



# **IoT Lab –IoT & Crowdsourcing for Smart Cities Risk Management**

**Smart Sustainable Cities and IoT:**

**Balancing Risks and Rewards**

**ITU Green Standards Week 2015**

**Nassau**



**IoT Lab**  
European Research Project

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# Risk Definition (ISO 31000)

**Risk** = «Effect of uncertainty on objectives»

Effect = «deviation from what is expected»

Uncertainty = «state/condition that involves a **deficiency of information** that leads to inadequate or incomplete understanding»

# Risk Management

Risk Management requires

- **Stakeholder consultations**
- **Environment analysis**
- **Approach to Governance**
- **Capabilities monitoring**



**To research the potential of crowdsourcing  
for the Internet of Things (IoT)**

**To extend test bed infrastructures  
for multidisciplinary experiments  
with more end-user interactions.**





# IoT Lab as a Service



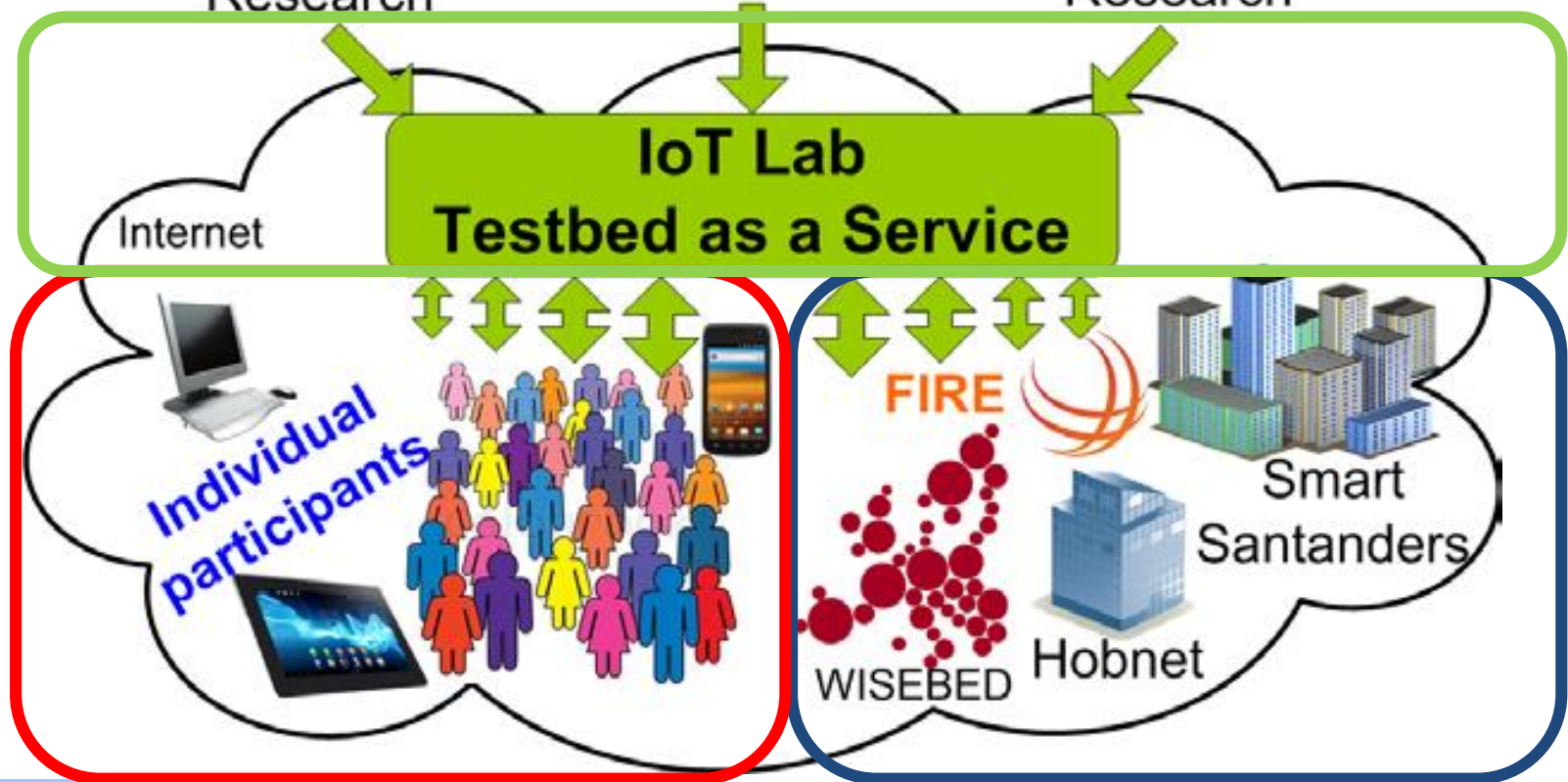
Economic  
Research



Societal  
Research



Technological  
Research





# Crowdsourcing Tool

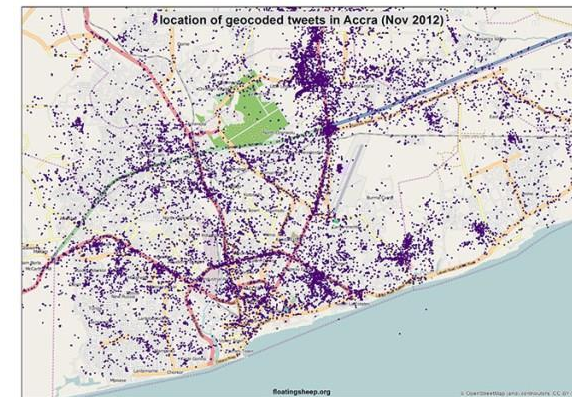
