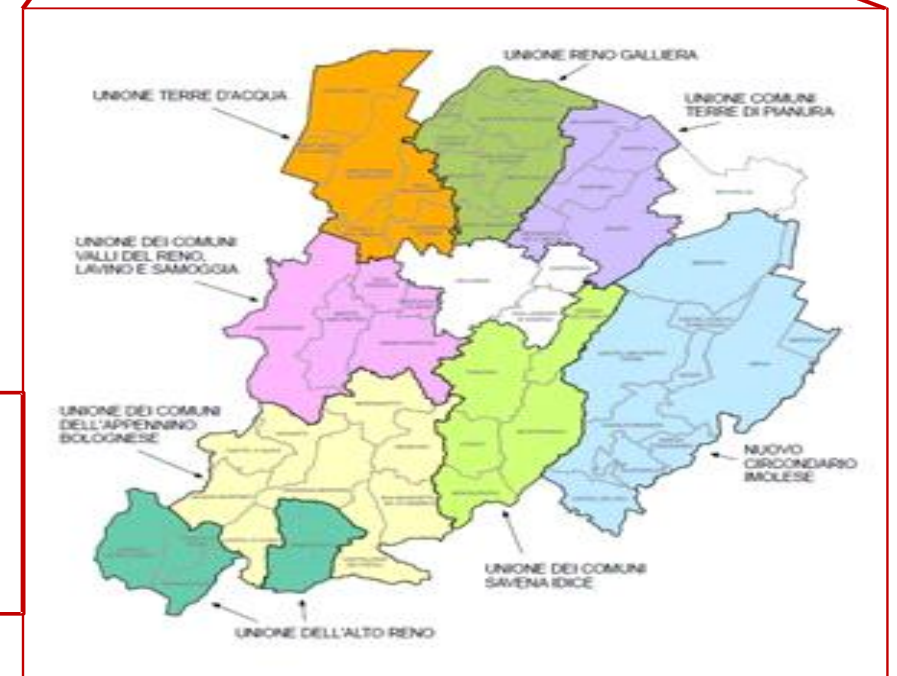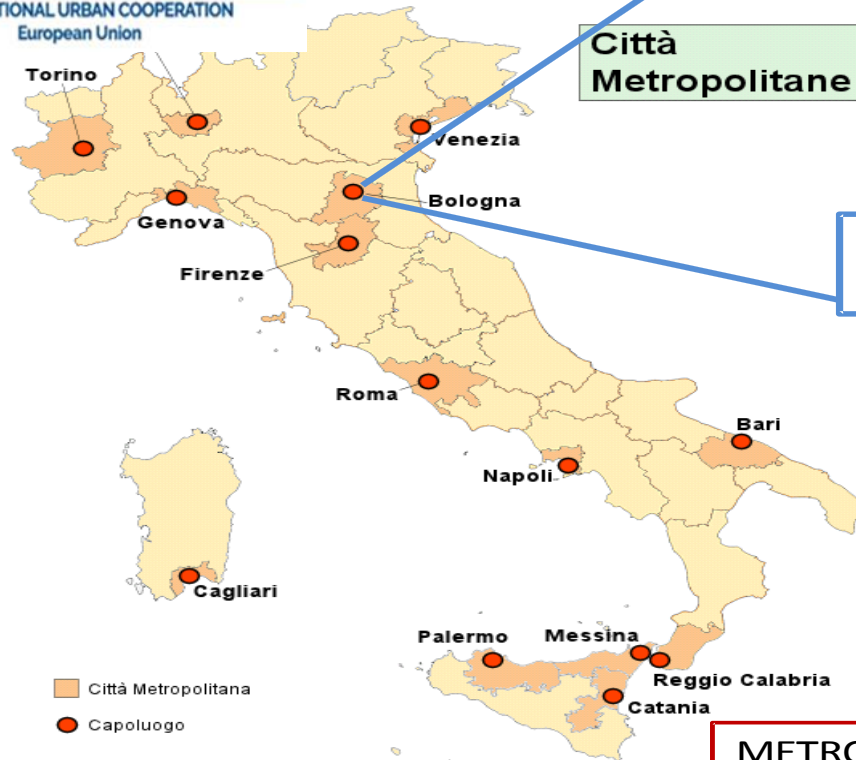# Smart sustainable cities connecting nature, connecting people

25th June 2019 | **Nanjing Tech Week EUCC, High Level Innovation Conference**
Marino Cavallo I Head of Research, innovation and EU projects management I Metropolitan City of Bologna

