

# DATA AND THE CITY

**Lisbon City Council**

**Lisbon Urban Management and Intelligence Center**

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# GLOBAL CHALLENGES FOR THE CITIES



2% of the Earth surface is occupied by cities



70% of world population will live in cities by 2050



75% of world energy is used in cities



80% of CO2 emissions are produced in cities

# METROPOLITAN AREA

Population: **2.821.349**

Area: **3.015,24 km<sup>2</sup>**

## LISBON

Area: **100,05 km<sup>2</sup>**

Population: **504.964**

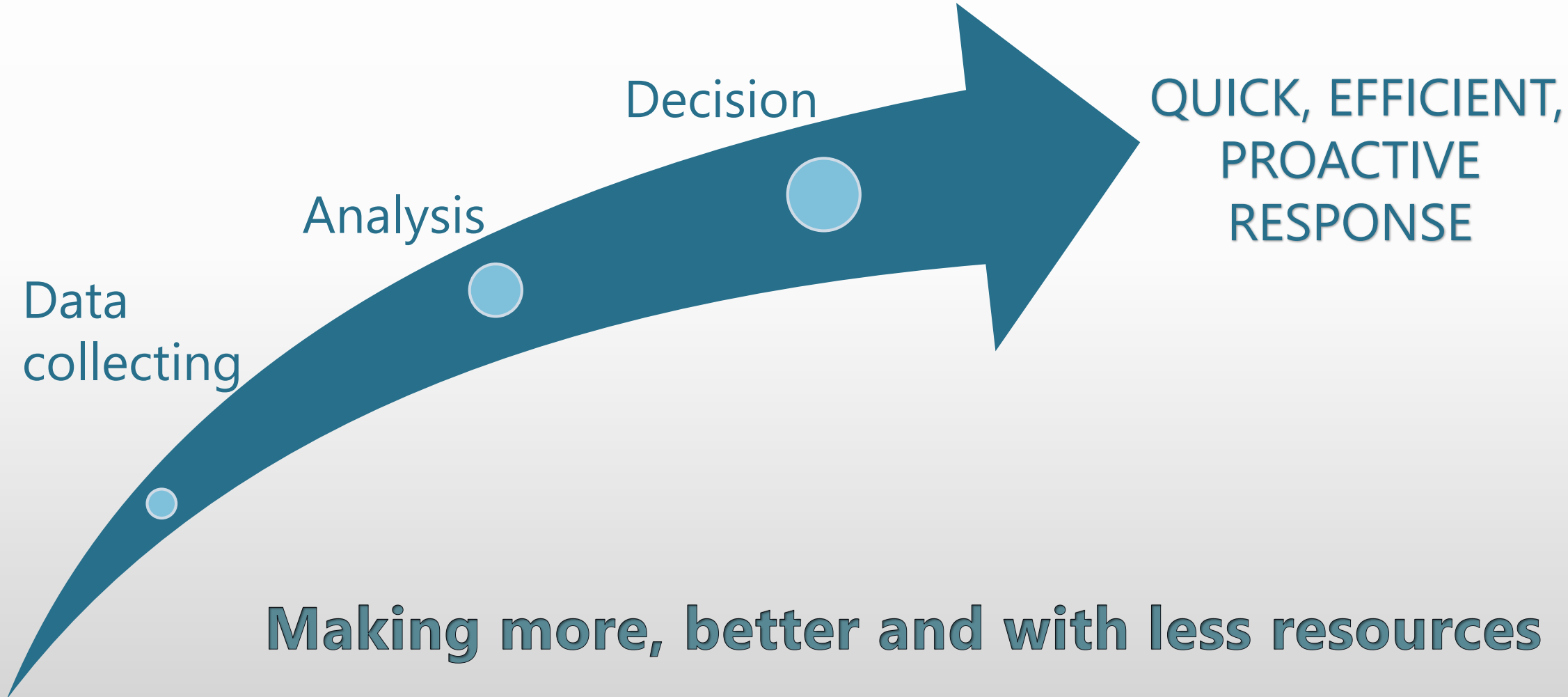
Daily commuters: **aprox. 500.000**

Vehicles entering daily in Lisbon: **370.000**

Tourists: **5 million/year e 11 million** overnight stays



# CITY MANAGERS CHALLENGE



Data  
collecting

Analysis

Decision

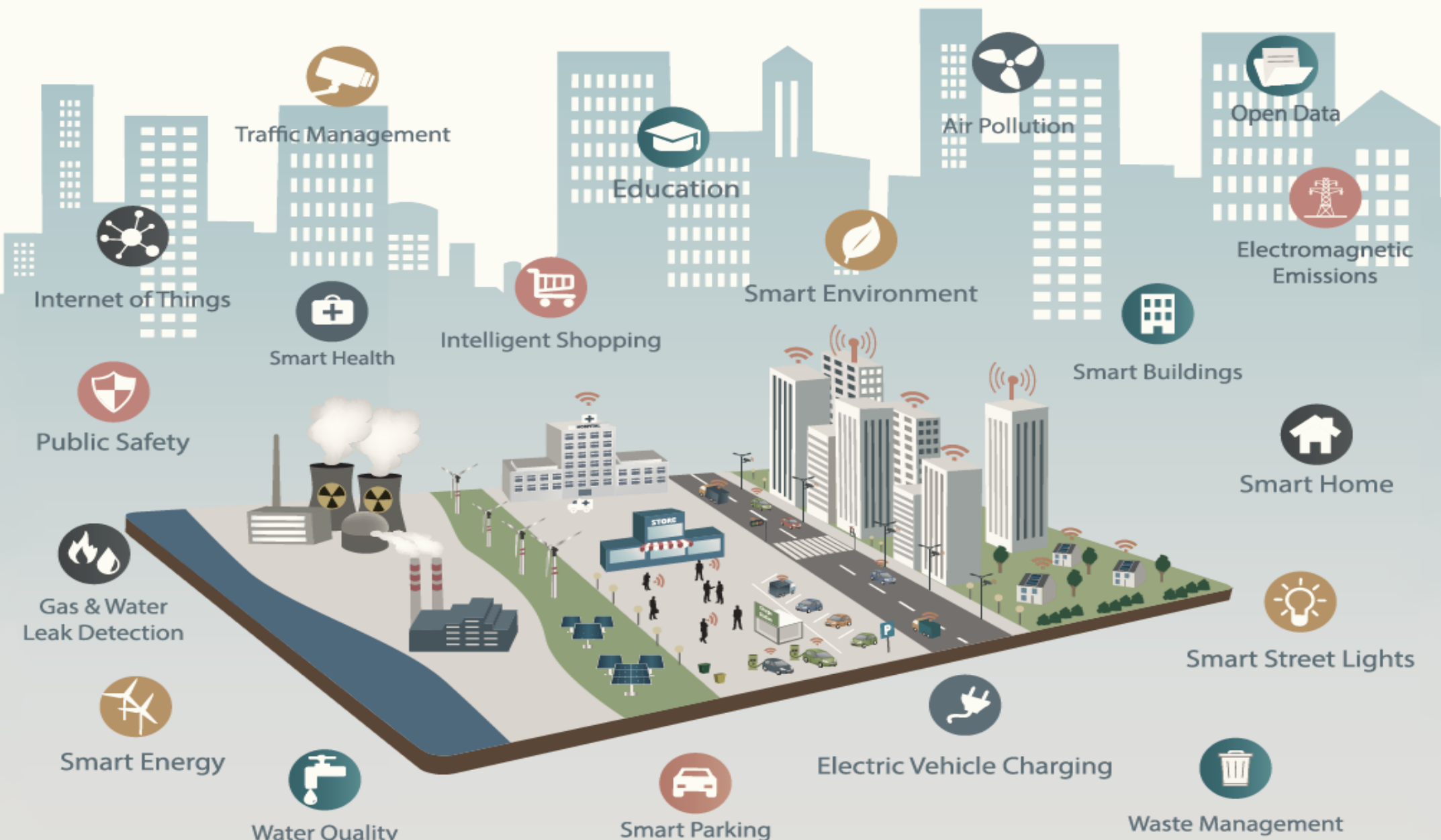
QUICK, EFFICIENT,  
PROACTIVE  
RESPONSE

