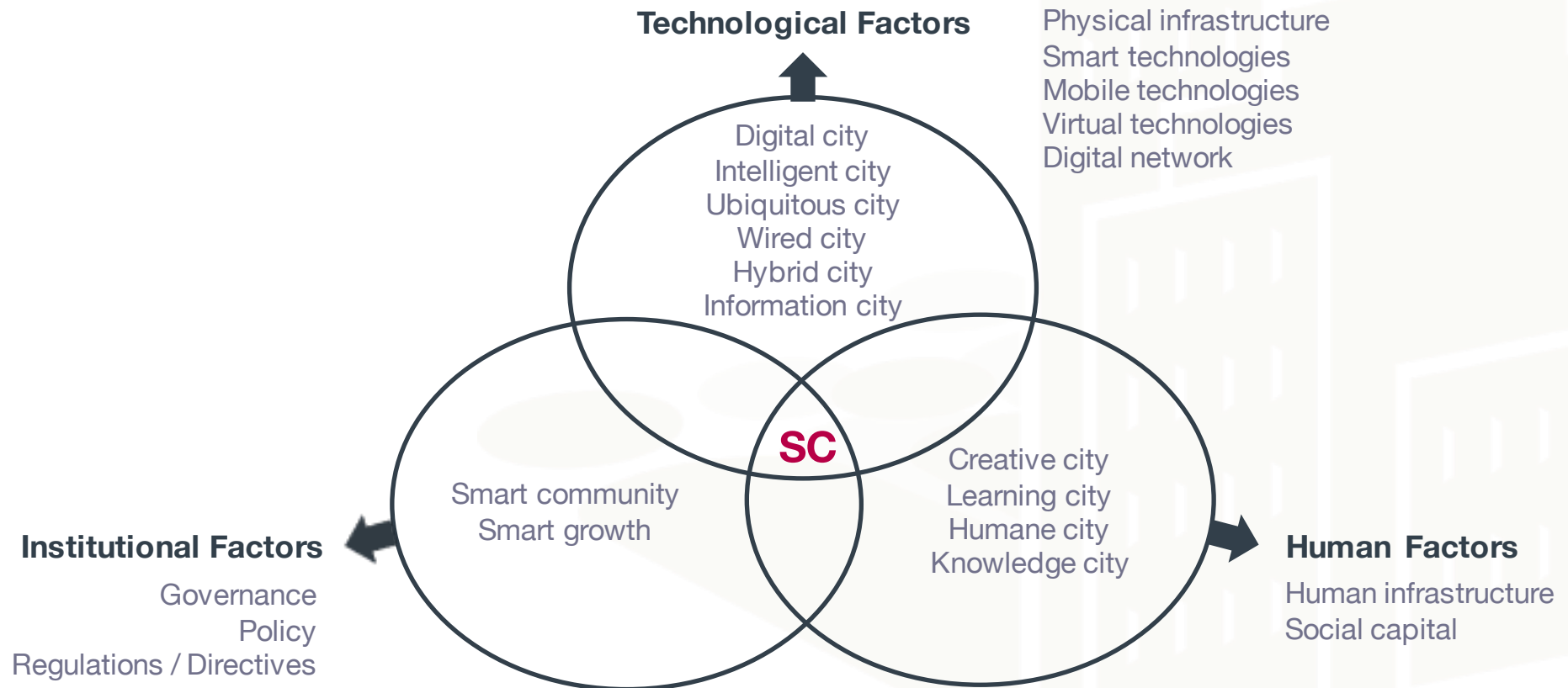




Prof. Dr. Nathalie Crutzen  
Director

HEC Liège – University of Liege (Belgium)

# The « Universe » of smart cities



Source : Nam and Pardo (2011)