INTERNATIONAL URBAN COOPERATION
European Union

Città Metropolitane

Torino
Venezia
Bologna
Genova
Firenze
Roma
Bari
Napoli
Cagliari
Palermo   Messina
              Reggio Calabria
Catania

Città Metropolitana
Capoluogo

PIACENZA
PARMA
REGGIO EMILIA
MODENA
FERRARA
BOLOGNA
RAVENNA
FORLI' CESENA
RIMINI

EMILIA-ROMAGNA REGION
-4.457.115 inhabitants

UNIONE TERRE D'ACQUA
UNIONE RENO GALLIERA
UNIONE COMUNI TERRE DI PIANURA
UNIONE DEI COMUNI VALLI DEL RENO, LAVINO E SAMOGGIA
UNIONE DEI COMUNI DELL'APPENNINO BOLOGNESE
UNIONE DEI COMUNI SAVENA IDICE
NUOVO CIRCONDARIO IMOLESE
UNIONE DELL'ALTO RENO

METROPOLITAN CITY OF
BOLOGNA
- 1 M inhabitants
- 8 Unions of Municipalities
- 55 Municipalities

vocations

consolidated sectors

- MOTOR INDUSTRY
- AUTOMATIC MACHINERY
- ELECTRONICS
- AGRO-FOOD
- FASHION

emerging sectors
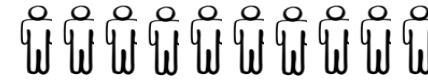
- LOGISTICS
- HEALTH
- CULTURE AND CREATIVITY
- VALUE-ADDED SERVICES

BolognaSystem

E-R 424,000 companies, mostly SMEs

1 firm

10 inhabitants

of which about 50,000 in the manufacturing sector

https://youtu.be/6kzt0B9HVm0

ICITY RATE 2018 – the ranking of the Italian Smart Cities

Icity Rate is the annual report on the Italian cities developments towards citizens needs, more inclusive and livable environment.

5 indicators on **ENVIRONMENT, FUNCTIONAL SERVICES, ECONOMY, SOCIETY AND GOVERNANCE**:

107 specific indicators and 107 cities analyzed, 15 indexes on sustainability

ENVIRONMENT	FUNCTIONAL SERVICES	ECONOMY	SOCIETY	GOVERNANCE
• Air and water	• Waste	• Economic strenght	• Social inclusion	• Participation
• Urban green	• Energy	• Employment	• Education	• Safety and legality
• Soil and territory	• Sustainable mobility	• Research and innovation	• Tourist andcultural attractiveness	• Digital transformation

ICITY RATE 2018 – the ranking of the Italian Smart Cities

Bologna first for

PARTICIPATION

EMPLOYMENT

ECONOMIC STRENGHT

POSIZIONI NELLE GRADUATORIE ICR 2018 DELLE TRE CITTÀ LEADER

| AMBITI	MEDIA TOP 3	CITTÀ		
		Milano	Firenze	Bologna
RANKING TOTALE 2018	2,0	1	2	3
TRASFORMAZIONE DIGITALE	2,0	3	1	2
OCCUPAZIONE	2,3	2	4	1
ISTRUZIONE	3,0	4	3	2
ATTRATTIVITÀ TURISTICO-CULTURALE	4,0	2	1	9
PARTECIPAZIONE CIVILE	4,3	7	5	1
MOBILITÀ SOSTENIBILE	5,0	1	2	12
SOLIDITÀ ECONOMICA	5,0	1	3	11
ENERGIA	5,7	10	6	1
RICERCA E INNOVAZIONE	13,0	1	35	3
INCLUSIONE SOCIALE	15,0	30	12	3
VERDE URBANO	16,7	15	21	14
SICUREZZA E LEGALITÀ	43,0	42	30	57
RIFIUTI	44,7	47	53	34
SUOLO E TERRITORIO	48,3	76	36	33
ACQUA E ARIA	76,7	96	79	55