Making more, better and with less resources



**Services available  
at any time,  
everywhere,  
through any device**

# SMART CITY



Internet of Things

Traffic Management

Education

Air Pollution

Open Data

Smart Health

Intelligent Shopping

Smart Environment

Electromagnetic Emissions

Public Safety

Smart Buildings

Smart Home

Gas & Water Leak Detection

Smart Street Lights

Smart Energy

Water Quality

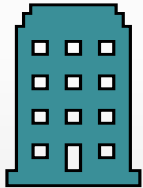
Smart Parking

Electric Vehicle Charging

Waste Management

# VERTICALS IMPLEMENTATION PHASE

**Smart buildings**



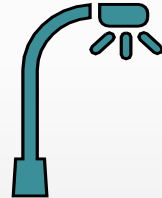
ROI in less than 6 months

**Smart waste collection**



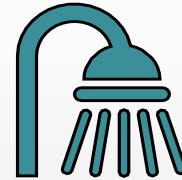
40 to 80% cost reduction

**LED + smart street lights**



50% reduction (ROI in 6 years)

**Smart water management**



40% reduction of water losses

**Smart parking**



20-30% cost reduction (ROI in 2 years)

# TENDENCIES

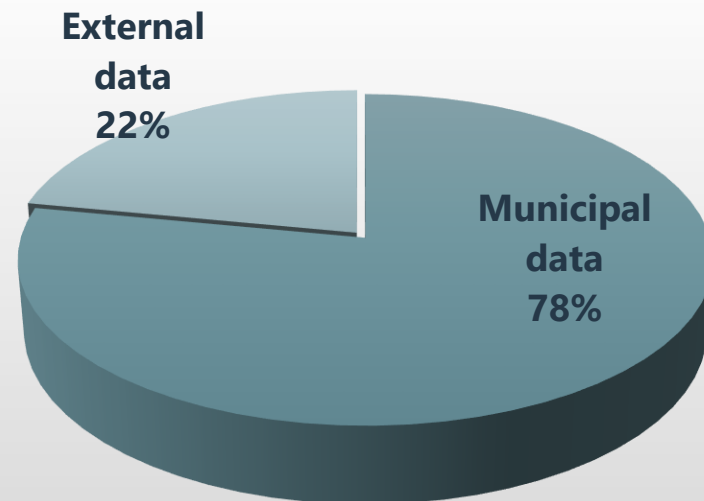
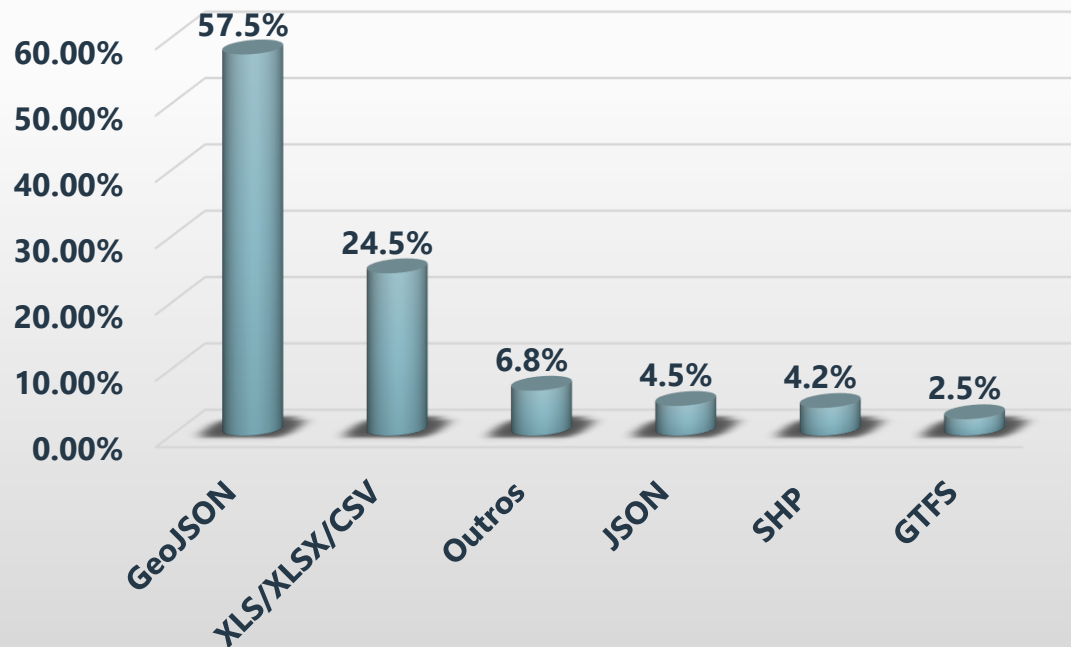
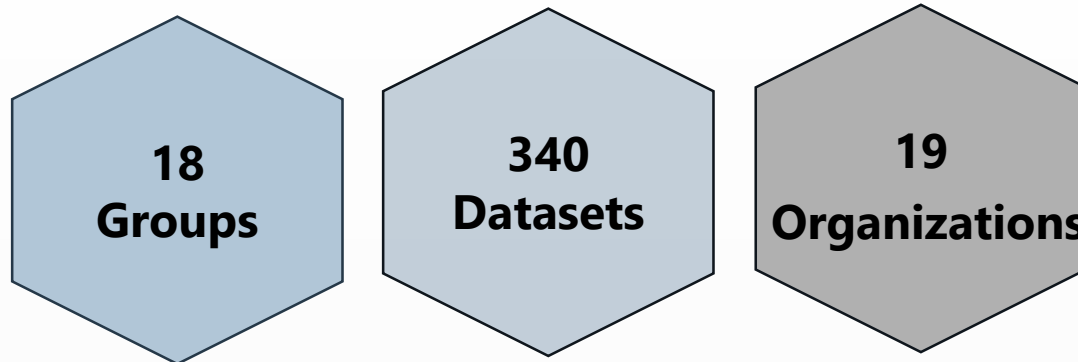




