Regional Studies Association
THE GLOBAL FORUM FOR CITY AND REGIONAL RESEARCH, DEVELOPMENT AND POLICY

REGIONAL STUDIES ASSOCIATION WINTER CONFERENCE 2012

Smart, Creative, Sustainable, Inclusive
Territorial Development Strategies in the Age of Austerity

23rd November 2012, London, UK

POLITECNICO DI MILANO

DIPARTIMENTO DI SCIENZA E TECNOLOGIE DELL'AMBIENTE COSTRUITO (BEST)

LABORATORIO TECHNOLOGY ENVIRONMENT AND MANAGEMENT (TEMA)

THE SMART REGION

governing the transition to intelligent small urban areas

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The smart region: governing the transition to intelligent small urban areas

1_Introduction: city + global changes

2_The smart city model

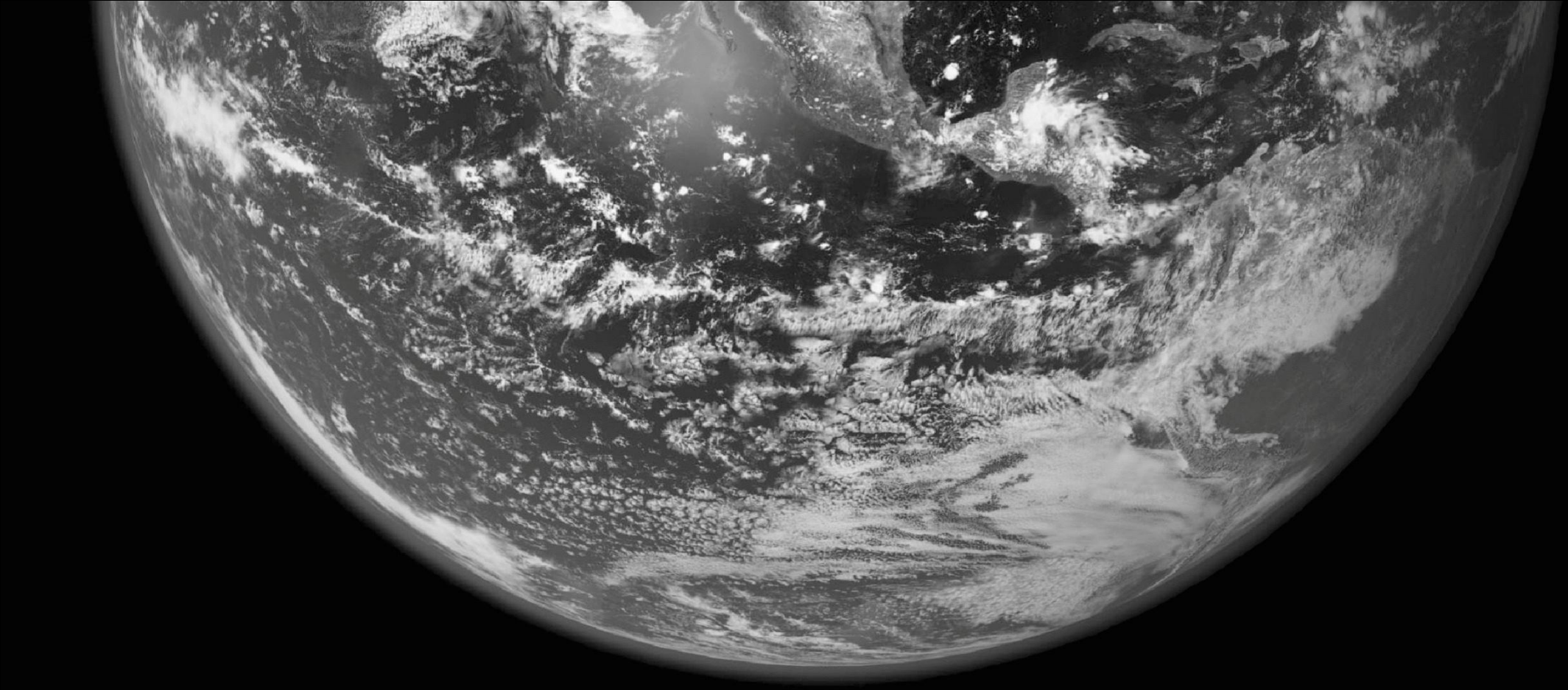
3_The Italian case

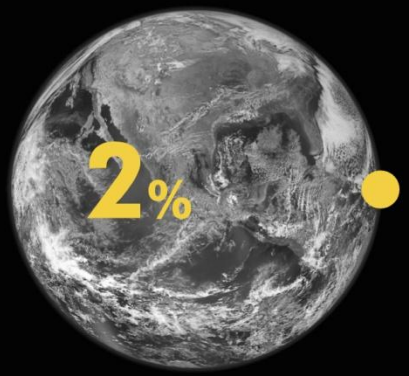
4_The smart region

5_Next steps

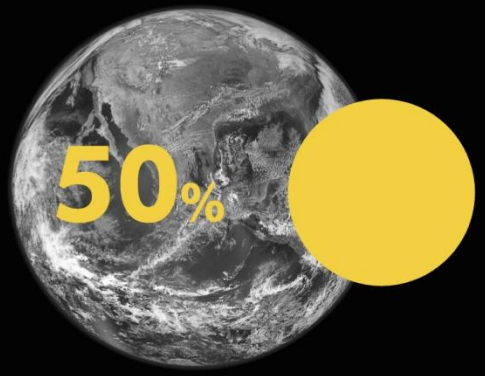
6_Conclusion

Agenda

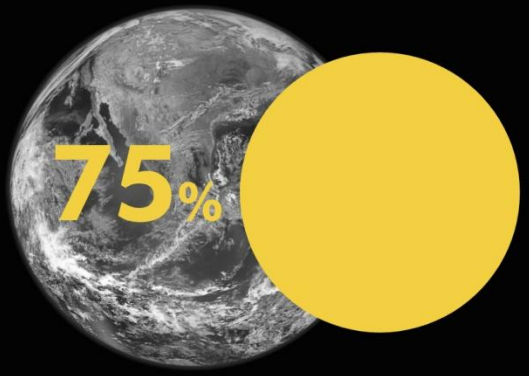




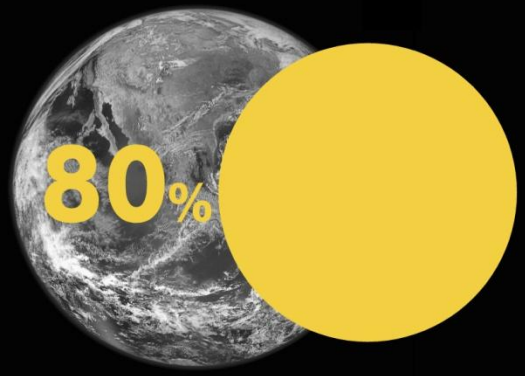
the Earth surface
covered by cities



the world population
which lives in cities



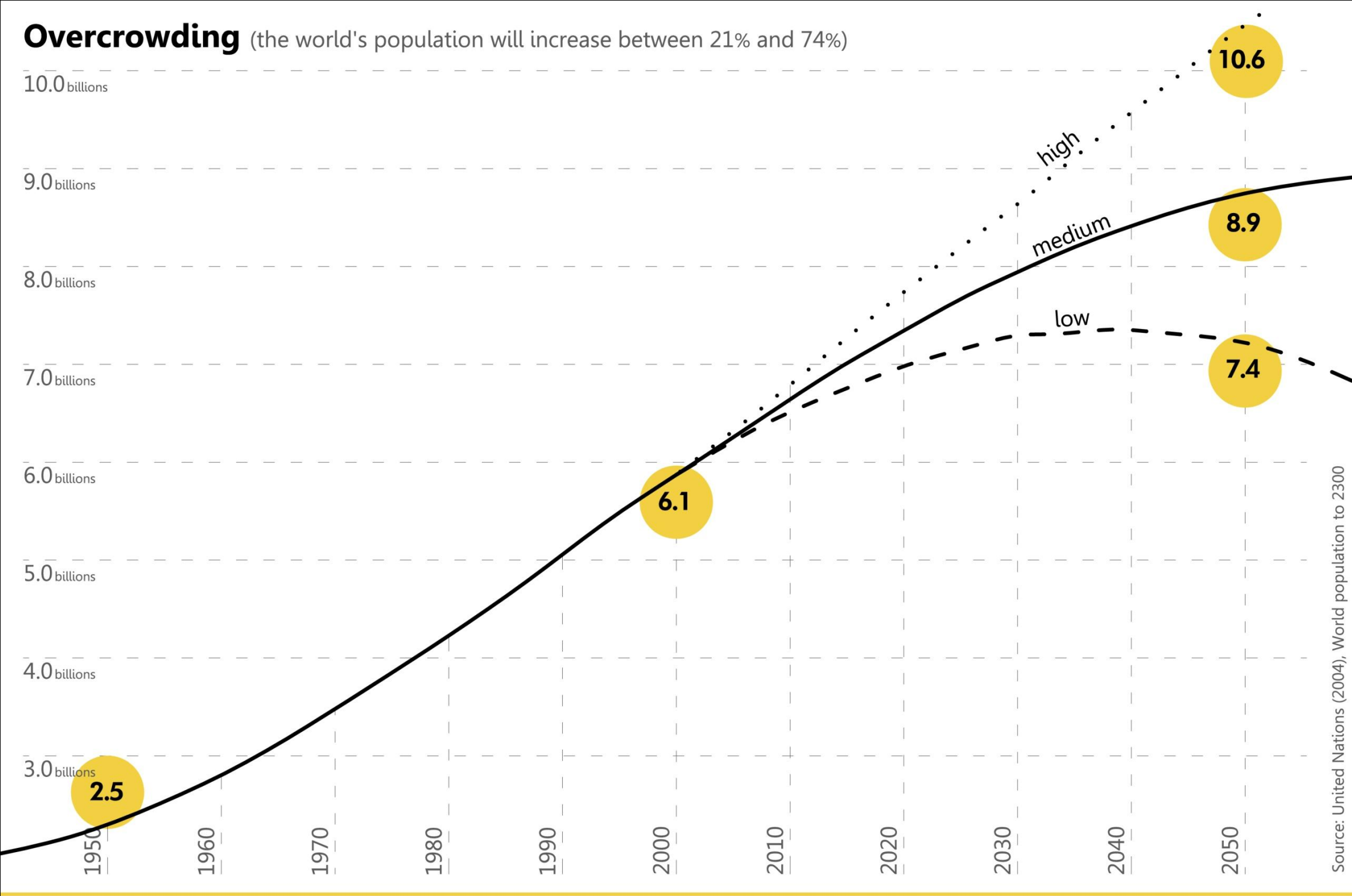
the global energy
consumed by cities