# Smart City : **A broad definition**



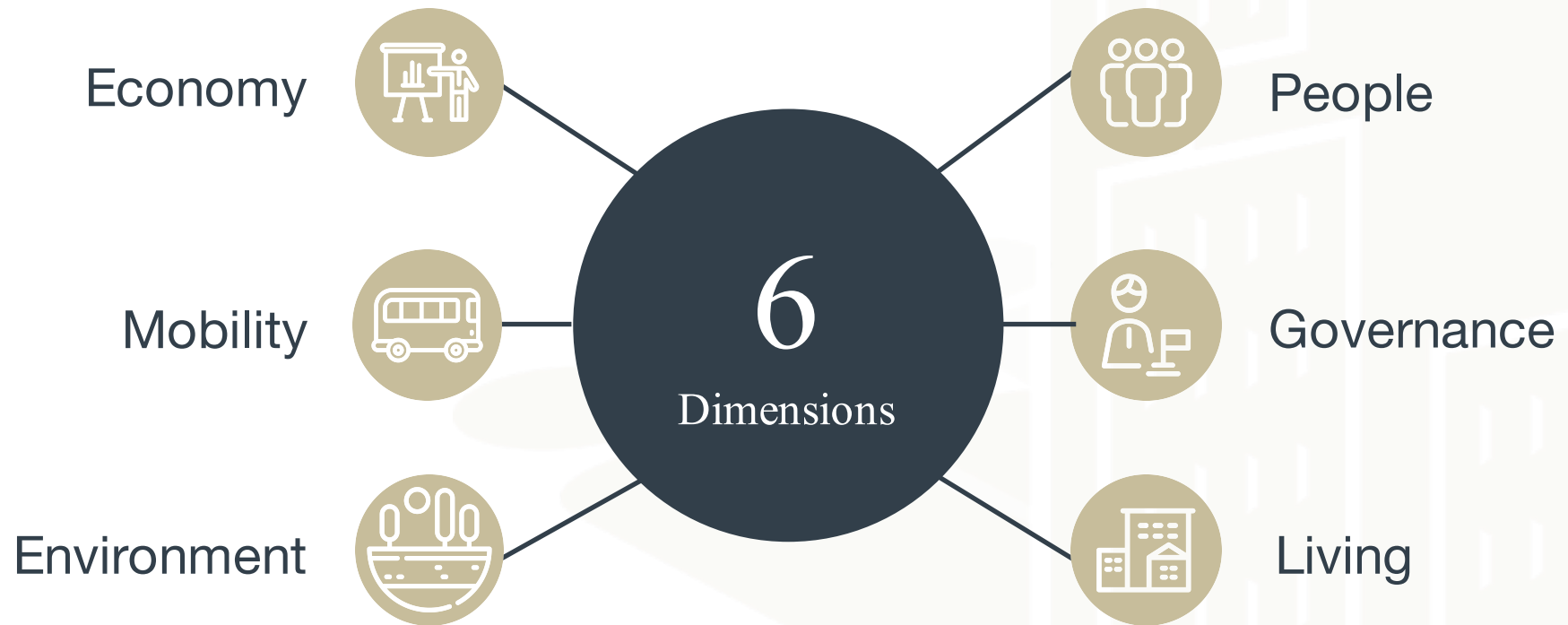
A “smart city” is a **multi-stakeholders’ ecosystem** (composed with local governments, citizens’ associations, multinational and local businesses, universities, international institutions...)

Engaged in a **sustainability strategy/transition**

Using **technologies** (ICT mainly) as **enabler**

In order to become **more sustainable** (economic prosperity, social well-being & conservation of our natural resources)

# Smart City : A broad definition



# SMART CITY BAROMETER

## SAMPLE



- ▶ POPULATION - **589** Belgian municipalities
- ▶ SAMPLE 113 respondents

## DATA COLLECTION



- ▶ **ONLINE SURVEY** in French and Dutch (40 questions)
- ▶ **TWO DIFFUSION CHANNELS**



- ▶ **PERIOD** from May to October 2016 (5 months).

## DATA ANALYSIS



- ▶ STATISTICAL ANALYSES WITH SPSS

# SMART CITY BAROMETER

## TOPIC #1 : PERCEPTION

“HOW DO BELGIAN MUNICIPALITIES PERCEIVE THE SMART CITY PHENOMENON?”

