Mobilising Ecosystems
SMART CITIES

BARCELONA

TOWARDS BARCELONA 5.0: SMART CITY

0

1350

1850

2004

2054

0
BCN 1.0

BCN 2.0

BCN 3.0
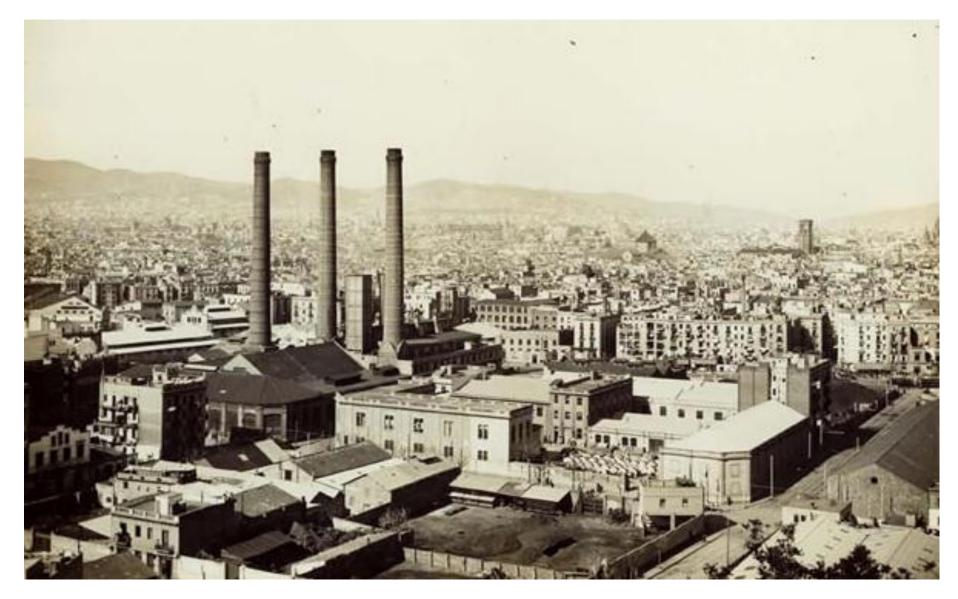
BCN 4.0

ROMANA (15-10 AC)

BARCELONA.

MEDIEVAL (1300 - 1600)

PLAN CERDÀ (1859)

UNIVERSAL EXHIBITION (1888)

INDUSTRIAL REVOLUTION (1900)

INTERNACIONAL EXHIBITION (1929)

OLYMPICS (1992)

FORUM (2004)

10th Smart City of the WORLD

4th Smart City of EUROPE

1. Define the city model "mantra of the city"
2. Analyze the structure of the city and define action plans
3. Rethinking the systems of the city, not just update them
4. Develop the economy of the city services along with the ecosystem
5. Make the city more resilient and promote long-term investment
6. Build a city livable, increase public space for people
7. Change the organization breaking the "silos"
8. Working with other cities and be part of the City Protocol Society
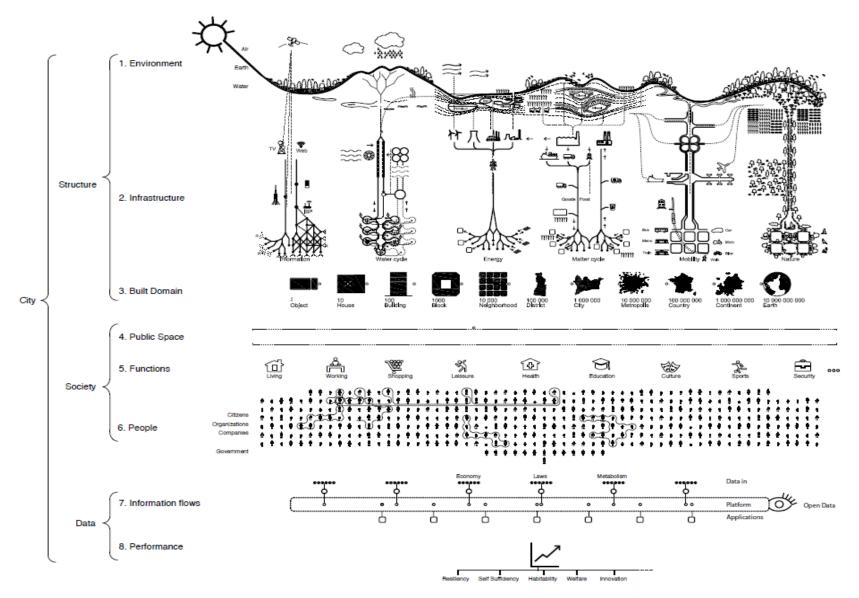
CITY MANTRA