**Crowdsourcing**  
**Citizens inputs**

**Crowd-sensing**  
**Sensing**

**Privacy  
by design**

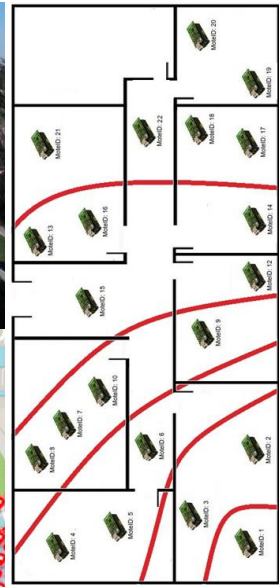


**GET AN IDEA.™**



# Paradigm Shifts towards Smart Cities

# Shift towards End-users



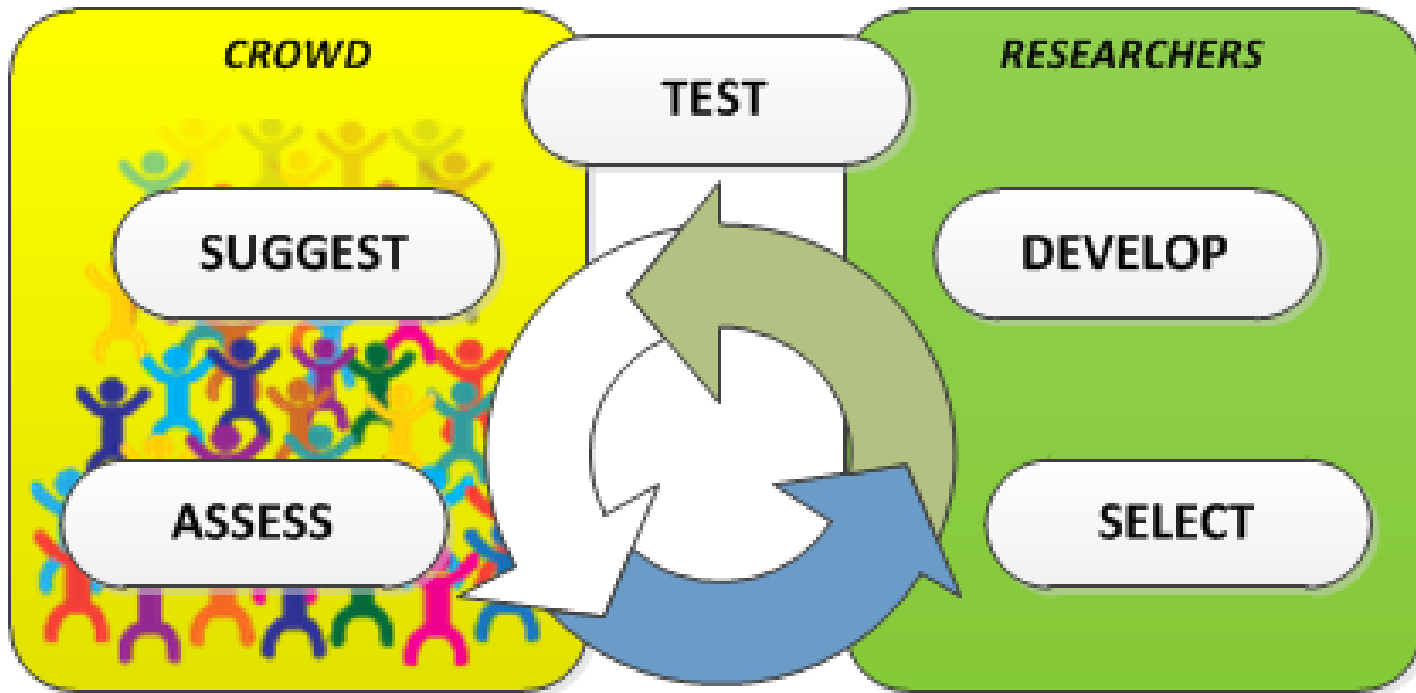


# New Venues



**Anywhere**

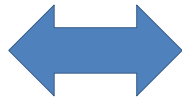
# Crowd-driven Research



# Pervasive Urban Testbed



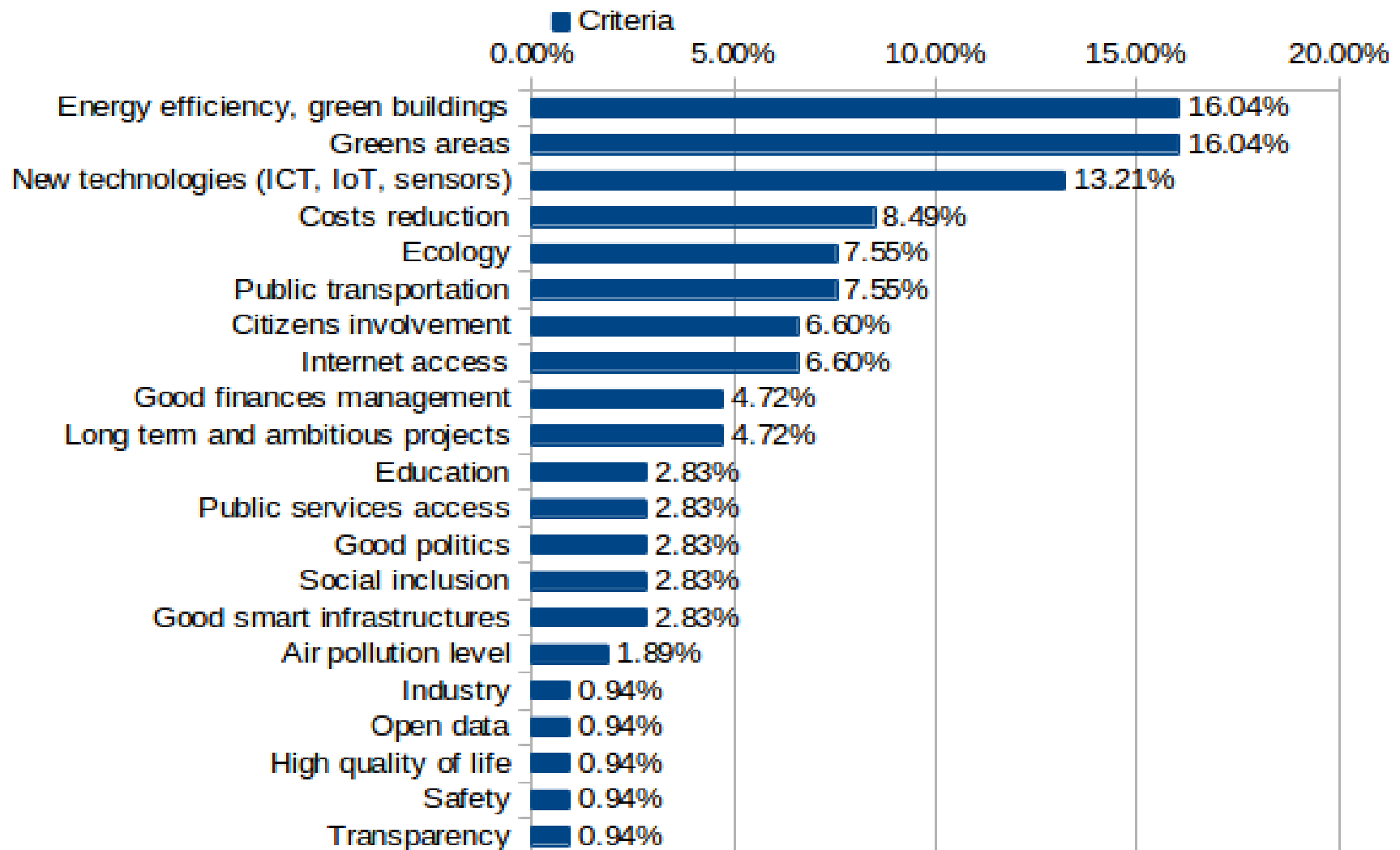
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Exploring  
Testing  
Validating  
Improving