the total CO_2
released by cities

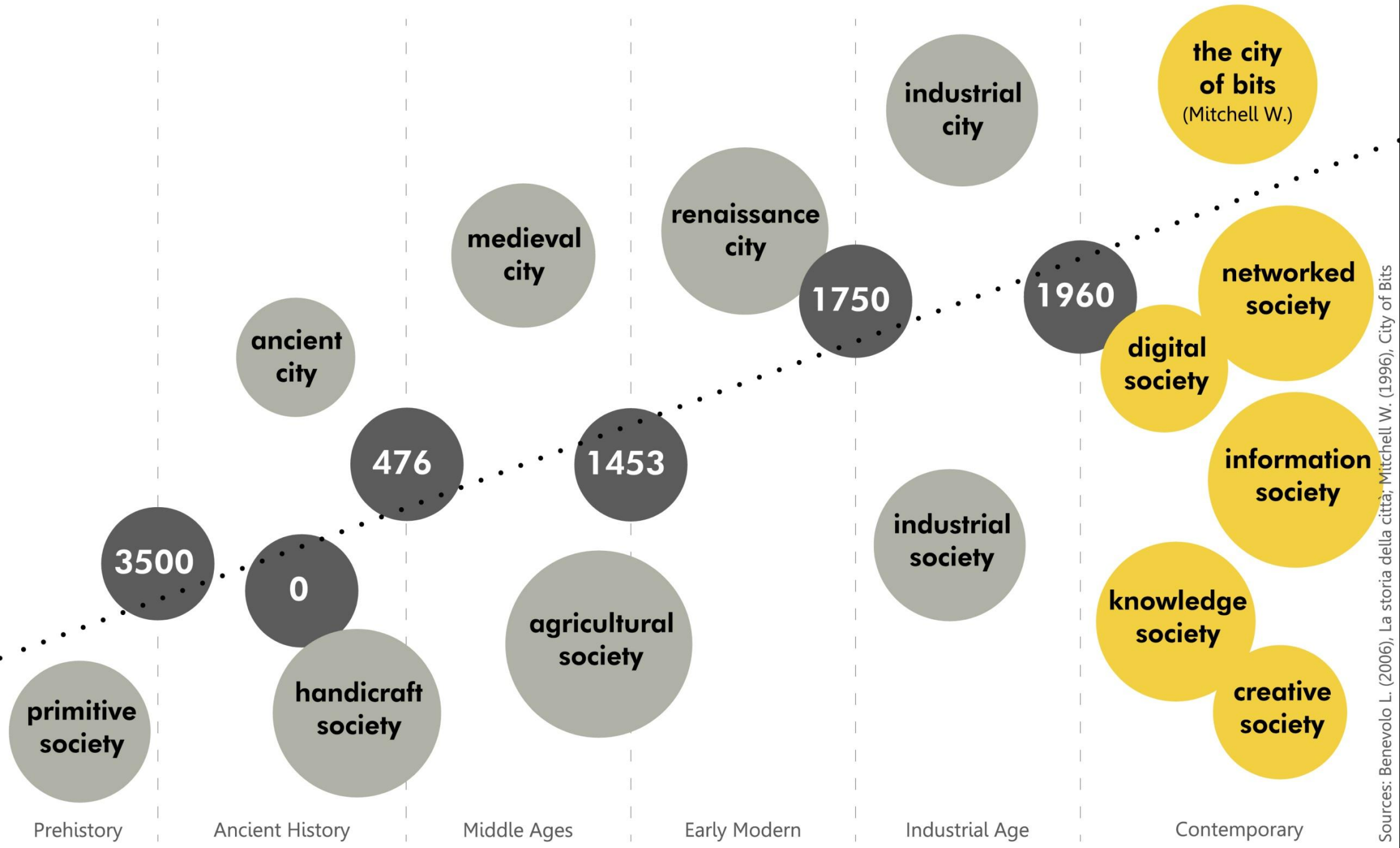
Sources: Ratti C. (2011), Lectio magistralis. Le città del futuro

Introduction: City + Environment



Introduction: City + Population

City is the mirror of society. A digital infrastructure for a digital society.



Introduction: City + Society

We have terabytes of information about cities. How do we make sense of all that data?

1 byte

one character

1 kilobyte

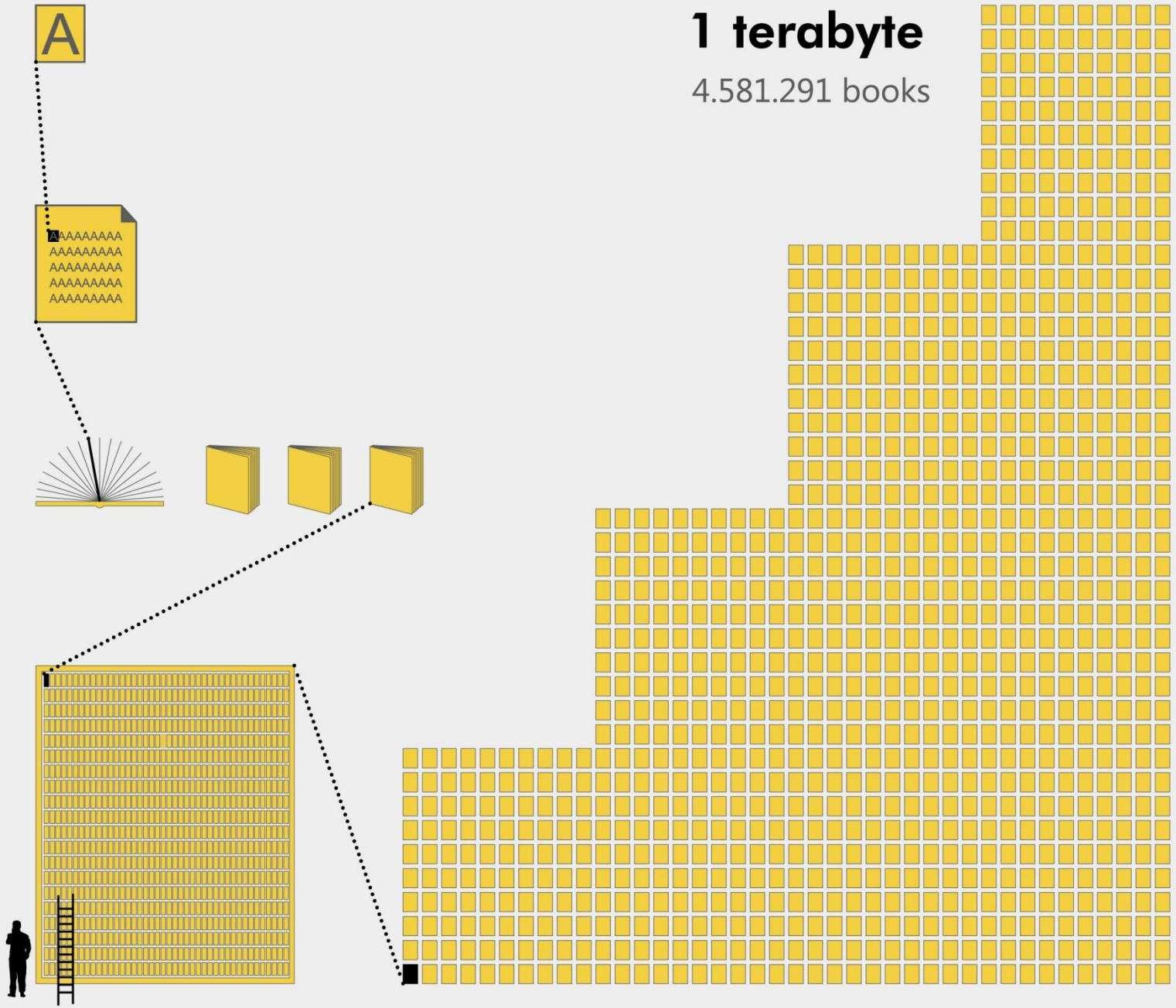
one page text

1 megabyte

four 200-page books

1 gigabyte

4.473 books



1 terabyte

4.581.291 books

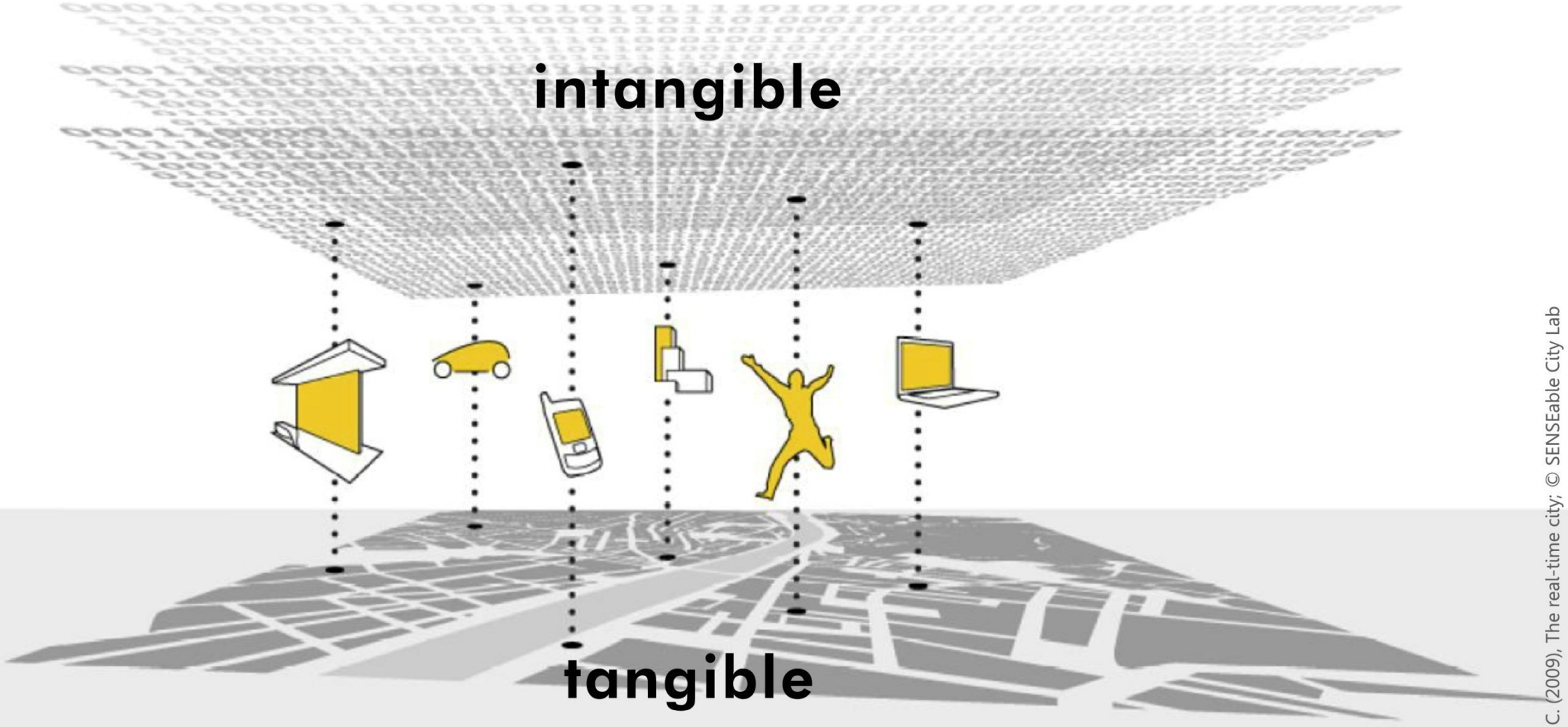
Source: Piedemont-Palladino S. C. (2011), Intelligent cities; © TIME

Introduction: City + Knowledge

Internet of Things. New technological interfaces and ubiquitous intelligence environments

Introduction: City + Technology

How to manage **technology** for connecting **cities** and **communities** with the big intangible cloud of **data** in order to support **sustainable growth** and to improve the **qulity of life**?



Source: Ratti C. (2009), The real-time city; © SENSEable City Lab

The smart city model

smart city...