# OPEN DATA PORTAL



<http://lisboaaberta.cm-lisboa.pt>



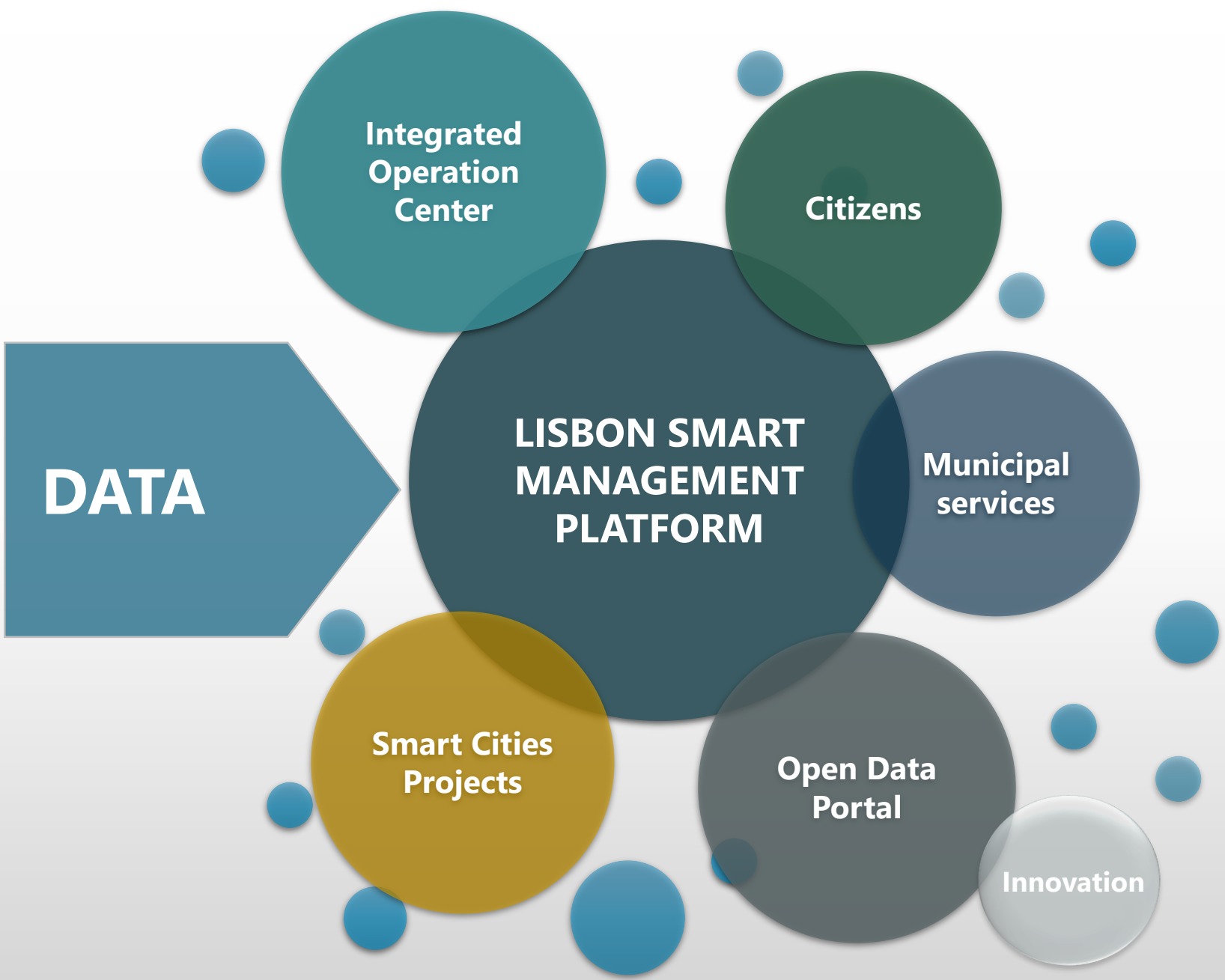
# Lisbon Smart Management Platform

**MORE EFFICIENT MANAGEMENT OF RESOURCES**

**NEW AND BETTER SERVICES PROVIDED TO THE CITIZENS**

**SHARING OF INFORMATION**

**PROMOTING TRANSPARENCY AND INNOVATION**



# DATA ANALYTICS CAN BE USEFUL...

- If operation decisions are based on insufficient information
- When it is difficult to find unusual data among big data
- When it is necessary to define priorities on a large volume of data
- When important decisions on the allocation of resources are taken based on insufficient information
- Whenever services are reactive instead of being proactive



# DATA SHOP Mission

*Collaborate with municipal services  
in the development of a data-driven  
management culture that promotes  
efficiency, innovation and  
transparency*

A 3D rendering of three stylized, light blue humanoid figures walking from left to right. The first figure on the left is carrying a large, dark blue folder or briefcase on its head. The second figure in the middle is holding the handle of the folder, and the third figure on the right is also holding it, appearing to be in the process of passing it or supporting it. In the background, there is a large, light blue target symbol with concentric circles. The entire scene is set against a white background with a subtle reflection of the figures and the target on the ground below.