Cities and Smart Sustainable Cities

An ICT enabling
Environment for cities,
UN Habitat, 2015
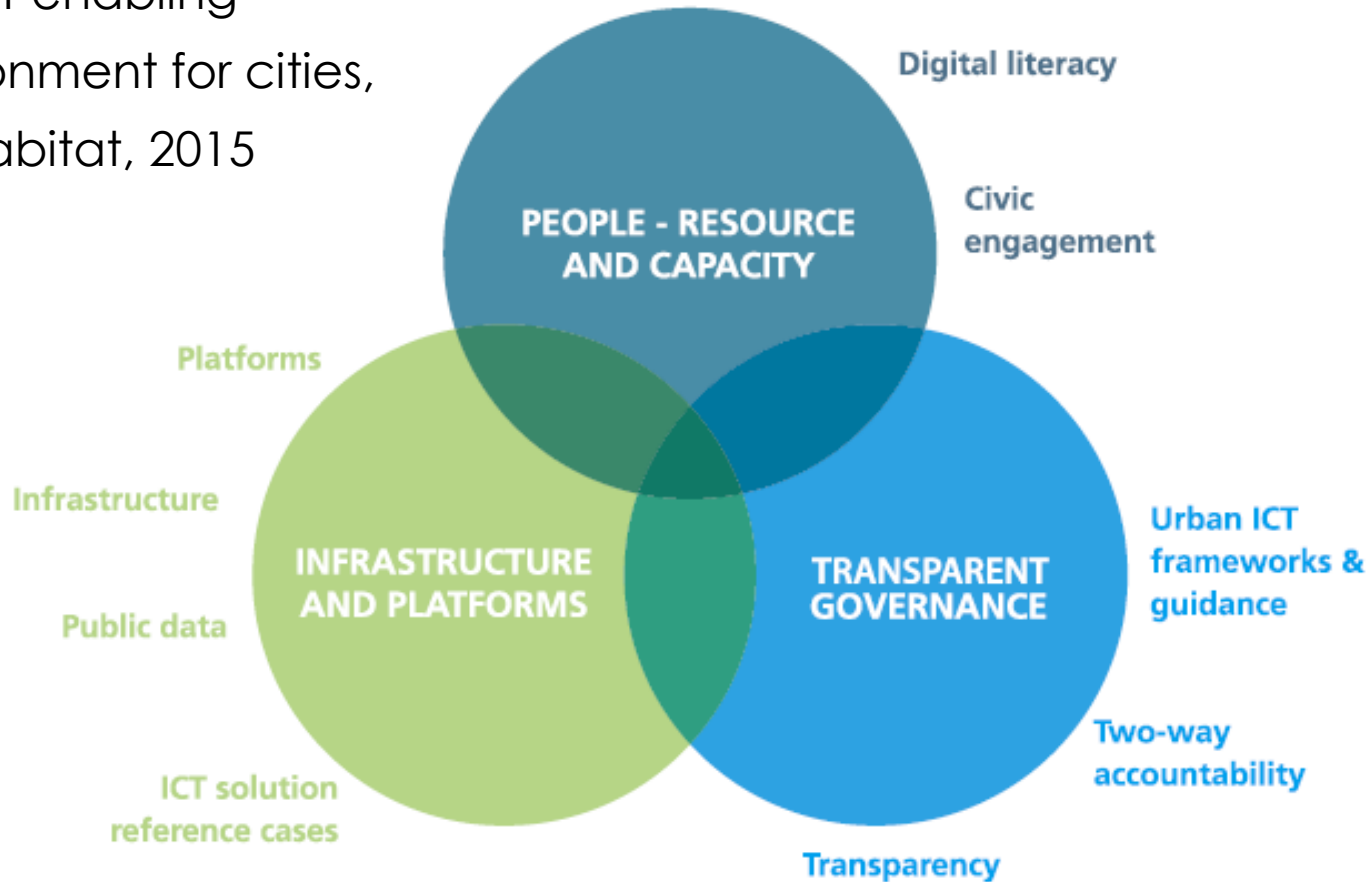
Cities and Smart Sustainable Cities