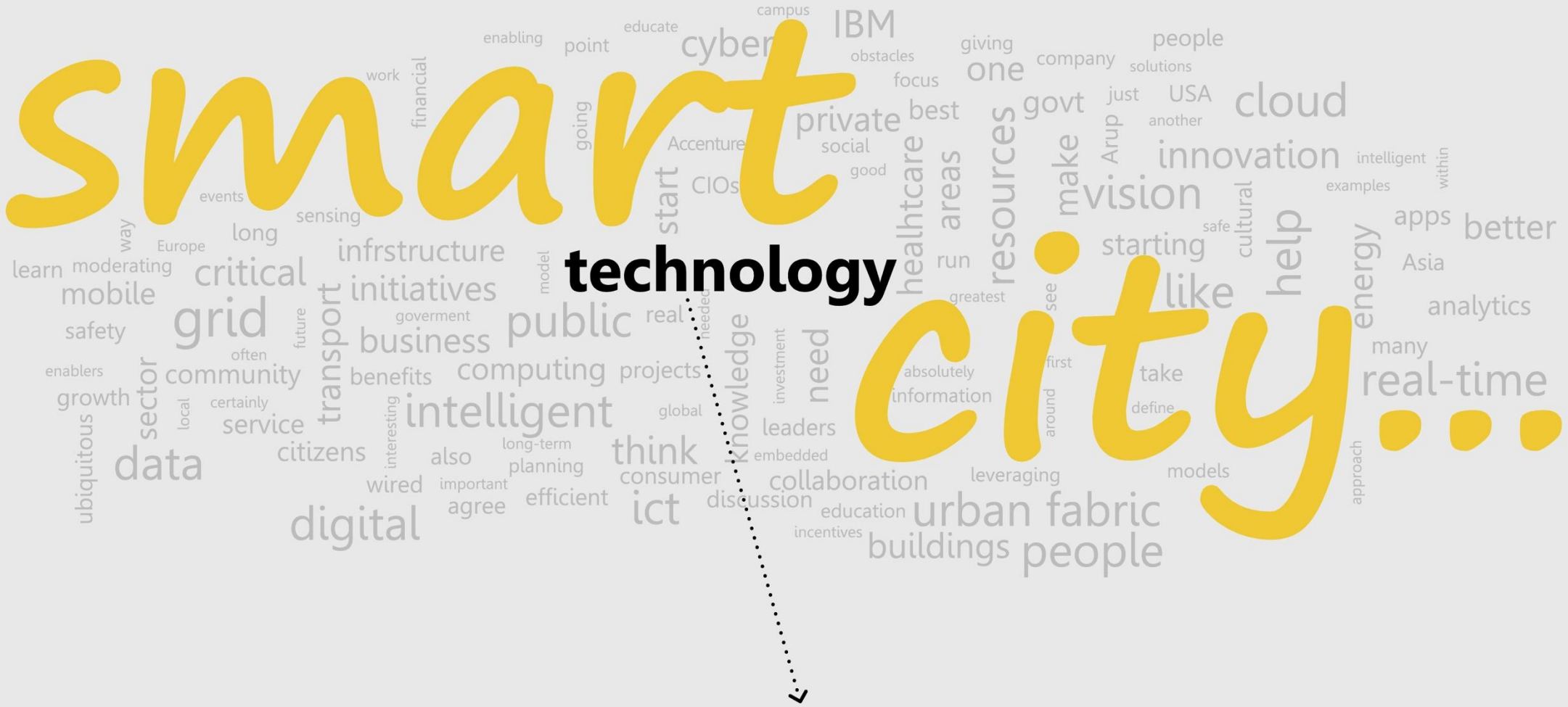
Smart city as a **label** (terminological confusion and a lot of disinformation about the smart city concept)

"Will the real smart city please stand up?"

Hollands R. G. (2008), Will the real smart city please stands up?

The smart city model

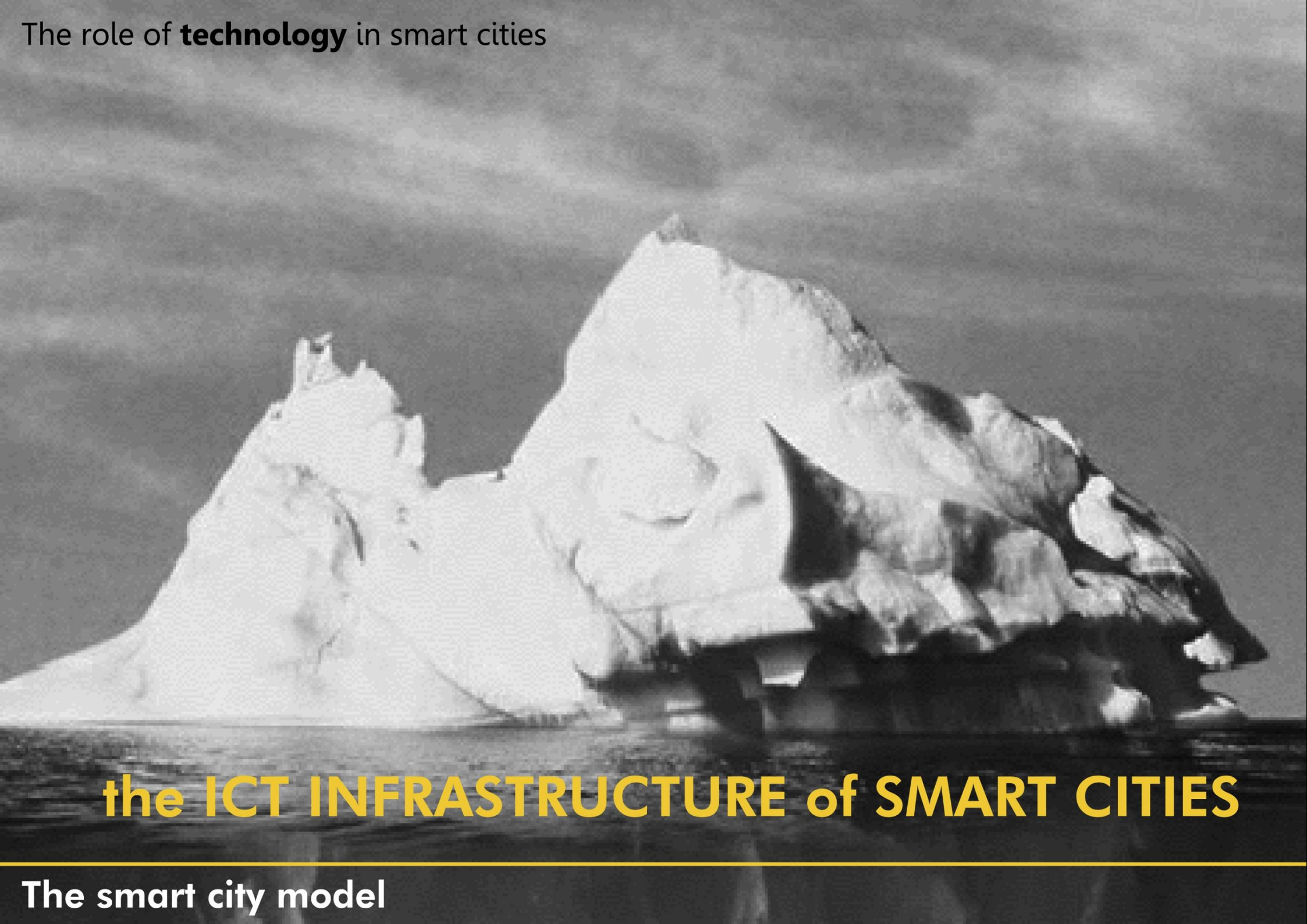
The role of **technology** in smart cities



"The main focus of the smart city seems to be on the role of ICT infrastructure"

Caragliu A., Del Bo C. and Nijkamp P. (2011), Smart Cities in Europe

The smart city model



the ICT INFRASTRUCTURE of SMART CITIES

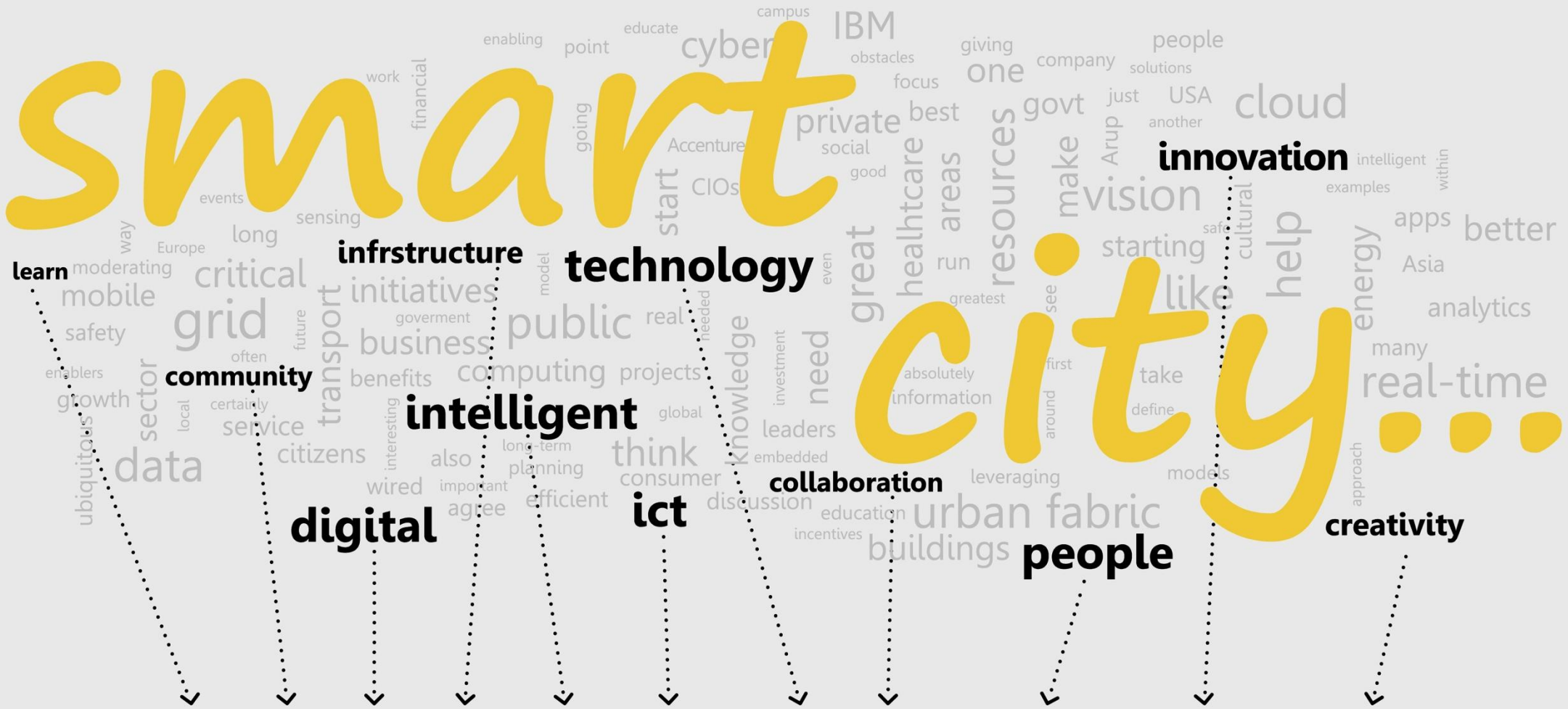
The smart city model

The iceberg effect (up to 90% of the mass of an iceberg is below the waterline as the smart city concept)

