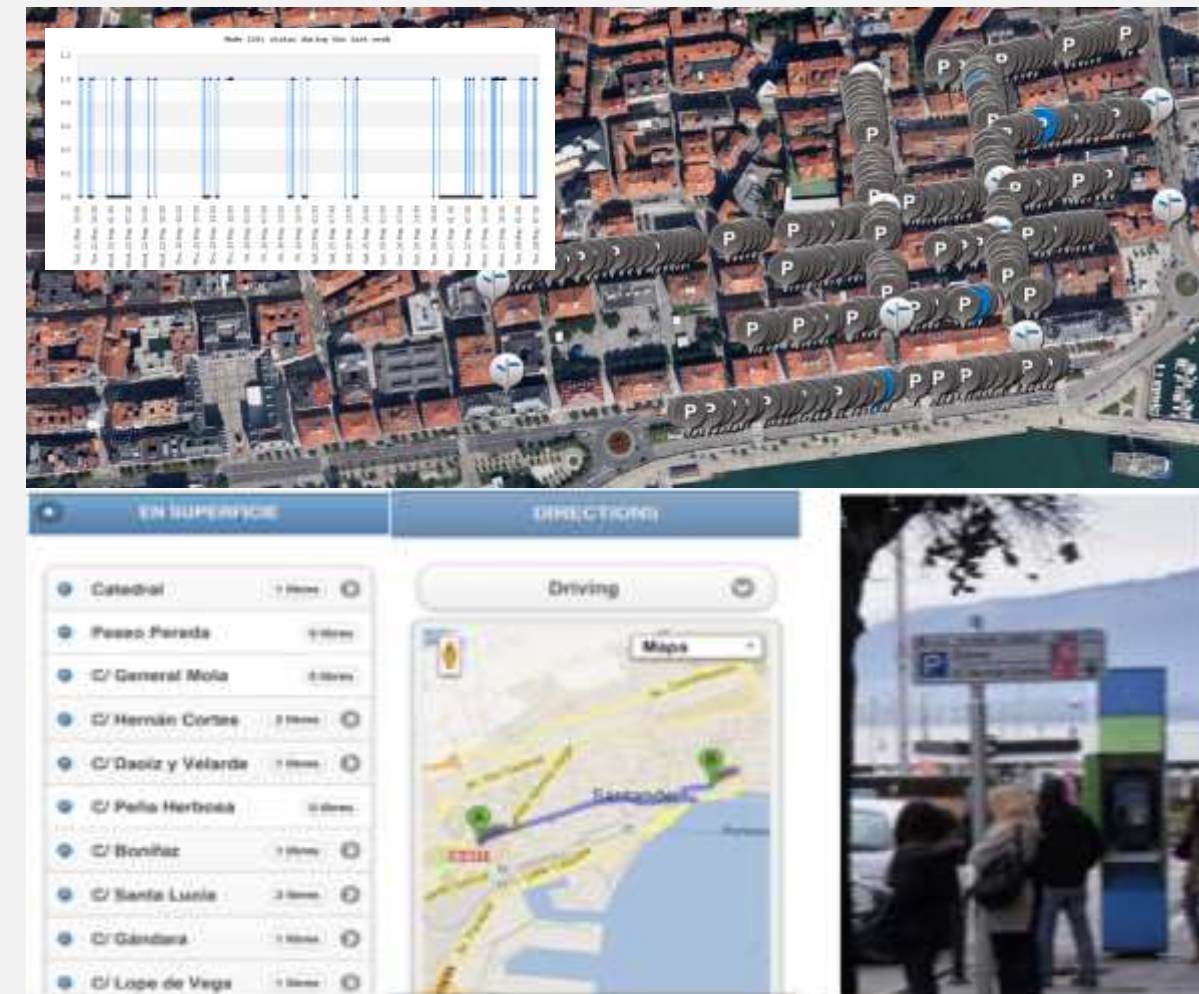


# Example: On-Street parking management

## Panels and sensors installation



## Service providing and monitoring



# SmartSantander IoT Data Marketplace

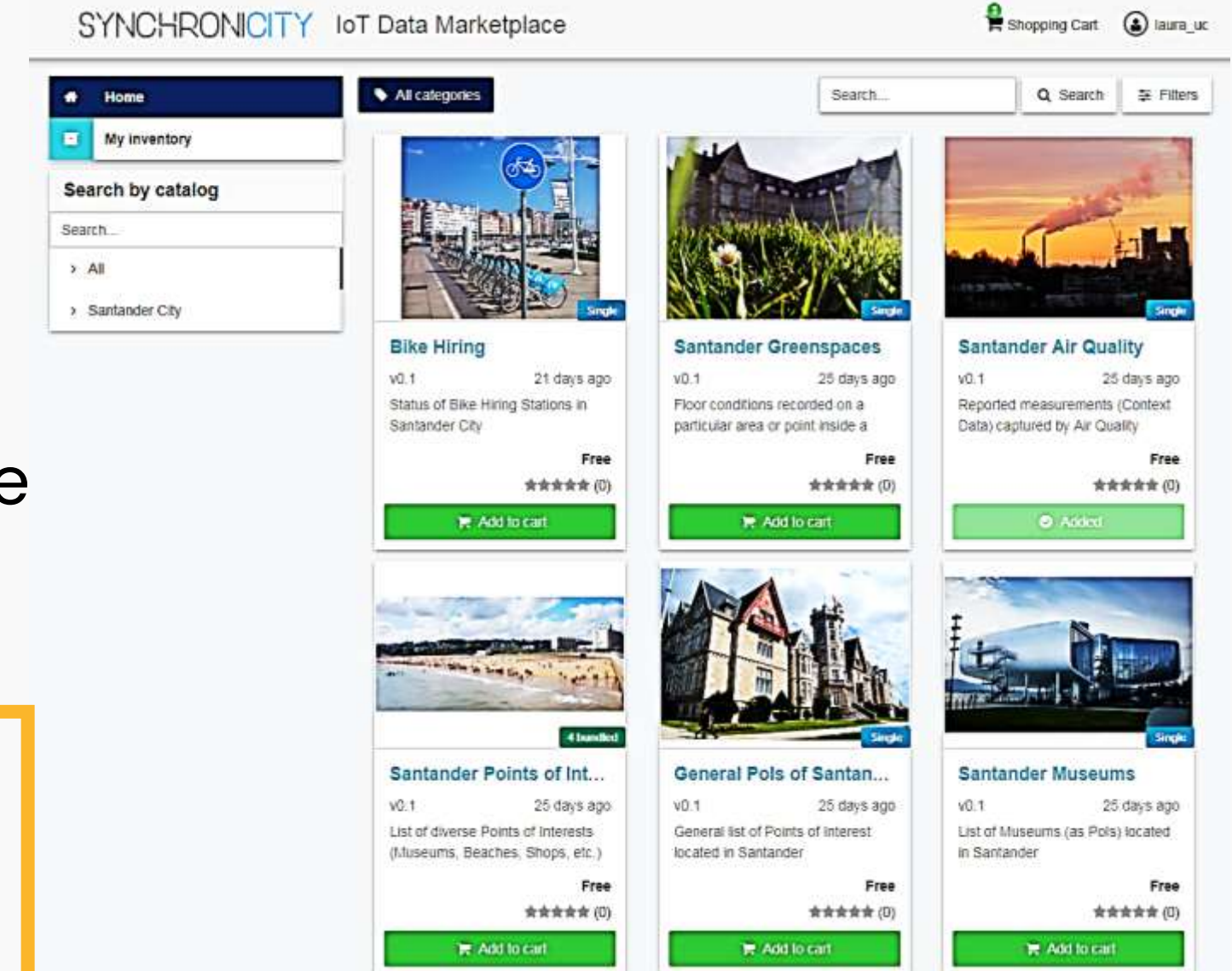
- Huge amount of data generated.
- Open data trading platform
- Based on the FIWARE Generic Enabler
- Data offered by Santander municipality for free
- Commercial interest of data.

Foster new business models which reshape traditional urban ecosystems

Requirements in terms of trustworthiness, authenticity and integrity.