Definitions

Appropriation

Components & dimensions

# SMART CITY BAROMETER

## TOPIC #2 : IMPLEMENTATION

**“HOW DO BELGIAN MUNICIPALITIES IMPLEMENT SMART CITY PROJECTS ON THEIR TERRITORY ?”**

Projects

Stakeholders

Barriers

# SMART CITY BAROMETER

## TOPIC #3 : MANAGEMENT

### HOW DO BELGIAN MUNICIPALITIES MANAGE SMART CITY-RELATED DYNAMICS?

Strategy

Governance

People in charge



# SMART CITY BAROMETER



**BELGIUM**

**66%** OF BELGIAN MUNICIPALITIES

FEEL CONCERNED BY THE CONCEPT  
OF SMART CITY

# SMART CITY BAROMETER

## REGIONS



### FLANDERS

YES **84%**  
NO 16%



### BRUSSELS

YES **88%**  
NO 13%



### WALLONIA

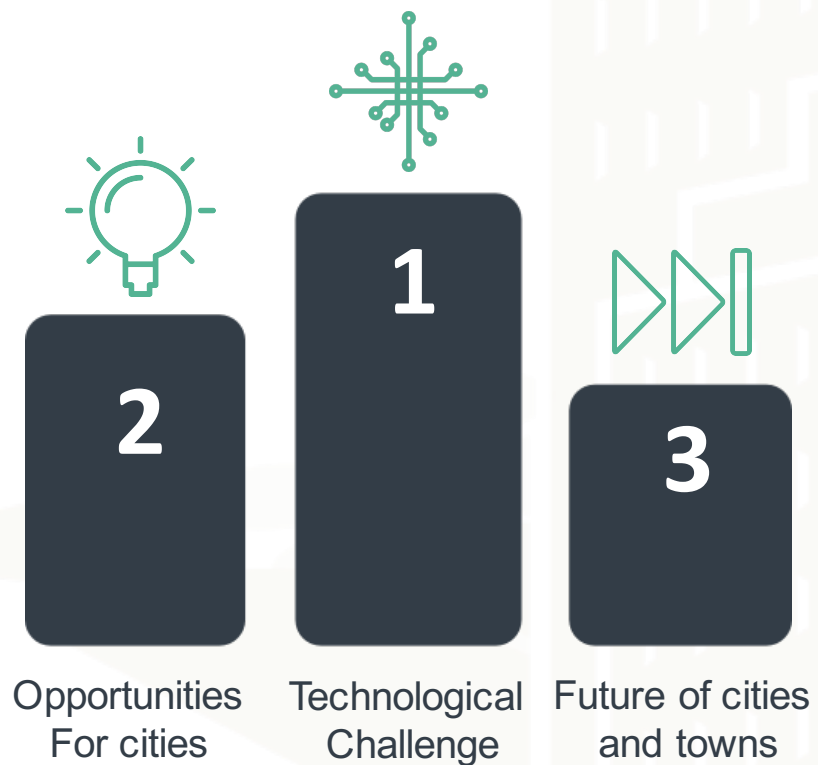
YES 45%  
NO **55%**

# SMART CITY BAROMETER

## DEFINITIONS



**BELGIUM**



# SMART CITY BAROMETER

## DEFINITIONS



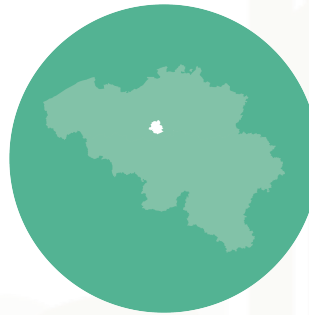
### REGIONS



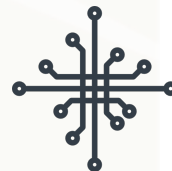
**FLANDERS**



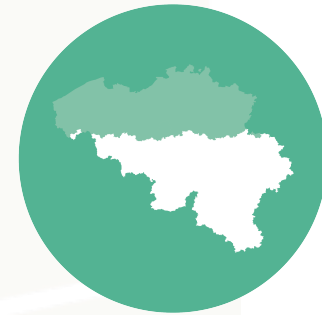
OPPORTUNITY



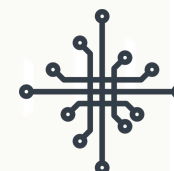