Source: Nam T. and Pardo A. T. (2011), Conceptualizing Smart City with Dimensions of Technology, People, and Institutions

The smart city model

The smart city combine **technology** with **social and human capital**



"Intelligent cities are territories with a high capacity for learning and innovation, which is built-in: the creativity of its communities, its institutions of knowledge creation, and its digital infrastructure for communication and knowledge management"

Komninos N. (2008), Intelligent cities and globalization of innovation networks

The smart city model

The architecture of the smart city (combining human, social and ICT infrastructures)

Smart city solutions must start with the city not with technology

Bélissent J. (2010), Getting clever about smart cities: new opportunities require new business models

The smart city model

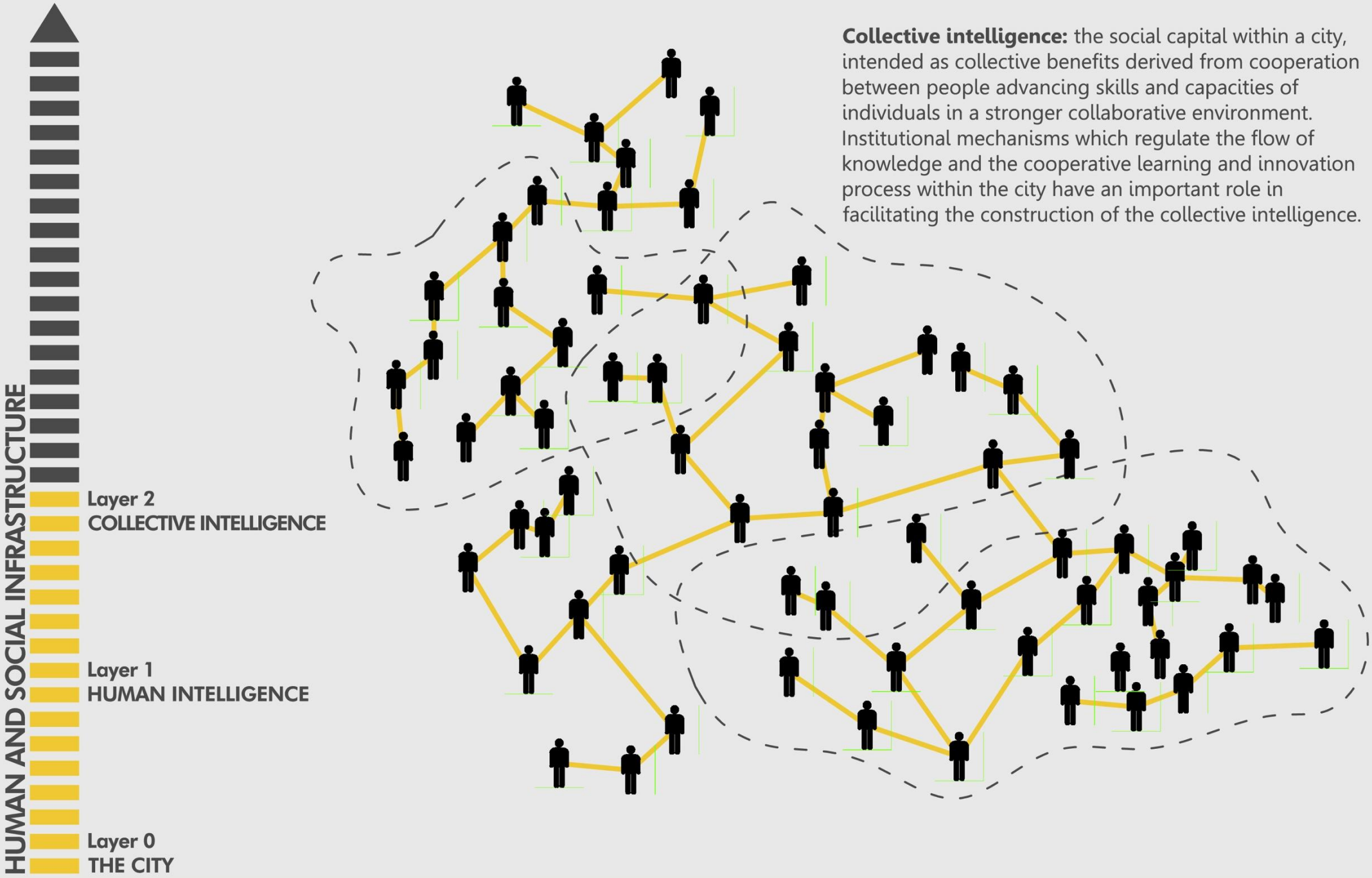
The architecture of the smart city (combining human, social and ICT infrastructures)

Human Intelligence: The stock of human capital of the city, intended as compencies, knowledge, skills, creavity, embedded in its population.

Source: Komninos N. (2008), Intelligent cities and globalization of innovation networks

The smart city model

The architecture of the smart city (combining human, social and ICT infrastructures)

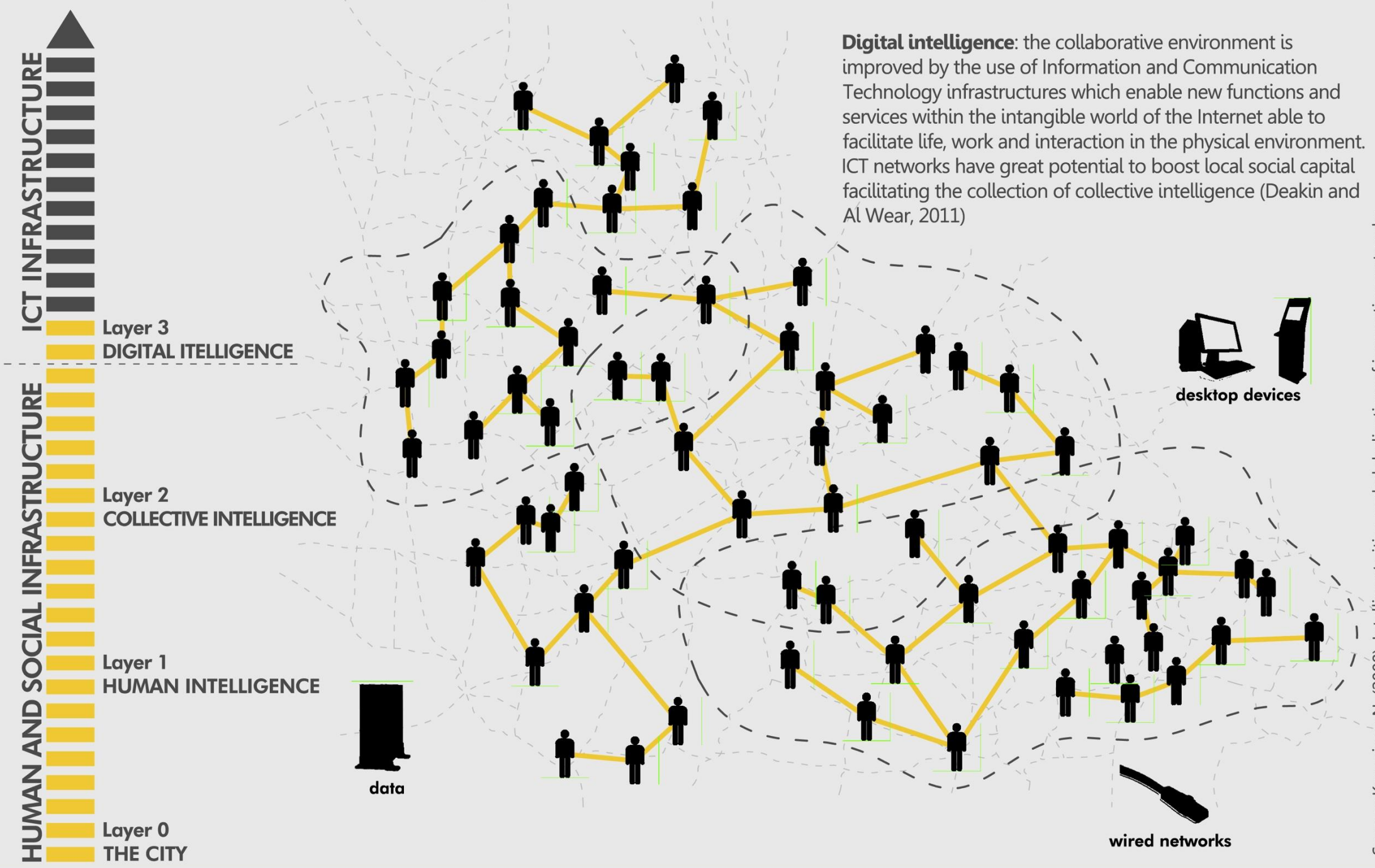


Collective intelligence: the social capital within a city, intended as collective benefits derived from cooperation between people advancing skills and capacities of individuals in a stronger collaborative environment. Institutional mechanisms which regulate the flow of knowledge and the cooperative learning and innovation process within the city have an important role in facilitating the construction of the collective intelligence.

Source: Komninos N. (2008), Intelligent cities and globalization of innovation networks

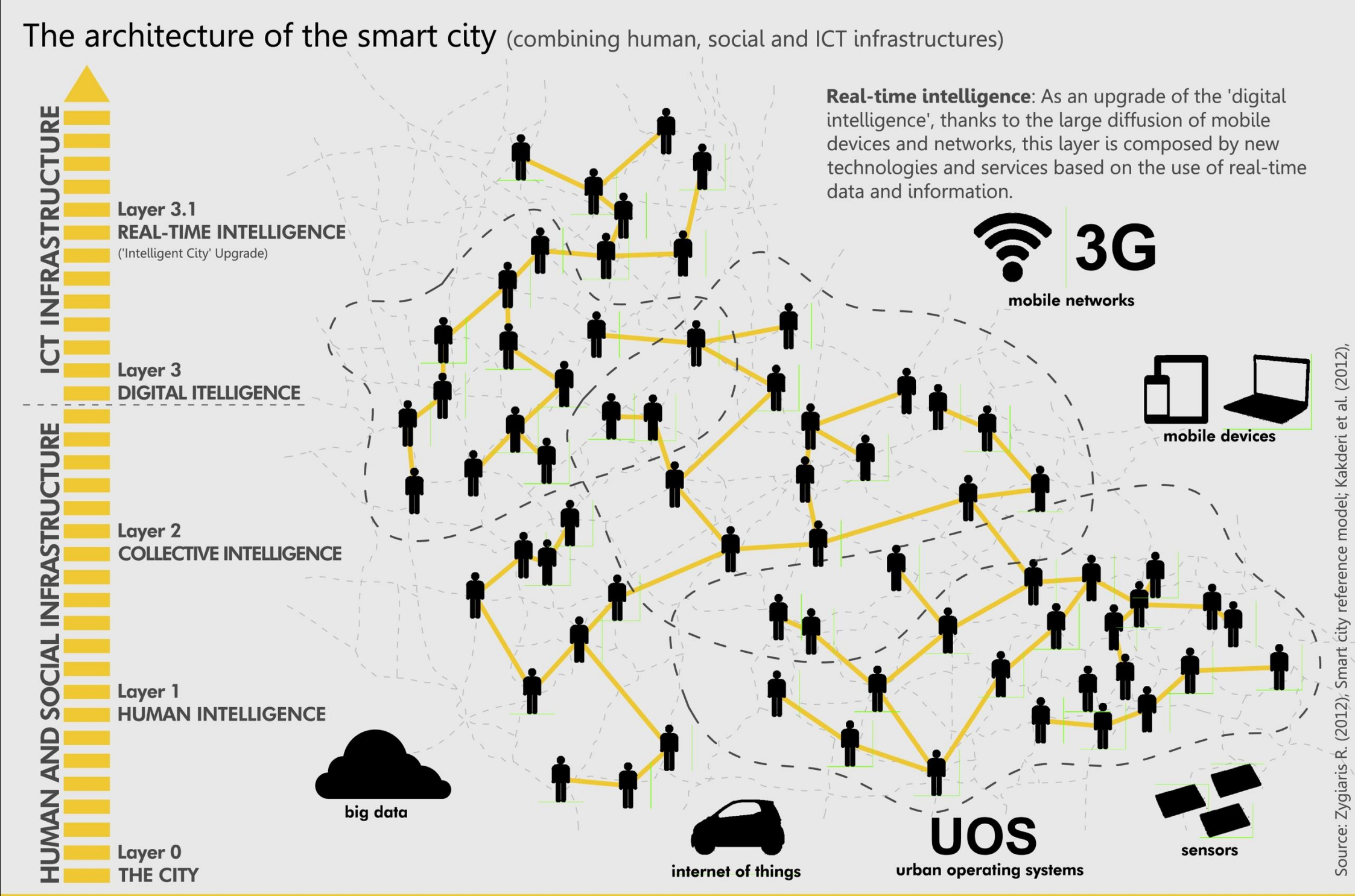
The smart city model

The architecture of the smart city (combining human, social and ICT infrastructures)