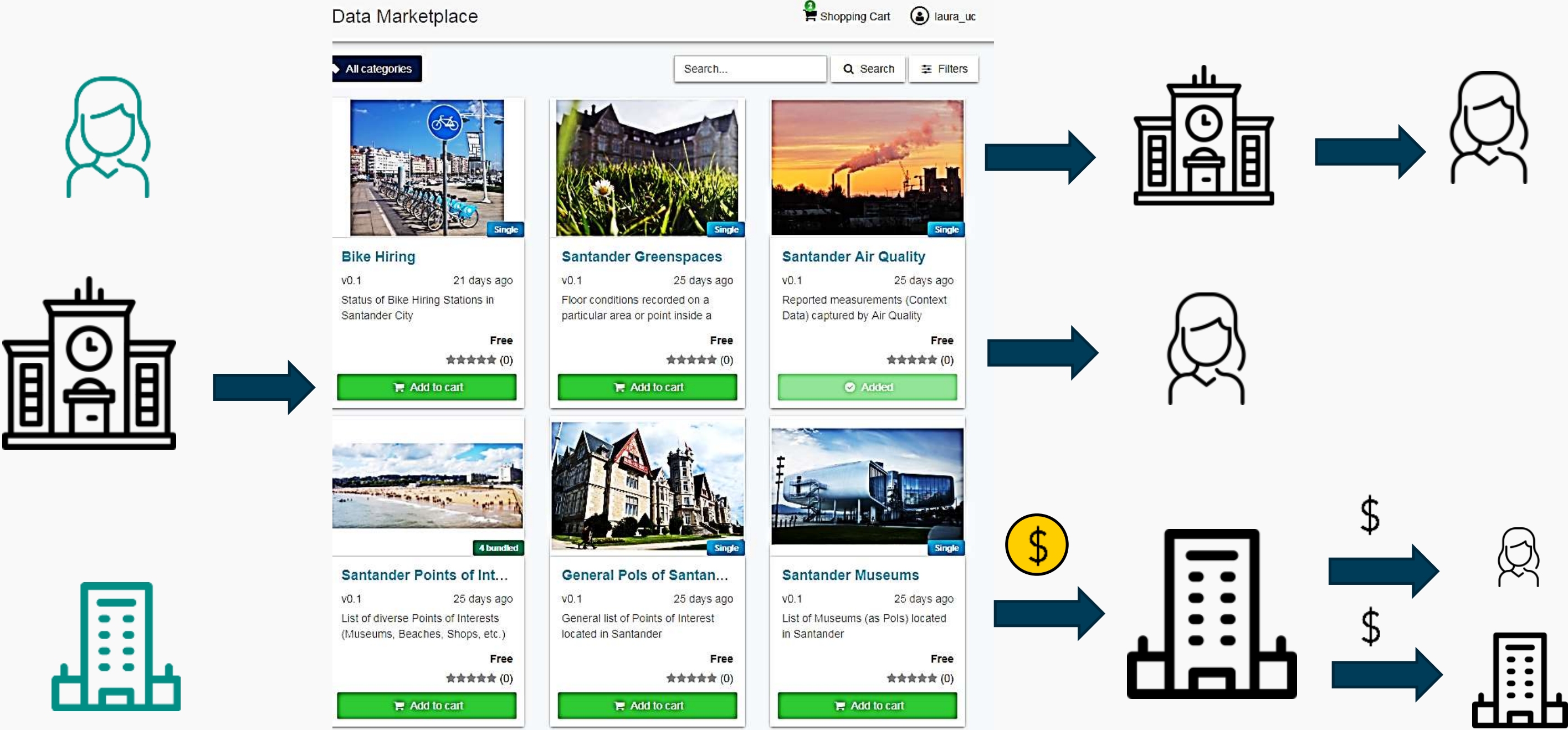


Adoption of DLT in IoT Data Marketplace





# Fostering an IoT business ecosystem





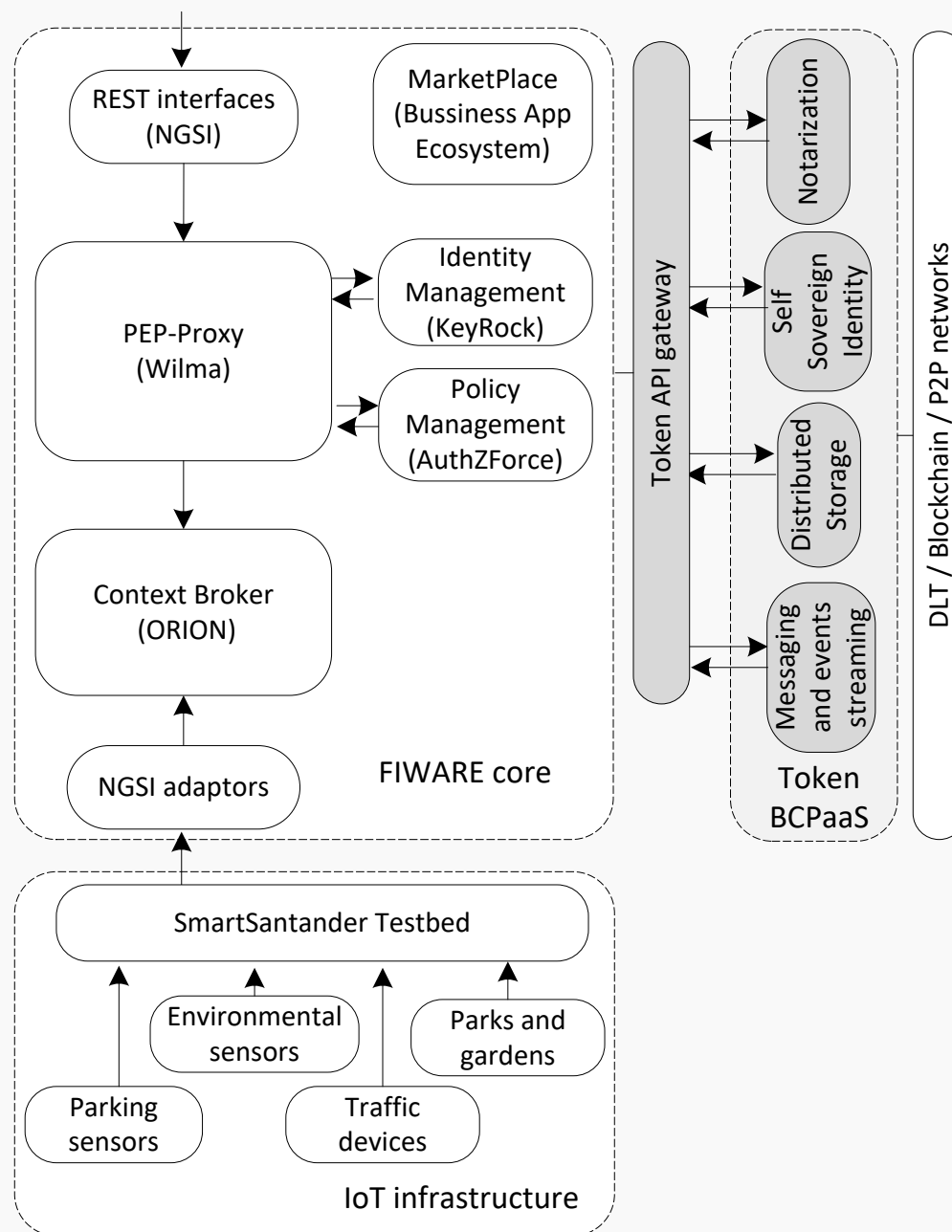
# Use case: IoT Data valorization services

- **The objective:** Establish a transparent solution for urban data valorisation
  - Promote the digital ecosystem
  - Encourage companies and citizens to publish their own data through the marketplace, generating new business opportunities.
- **The problem:** Need of data usage monitoring
  - Mid-term: Establish policies and SLA ⇒ smart contract
- **How?**
  - Integration of Santander Data Marketplace with DLT



# Use case implementation

## TOKEN BCPaaS facilities:



- SSI (Identity management)
- Notarization services:
  - Monitoring Data sets acquisition (Marketplace)
  - Monitoring Data requests (Context Broker)
  - Monitoring Quality of Data (Context broker)
- Decentralized storage
  - Policy rules/SLA ->Smart contracts



# Conclusions

- **Token BaaS** facilitates DLT integration offering **DLT agnostic solutions**, avoiding the **lack of skills** barriers.
- **DLT** offers a framework, in terms of **data integrity, transparency and traceability**, to foster **IoT business ecosystem**
- **Use of DLT in service valorization** enables synergies between technology and digital economy





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