# Data Shop

## DATA ANALYTICS

**Finding a needle in a haystack**

- Potential non-compliance with payment of municipal taxes*
- Potential non-compliance with construction work in buildings*

**Setting priorities**

- Municipal works / urban planning*
- What are the infestations that may cause pests (i.e. mice)?*
- What are the places where a fire can have more impact?*

**Early alerts**

- Concerning environment issues / diseases of the trees*
- Concerning mobility issues*
- Pavements in bad condition*

**Operational management**

- Adequate dispatching of resources according to occurrences*
- Faster response to emergency*

**Optimized resource allocation**

- Ensuring a 5 minute response time from RSB (municipal fire brigades)*
- Optimizing bus routes, stops and timetables*

### Examples

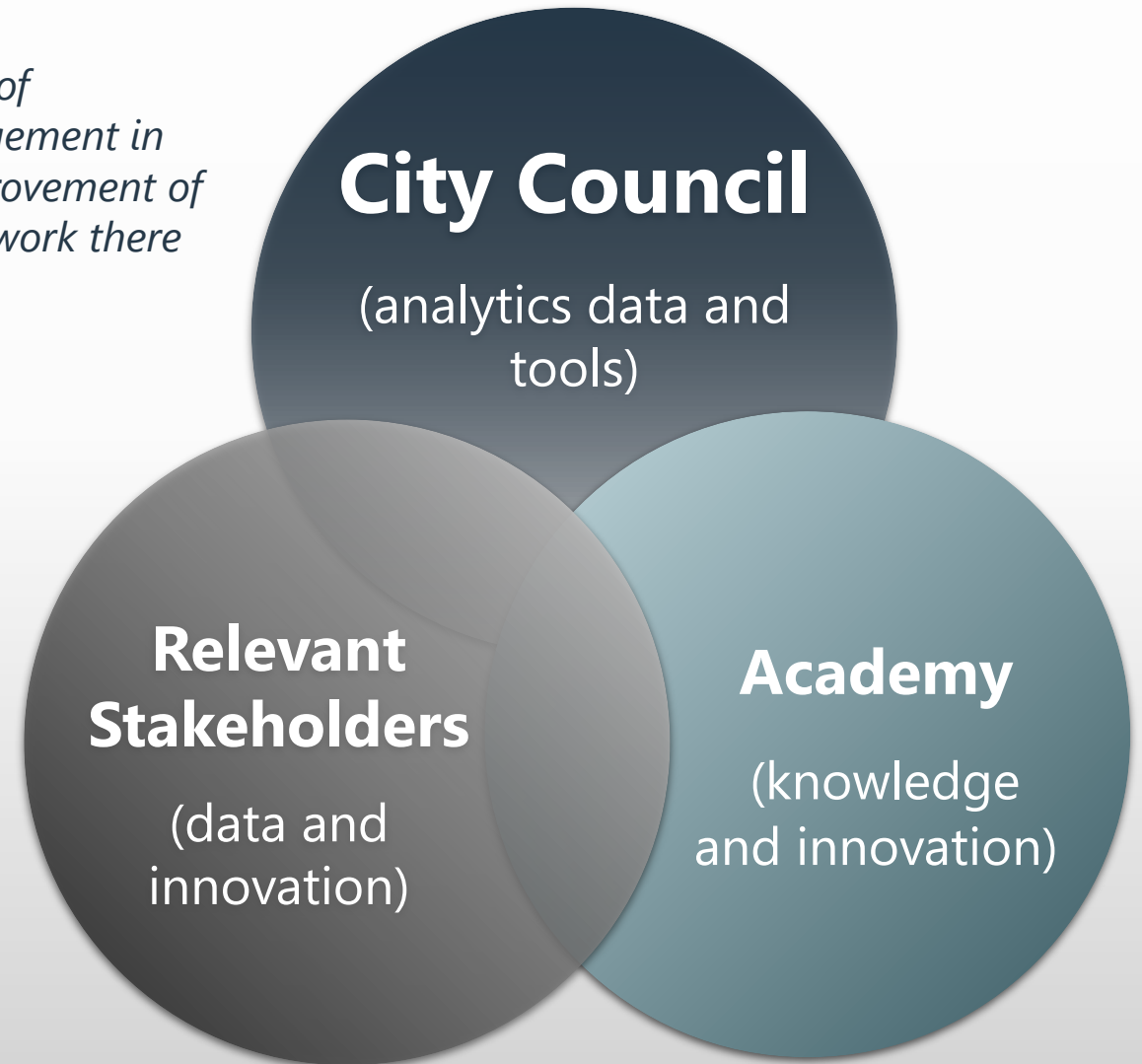
# LISBON URBAN DATA LAB

## MISSION

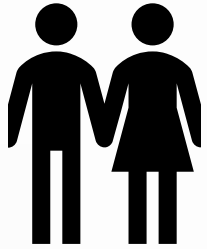