The smart city model

The architecture of the smart city (combining human, social and ICT infrastructures)

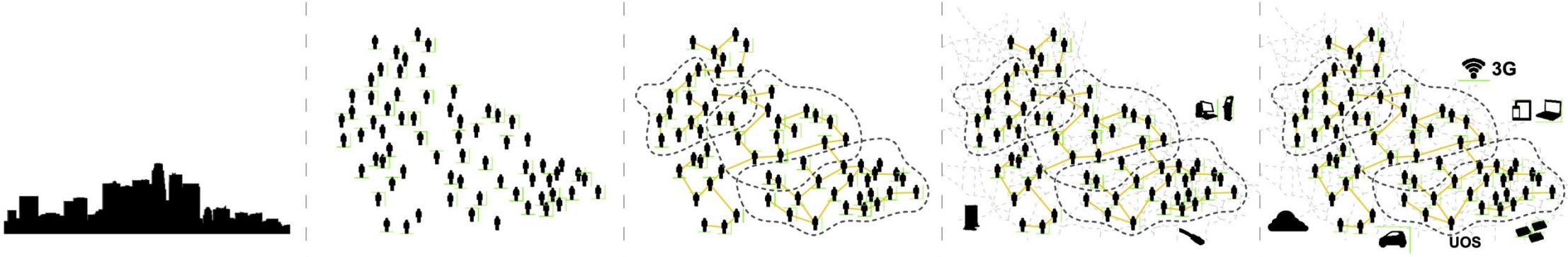


Source: Zygiaris R. (2012), Smart city reference model; Kakderi et al. (2012),

The smart city model

The architecture of the smart city (combine human, social and ICT infrastructures)

dimensions of the intelligence



Layer 0
THE CITY

Layer 1
HUMAN INTELLIGENCE

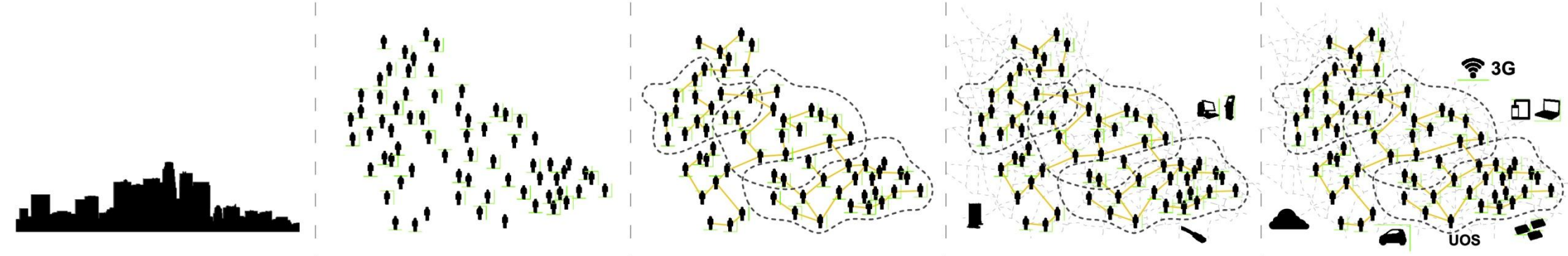
Layer 2
COLLECTIVE INTELLIGENCE

Layer 3
DIGITAL INTELLIGENCE

Layer 3.1
REAL-TIME INTELLIGENCE

The smart region

The architecture of the smart city (combine human, social and ICT infrastructures)



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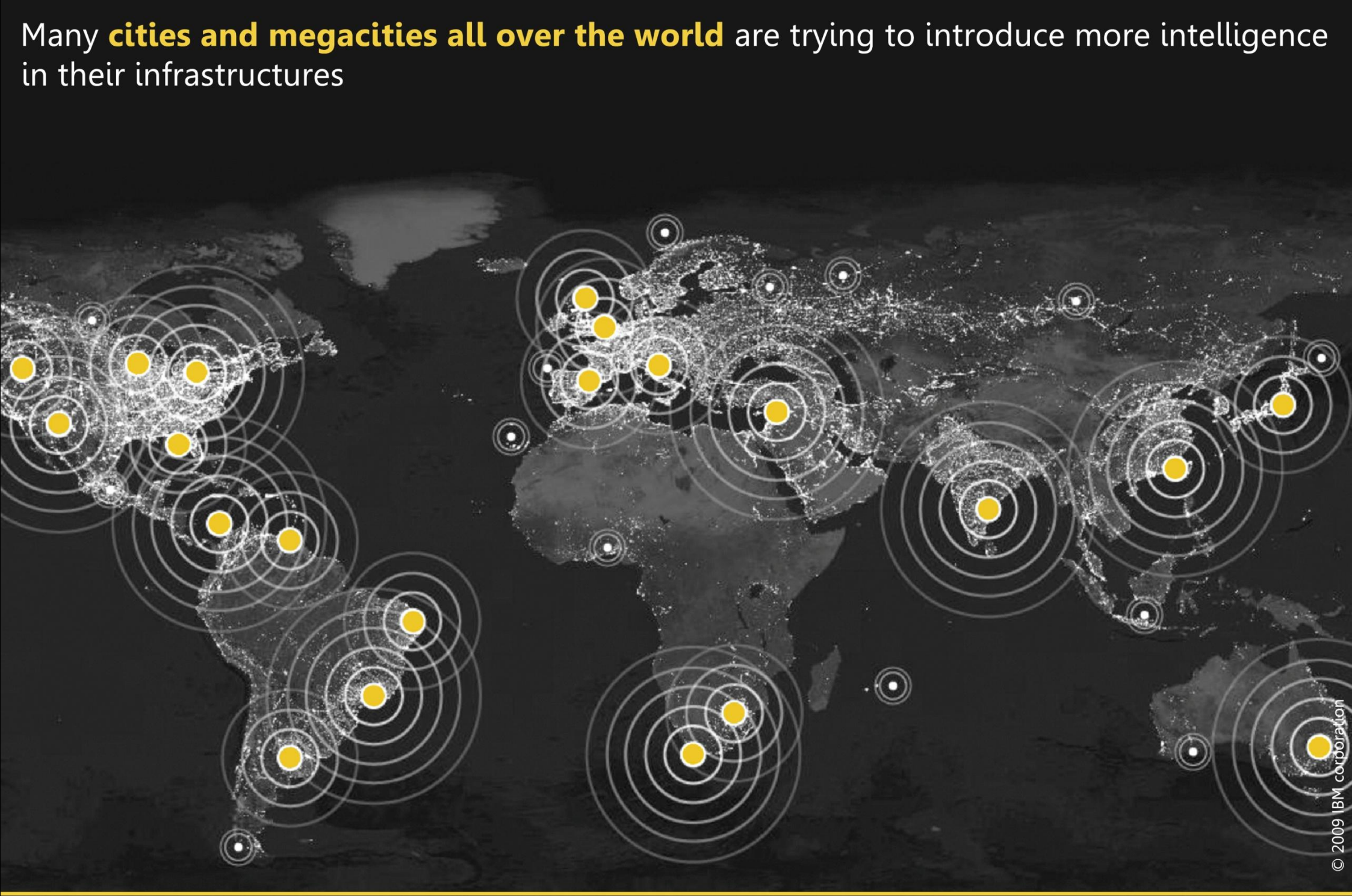
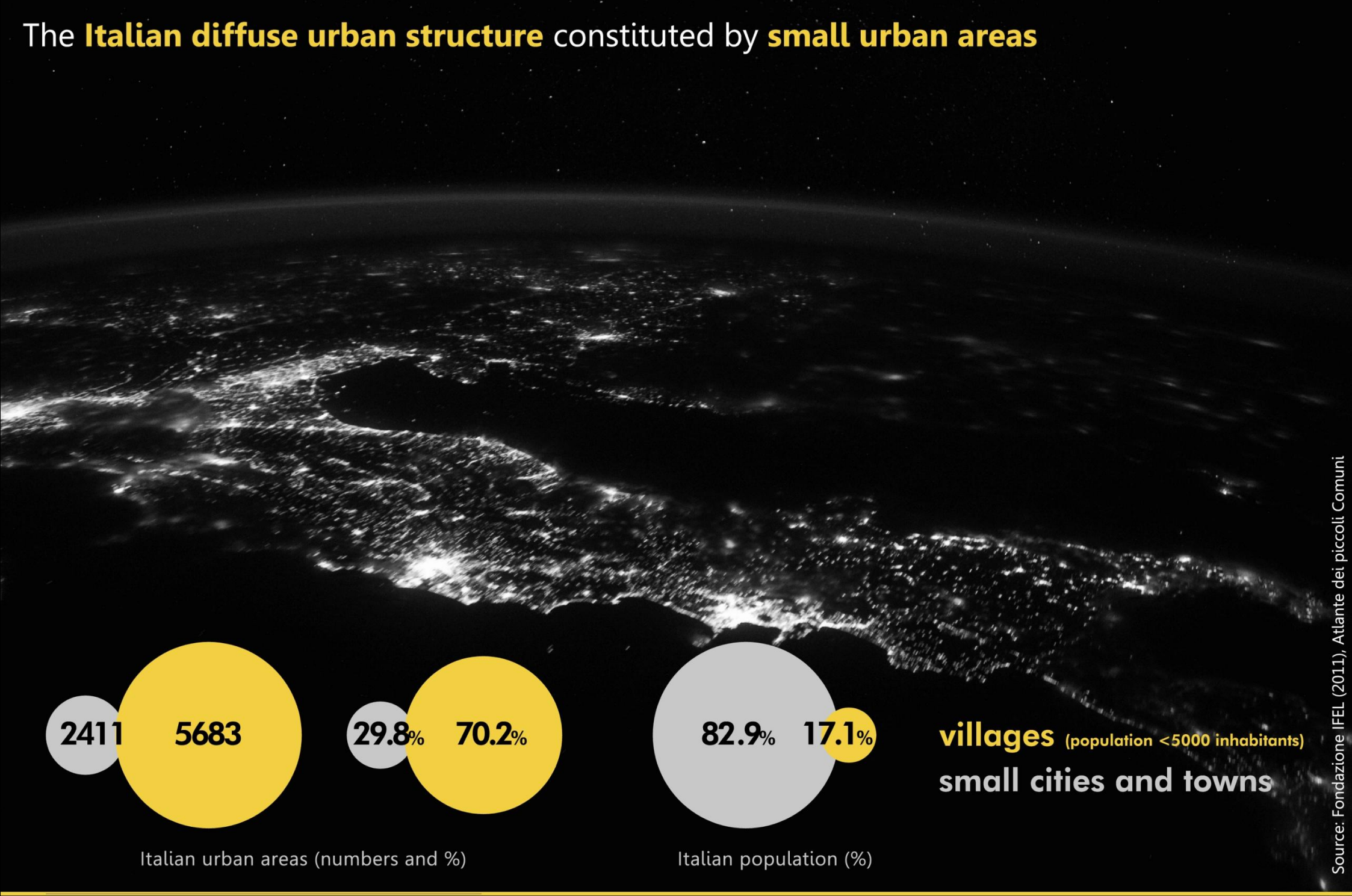
The smart region