"To **become** a city of **productive neighbourhoods,** at **human speed**, **interconnected**, **eco-efficient**, re-naturalised, **energetically self-sufficient** and **regenerated at zero emissions**, inside a **high-speed interconnected** Metropolitan Area"
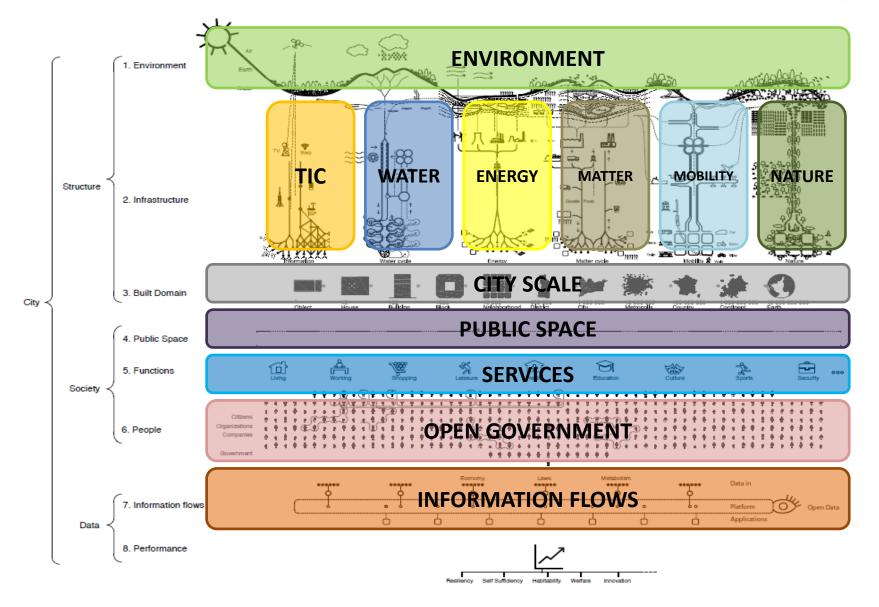
bcn.cat/habitaturba

Ajuntament de Barcelona

CITY ANATOMY

City

Structure
- 1. Environment
- 2. Infrastructure
- 3. Built Domain

Society
- 4. Public Space
- 5. Functions
- 6. People

Data
- 7. Information flows
- 8. Performance

Air
Earth
Water

TV   Web

Information   Water cycle   Energy   Goods Food   Matter cycle   Bus Car Moto Tram Bike   Mobility Walk   Nature

| 1 Object | 10 House | 100 Building | 1000 Block | 10 000 Neighborhood | 100 000 District | 1 000 000 City | 10 000 000 Metropolis | 100 000 000 Country | 1 000 000 000 Continent | 10 000 000 000 Earth |

Living   Working   Shopping   Leissure   Health   Education   Culture   Sports   Security

Citizens
Organizations
Companies
Government

Economy   Laws   Metabolism   Data in

Platform   Open Data

Applications

Resiliency   Self Sufficiency   Habitability   Welfare   Innovation

BARCELONA CONCEPTUAL MODEL

BCN SMART CITY

City

Structure
- 1. Environment — ENVIRONMENT
- 2. Infrastructure — TIC | WATER | ENERGY | MATTER | MOBILITY | NATURE
- 3. Built Domain — CITY SCALE

Society
- 4. Public Space — PUBLIC SPACE
- 5. Functions — SERVICES
- 6. People — OPEN GOVERNMENT

Data
- 7. Information flows — INFORMATION FLOWS
- 8. Performance

SMART LOCAL PROGRAMS 2014

1. Telecom Networks[1]
2. Urban Platform[1]
3. Intelligent Data[1]
4. Smart Lighting
5. Energy self-sufficiency
6. Smart Water
7. Zero emissions mobility
8. Smart Parking & Transportation
9. Urban Tramsformation
10. Intelligent urban furniture
11. Urban resilience
12. Smart Citizens
13. O-Government & efficiency
14. Barcelona in your pocket
15. Optimised waste collection
16. Smart Regulation

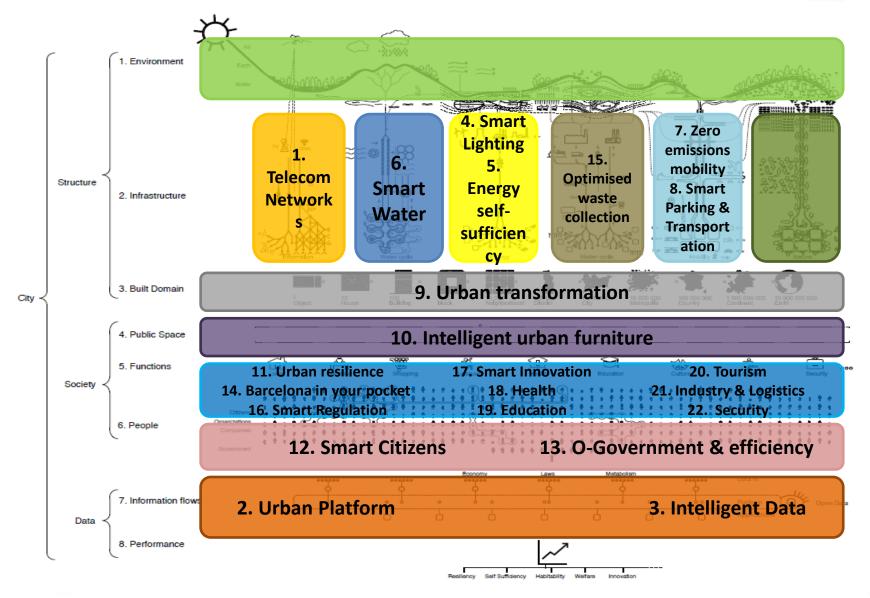17. Smart Innovation
18. Health
19. Education
20. Tourism
21. Industry & Logistics
22. Security