*Creating analytic solutions based in big data capable of improving planning, operation and emergency management in the city of Lisbon, contributing to the sustainable improvement of resilience and quality of life of the people who live or work there and also to those who visit Lisbon.*

## PARTNERS

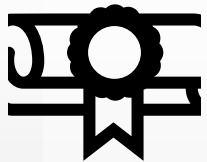
- Faculdade de Arquitetura
- Faculdade de Ciências
- ISCTE
- ISEL
- IST
- LNEC
- NOVA FCT
- NOVA IMS
- NOVA SBE
- Universidade Católica



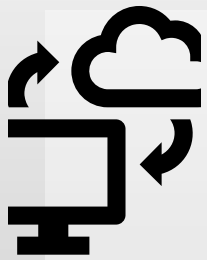
# CHALLENGES



Switching to data driven organization



Lack of qualified human resources



The management of large volumes of data with different origins, formats and uses



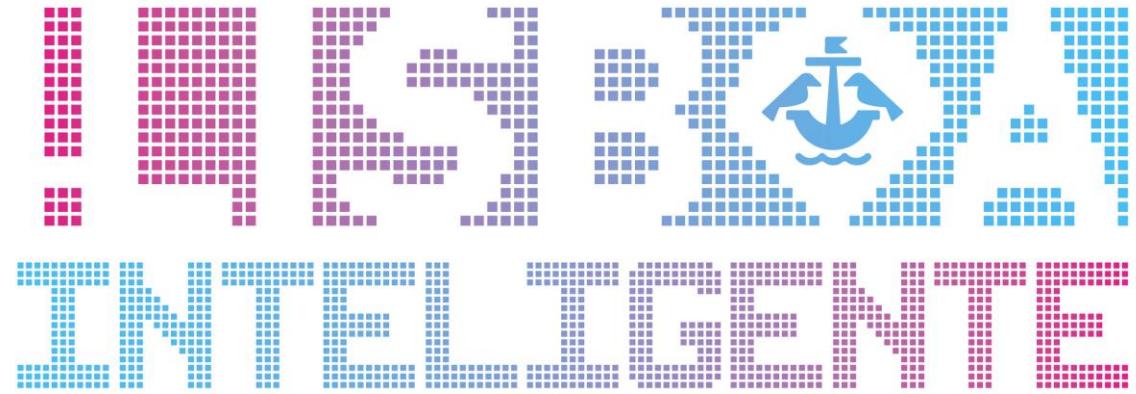
“Enough with all the strategic planning.  
Get out there and kill something.”





**No, thank you!**

**We're  
very busy**



# Thank you.

 <https://lisboainteligente.cm-lisboa.pt/>

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