**BRUSSELS**



TECHNOLOGICAL CHALLENGE



**WALLONIA**



TECHNOLOGICAL CHALLENGE

# SMART CITY BAROMETER

COMPONENTS & DIMENSIONS

## 6 DIMENSIONS OF THE SMART CITY

RANKING BY CITIES FROM 1: MOST IMPORTANT TO 6: LESS IMPORTANT



Smart Governance



Smart Environment



Smart Mobility

# SMART CITY BAROMETER

## PRIORITIES



### BELGIUM - TOP 3



1. GOVERNANCE AND E-SERVICES

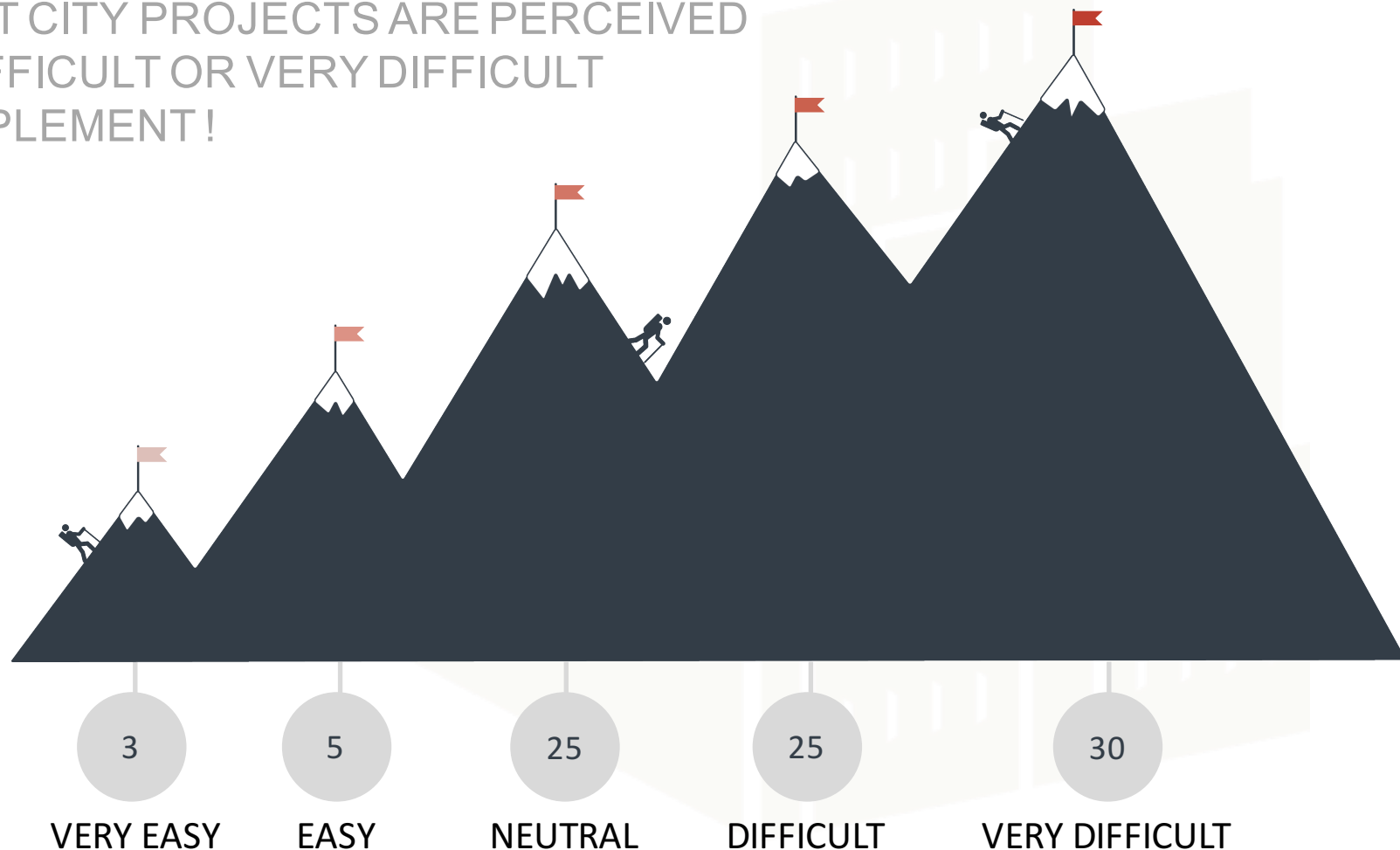
2. ENERGY EFFICIENCY

SUSTAINABLE

MOBILITY

# SMART CITY BAROMETER

SMART CITY PROJECTS ARE PERCEIVED AS DIFFICULT OR VERY DIFFICULT TO IMPLEMENT!



# SMART CITY BAROMETER

## BARRIERS



### BELGIUM - TOP 3





# SMART CITY BAROMETER

STAKEHOLDERS

## INITIATORS

MOST OF THE TIME PUBLIC AUTHORITIES ARE INITIATING SMART CITY PROJECTS → TOP-DOWN APPROACH



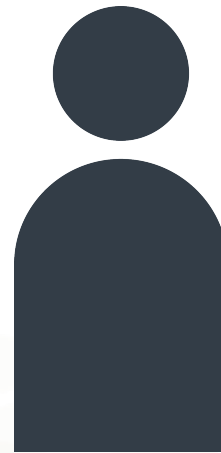
80%

PUBLIC  
AUTHORITIES



10%

PRIVATE  
SECTOR



5%

CIVIL  
SOCIETY



4%

RESEARCH  
CENTERS &  
UNIVERSITIES



1%

DON'T KNOW  
THE  
INITIATOR