Many **cities and megacities all over the world** are trying to introduce more intelligence in their infrastructures



The smart city model

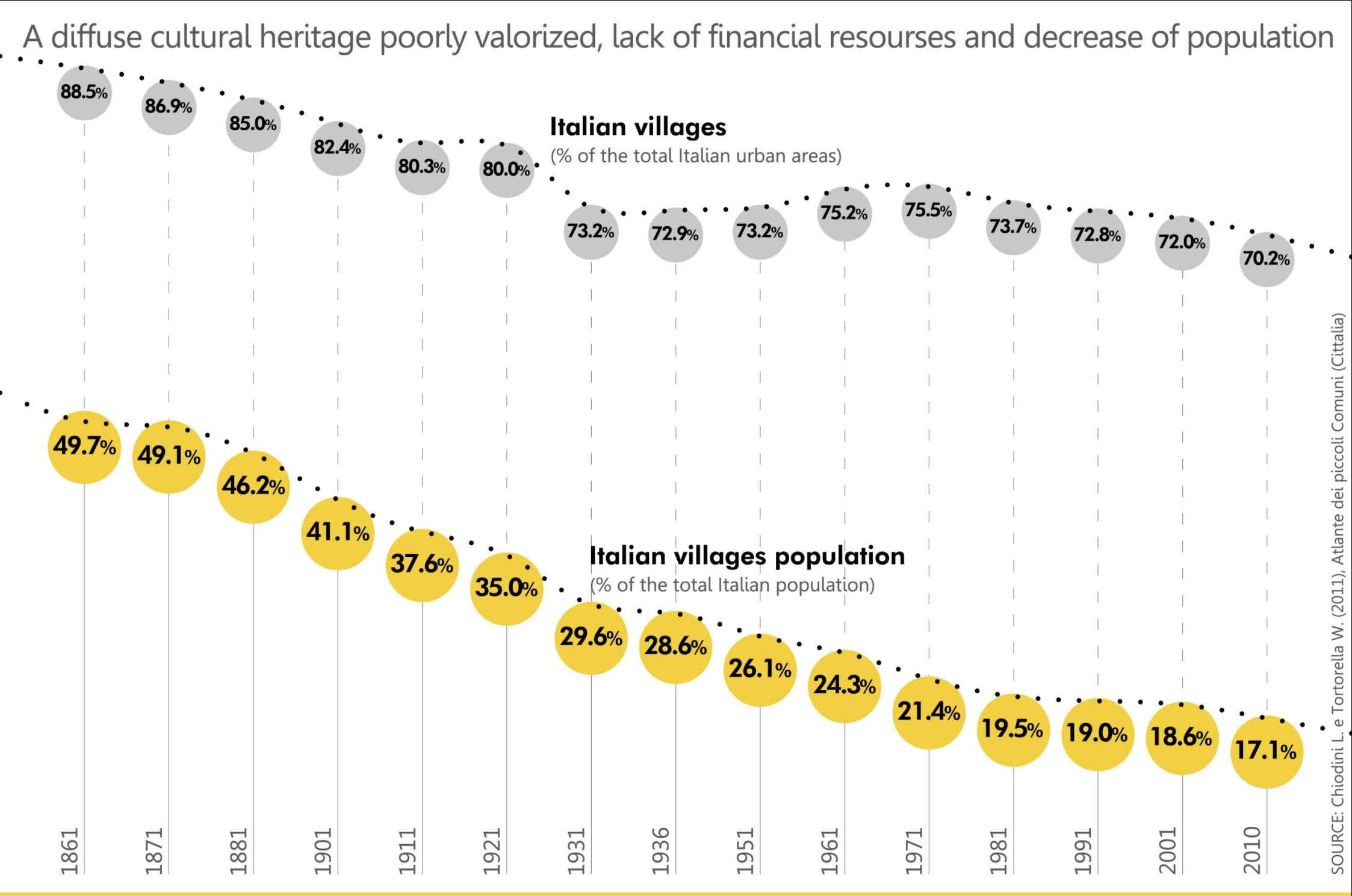
The **Italian diffuse urban structure** constituted by **small urban areas**



Source: Fondazione IFEL (2011), Atlante dei piccoli Comuni

The Italian case

A diffuse cultural heritage poorly valorized, lack of financial resourses and decrease of population

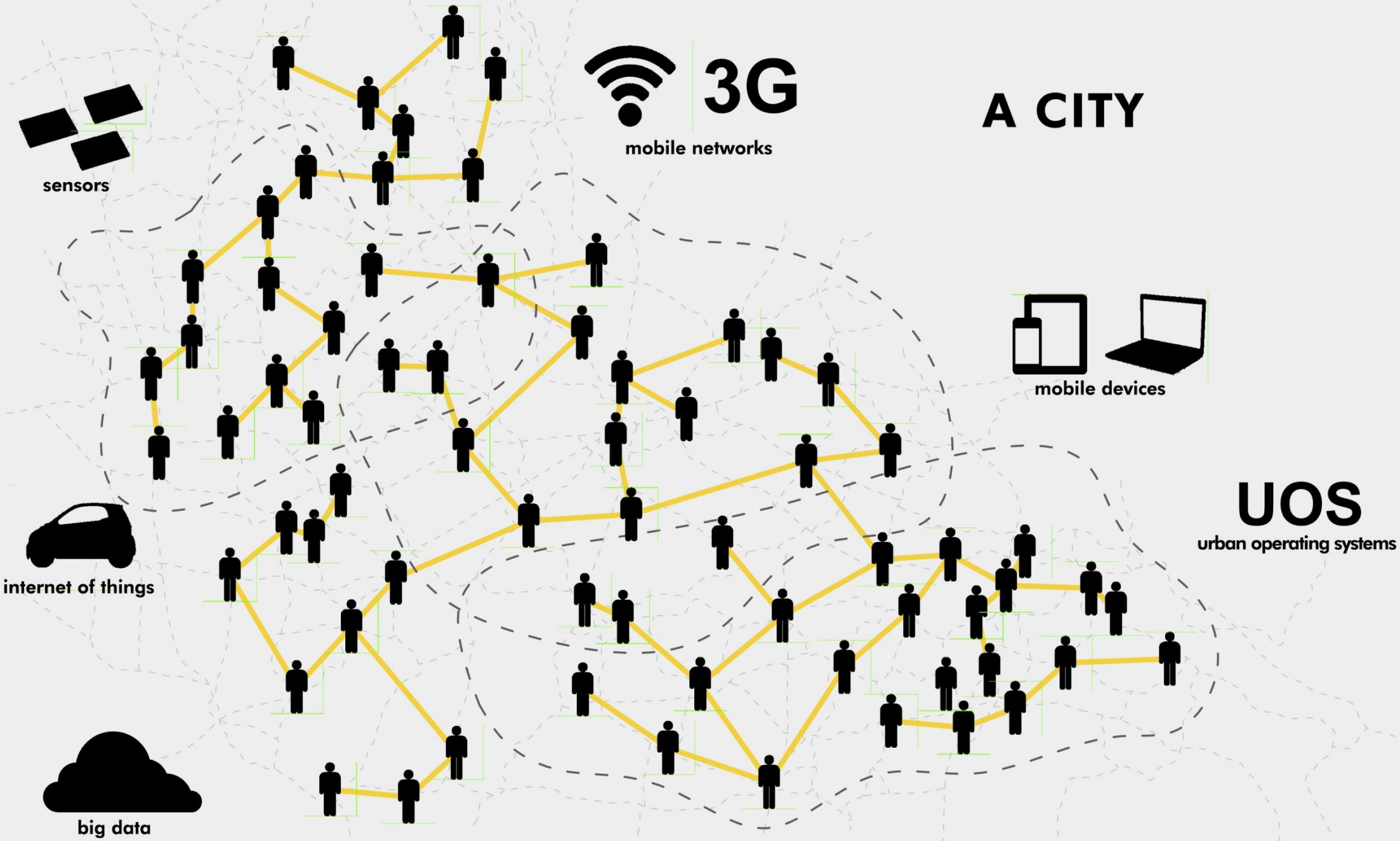


The Italian case

Our definition of the **smart region…**

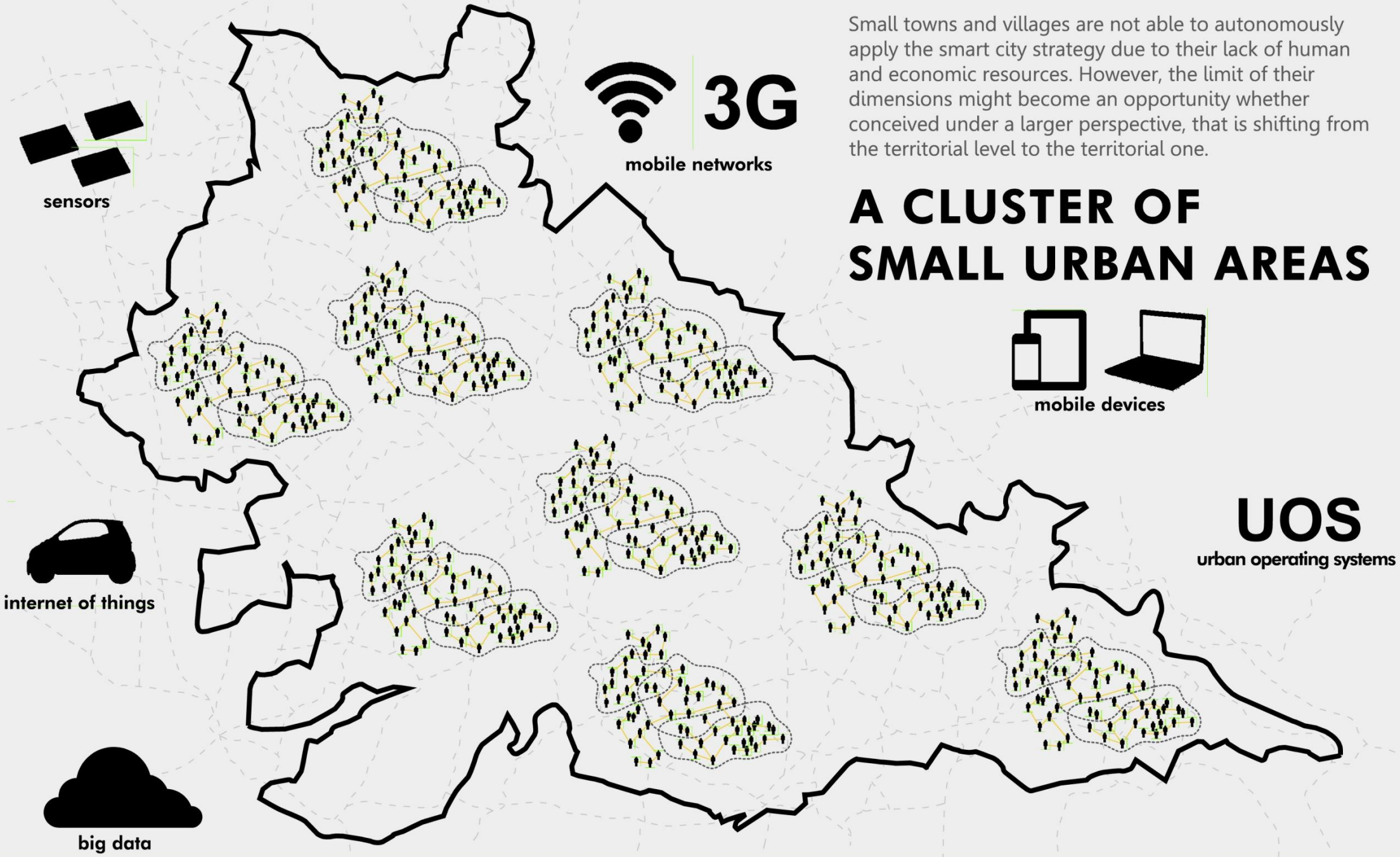
…a cluster of small urban areas which work together in order to frame a diffused smart city, sharing visions, ideas, common goals and resources.