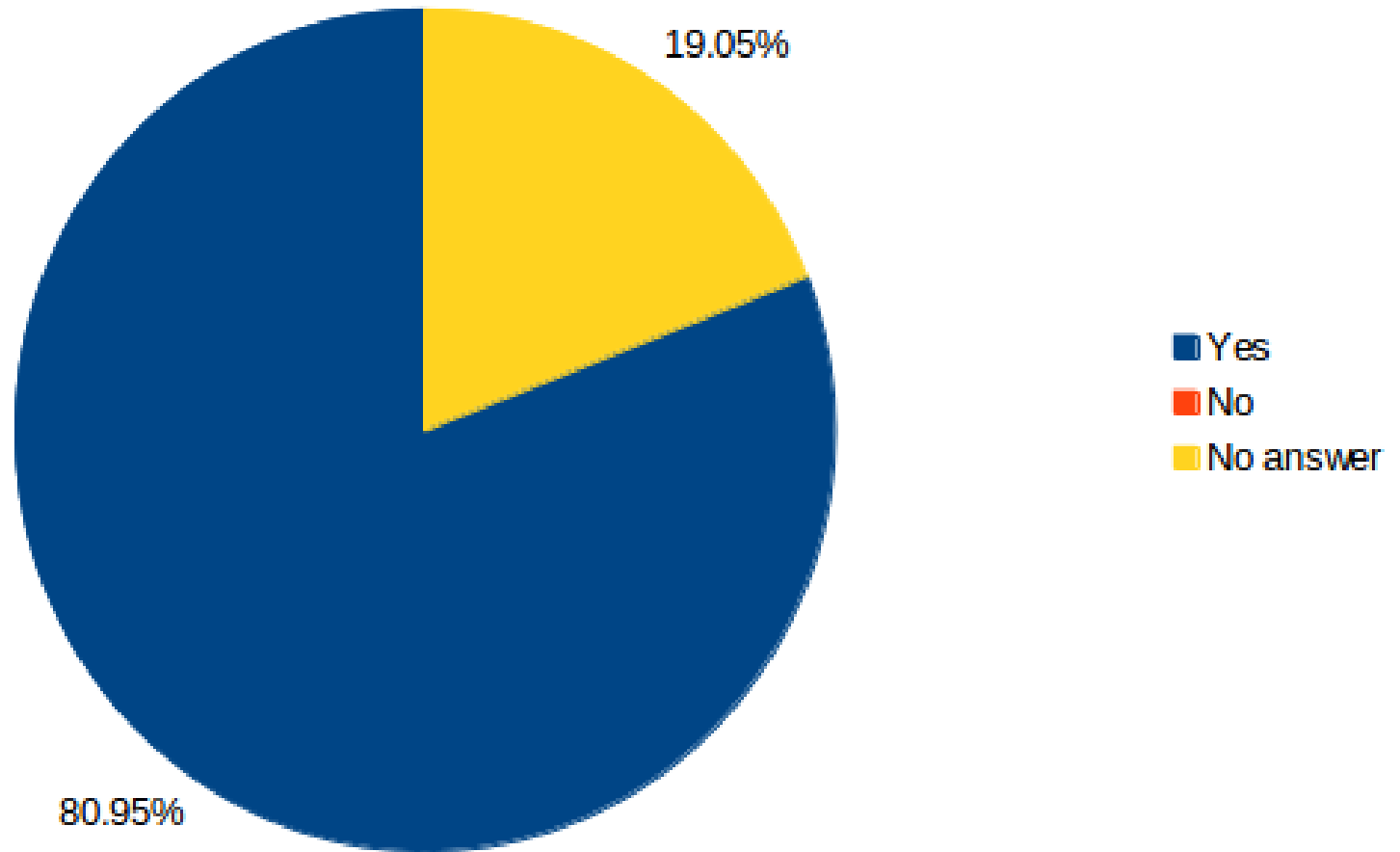


# What should be the three key criteria for considering a city “smart and sustainable”?

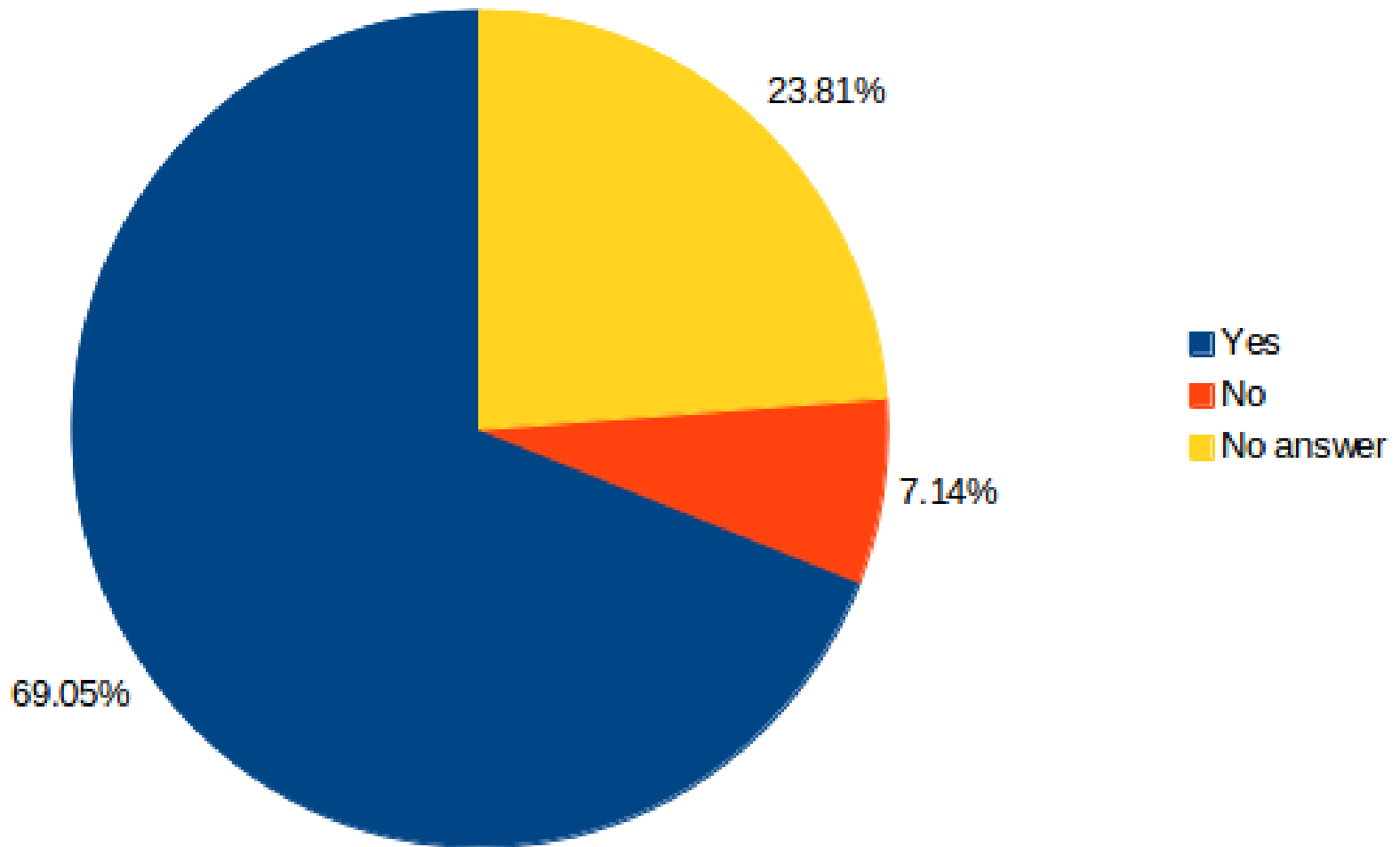




Should SSC KPIs take into account citizens' opinion/perception of their city?



Should SSC KPIs take into account measurements done through sensors or other similar devices?



# Any suggestions to make your city smarter and more sustainable?

## 5 top suggestions:

- Citizens involvement
- IoT deployment
- Social inclusion and education
- Politicians more aware and more engaged about the new technologies
- Combination of different public services

# Vision and Conclusion

- **IoT = Ears and eyes of the city**
- **Crowdsourcing = Citizens insight**
- **IoT + CS =**

**Reduced deficiency of information**  
(source of uncertainty and risk)

- **Monitoring of City environment**
- **Alignment with citizens needs**
- **Better allocation of resources**





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**THANK YOU!**

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