# SMART CITY BAROMETER

Belgian municipalities often perceive Smart City dynamics as a **TOP-DOWN process involving mainly local public actors**

**Limited involvement of private actors, the Civil Society and ... citizens**

# SMART CITY BAROMETER

MANAGEMENT

## BELGIUM – SMART CITY PLAN

DO BELGIAN MUNICIPALITIES HAVE A SMART CITY STRATEGY?



# SMART CITY BAROMETER

PEOPLE IN CHARGE

## SMART CITY DEPARTMENT

IN BELGIAN MUNICIPALITIES

**NONE** OF BELGIAN MUNICIPALITIES

HAS A SMART CITY DEPARTMENT

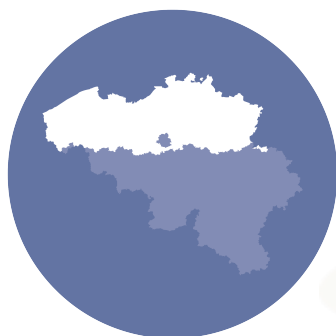
# SMART CITY BAROMETER

PEOPLE IN CHARGE

## SMART CITY MANAGERS

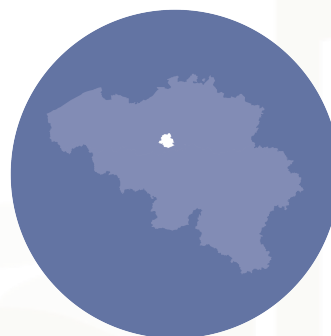
IN BELGIAN MUNICIPALITIES

17 municipalities have hired one or more Smart City manager(s)



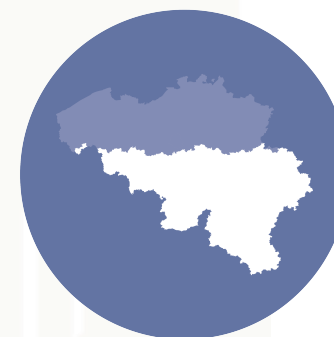
**FLANDERS**

6



**BRUSSELS**

2



**WALLONIA**

9

# THANK YOU FOR YOUR ATTENTION



[www.SmartCityInstitute.be](http://www.SmartCityInstitute.be)



[sci@ulg.ac.be](mailto:sci@ulg.ac.be)



[/SCIHEC](https://www.facebook.com/SCIHEC)



[@HEC\\_SCI](https://twitter.com/HEC_SCI)

WITH THE SUPPORT OF