The transition from the **urban level** of the **smart city**...



The smart region

...to the **territorial level** of the **smart region**

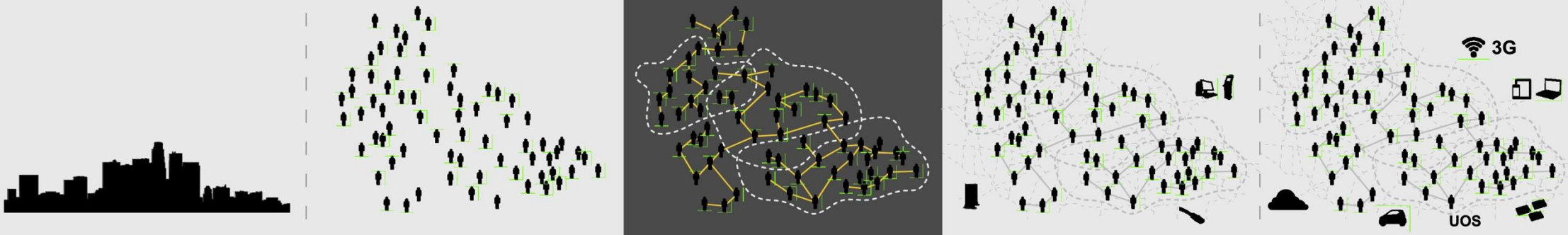


Small towns and villages are not able to autonomously apply the smart city strategy due to their lack of human and economic resources. However, the limit of their dimensions might become an opportunity whether conceived under a larger perspective, that is shifting from the territorial level to the territorial one.

The smart region

The **main issue** for becoming a smart region is not the technology

the capability to collaborate



Layer 0
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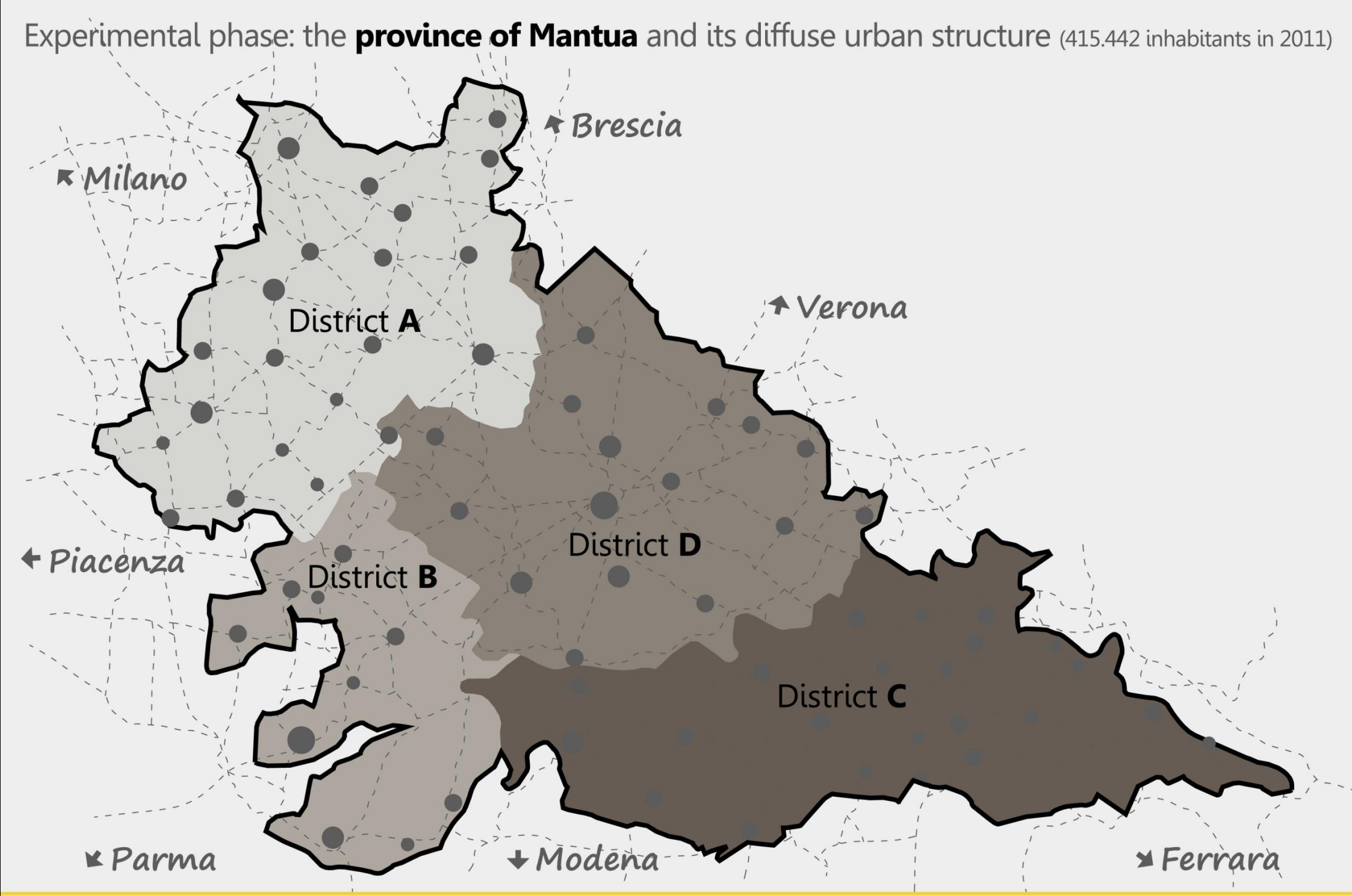
The smart region

The **main issue** for becoming a smart region is not the technology

crossing administrative boundaries

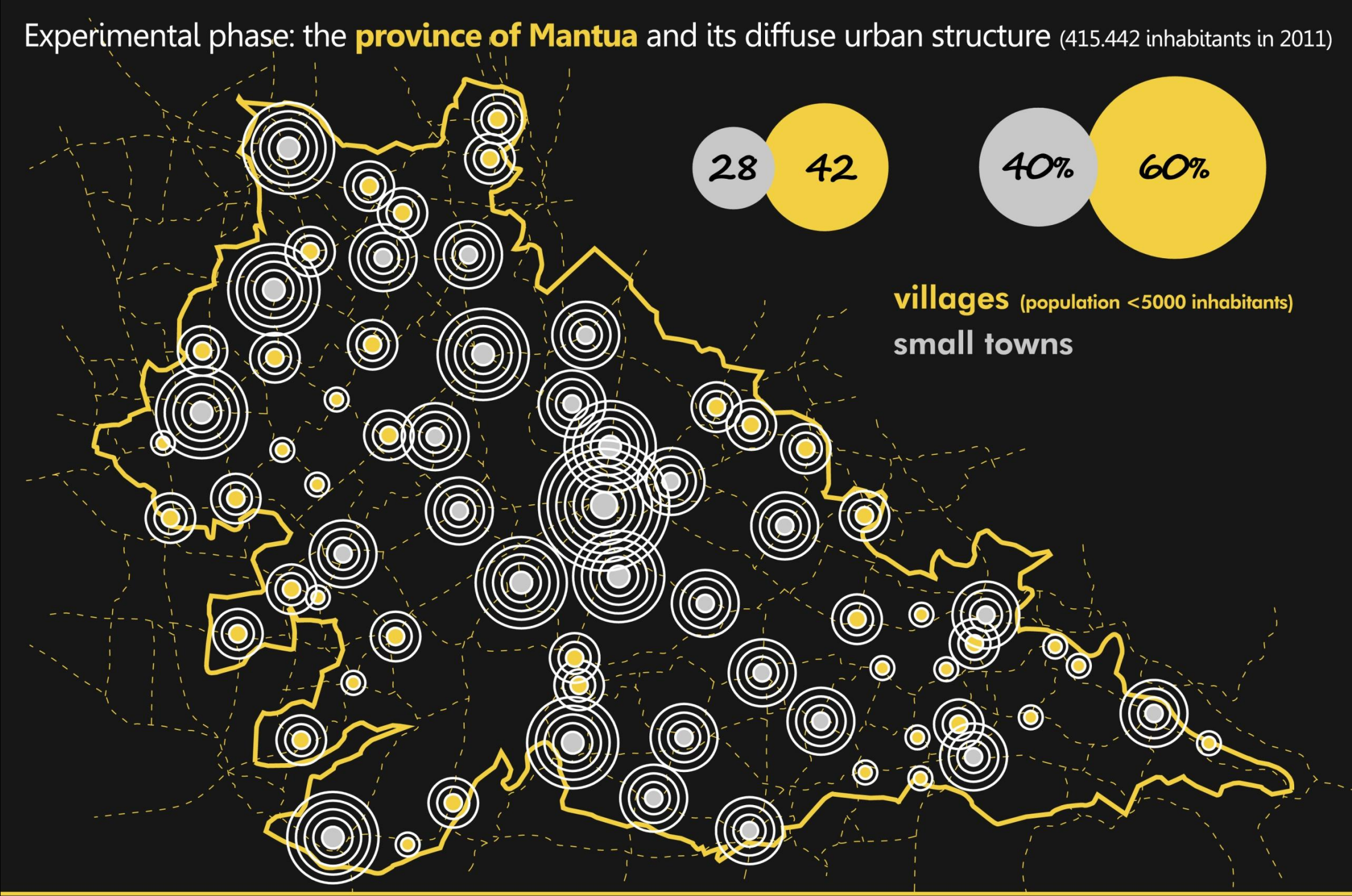
The smart region

Experimental phase: the **province of Mantua** and its diffuse urban structure (415.442 inhabitants in 2011)