[1] *Transversal programs*

22 PROGRAMS IN 12 CITY AREAS

City	Structure

1. Environment

2. Infrastructure
- 1. Telecom Networks
- 6. Smart Water
- 4. Smart Lighting / 5. Energy self-sufficiency
- 15. Optimised waste collection
- 7. Zero emissions mobility / 8. Smart Parking & Transportation

3. Built Domain
- 9. Urban transformation

Society

4. Public Space
- 10. Intelligent urban furniture

5. Functions
- 11. Urban resilience
- 14. Barcelona in your pocket
- 16. Smart Regulation
- 17. Smart Innovation
- 18. Health
- 19. Education
- 20. Tourism
- 21. Industry & Logistics
- 22. Security

6. People
- 12. Smart Citizens
- 13. O-Government & efficiency

Data

7. Information flows

8. Performance
- 2. Urban Platform
- 3. Intelligent Data

SMART INNOVATION: SMART CITY CAMPUS

Barcelona created **the Smart City Campus**, located in the 22@ innovation district. In order to r strengthen the strategy of the city, urban innovation, Barcelona wants to offer the city a storefront for companies to develop and test pilots.

SMART INNOVATION: SMAT CITY CLUSTER

Launch of a **World Bank office in Barcelona** (technology issues) and a **UN office in Barcelona** for resilience projects in cities.

Barcelona and Hong Kong have launched in HK the **Smart City Campus Barcelona** to favor the landing of Catalan innovative initiatives in Asia. The objective is to promote new business links for companies from both regions, promoting the exchange of business experiences linked to innovation, entrepreneurship, technology transfer and economic growth.

Launch of M-smart city competence center -**Mobile World Capital.**

The **cluster of smart cities**, that will be developed around Smart City Campus, wants to work and to agglutinate diverse sectors like ICT, energy, mobility… for the creation of an ecosystem that integrates not only companies (multinationals and SMEs), but also to institutions, research centres, technology transfer centers, and universities and the academic sector.

SMART INNOVATION: URBAN LAB

Local pilots for a global market

SCIENCE AND TECNOLOGY

CITY, MARKET

COMPANIES, INDUSTRY

Key information:

➢ Started in 2008
➢ 43 pilot proposals
➢ 14 pilots
➢ Environment, Mobility, Telecom,…

Some pilot projects:

• Lighting street poles -Eco Digital- with LED technology
• Electric vehicle charging points
• Electric solar-energy powered bikes
• Traffic control cameras
• Smart measurement of electricity and water
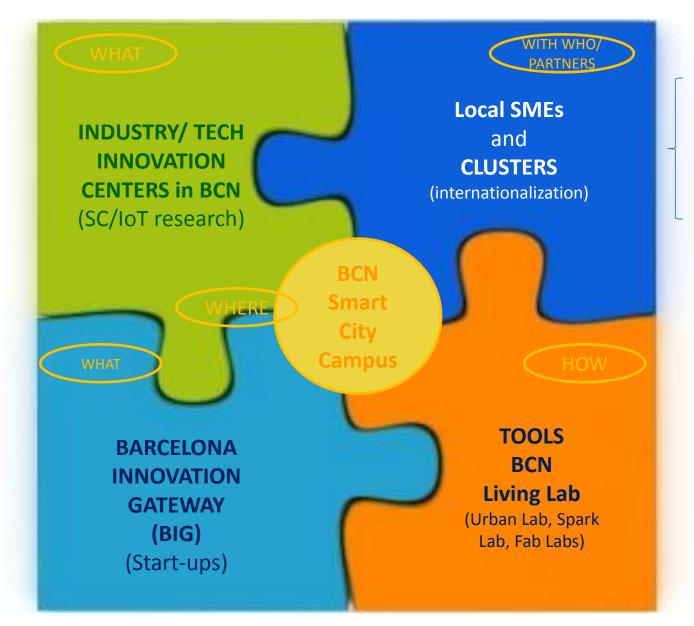• FTTH
• Bike lanes
• Public parking sensors
• Noise sensors

The goals of the **Urban Lab** are to use the city as a laboratory to approach the new solutions to market municipal services, and also, that companies can use it as a space for testing, facilitating market access and promoting competitiveness.

SMART INNOVATION: INNOVATION ECOSYSTEM

Thank you for your assistance!