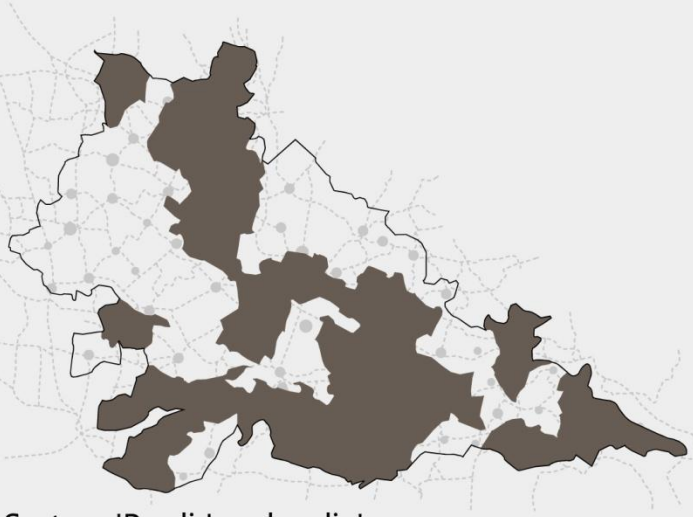
Next steps

Experimental phase: the **province of Mantua** and its diffuse urban structure (415.442 inhabitants in 2011)

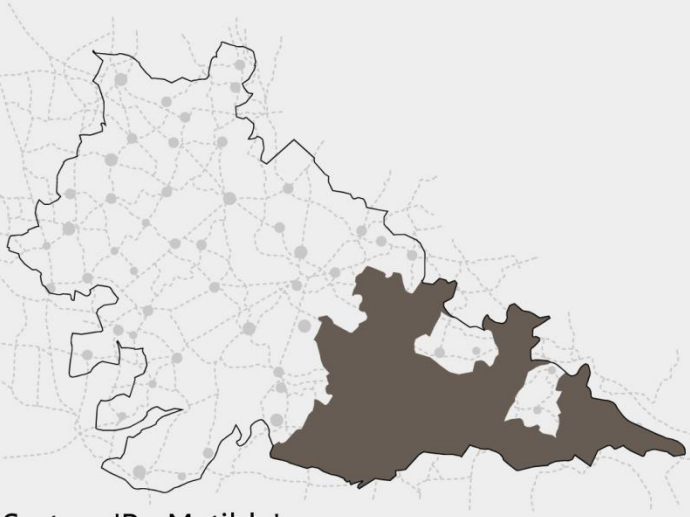


Next steps

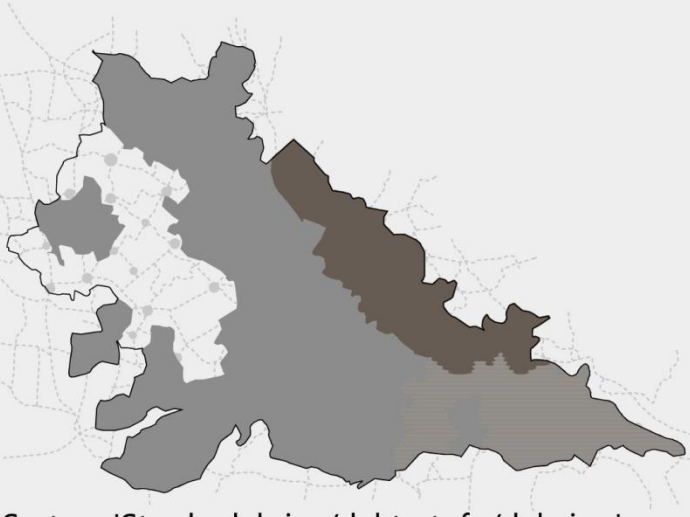
The strong **collaborative capacity** of the Mantuan region (models for territorial cooperation)



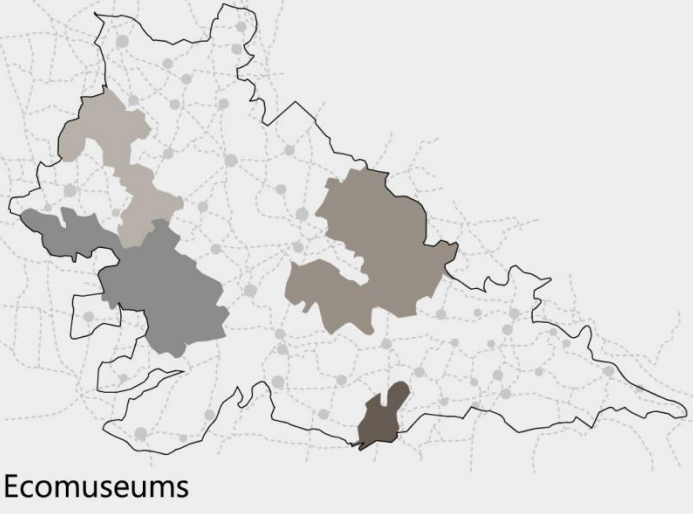
System 'Po di Lombardia'



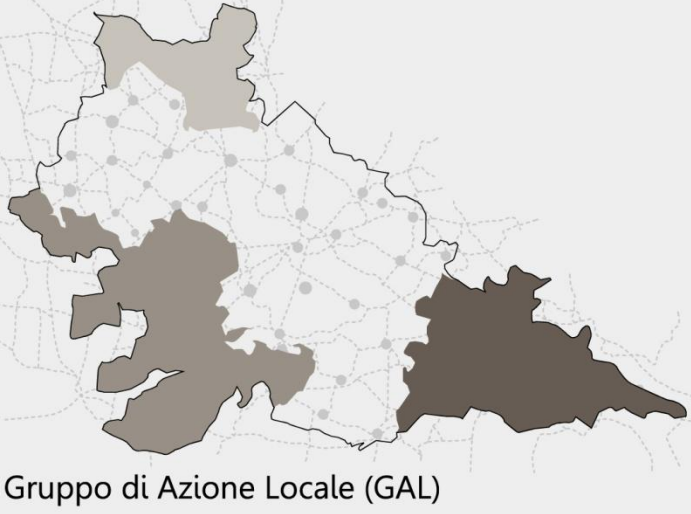
System 'Po Matilde'



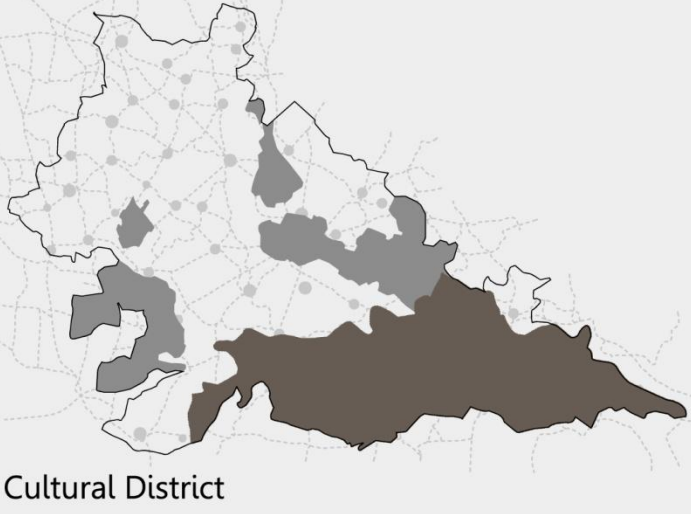
System 'Strada del riso/del tartufo/del vino'



Ecomuseums



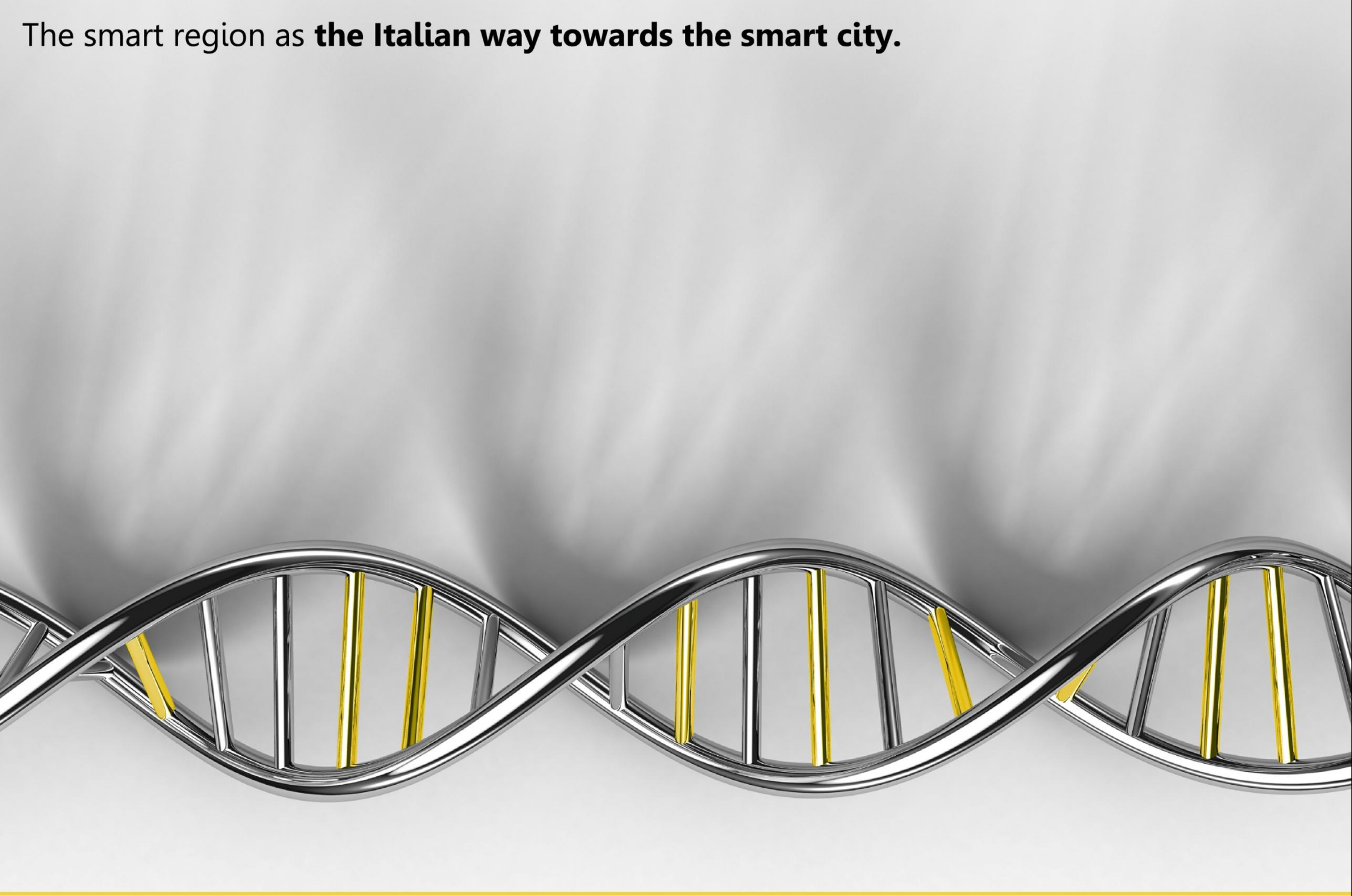
Gruppo di Azione Locale (GAL)



Cultural District

Next steps

The smart region as **the Italian way towards the smart city.**



Conclusion

Thank you for your attention