Smart Sustainable
Cycle, UN Habitat,
2015
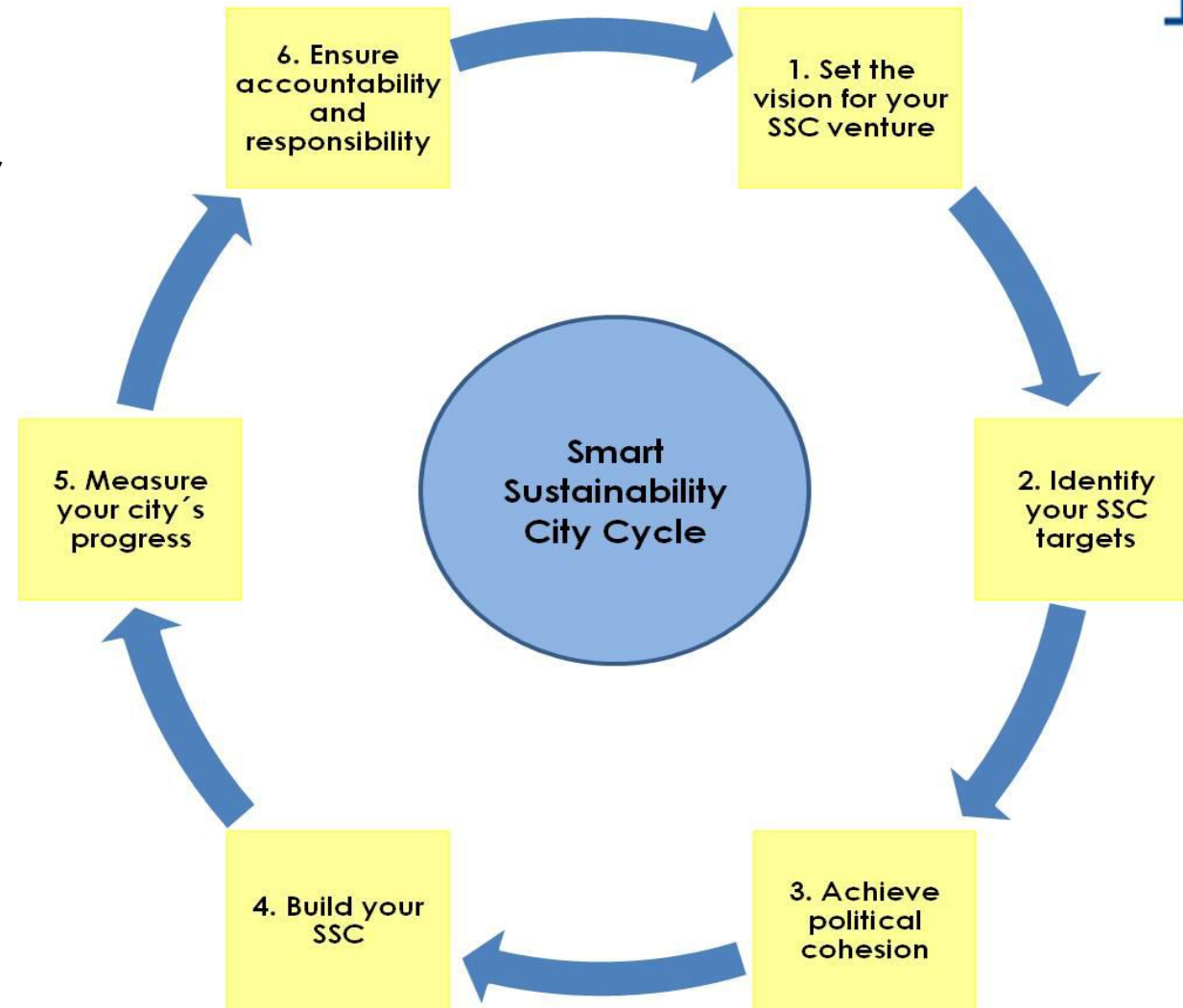
Cities and Smart Sustainable Cities

Fields of a Smart City:

INNOVATION, ENTREPRENEURSHIP AND THE GENERATION OF ECONOMIC ACTIVITY

SMART SPECIALISATION

PROMOTION AND SUPPORT OF ENTREPRENEURSHIP

PROMOTION OF R&D AND INNOVATION

CLUSTERING. COLLABORATION

WITH THE LOCAL BUSINESS FABRIC

ATTRACTING INVESTMENTS

POSITIONING OF THE TERRITORY

KNOWLEDGE AND TALENT

QUALITY BASIC EDUCATION

QUALITY UNIVERSITY

LIFELONG LEARNING

ATTRACTING TALENT

RETENTION AND RETURN

OF TALENT

DIGITAL SOCIETY AND ECONOMY

DIGITAL CITIZENSHIP

ADMINISTRATION 4.0.

DEVELOPMENT OF THE DIGITAL ECONOMY

DIGITAL INFRASTRUCTURE

A city can be defined as smart when it displays positive performance in these three fields, and when it has been built based on a "smart" combination of elements (communications, infrastructure, economic development) and on purposeful and independent citizen activities (participation, education) that make sound management of the available resources through open governance.   [Smart city studies, Bilbao, UCLG 2017]

Cities and Smart Sustainable Cities

The emerging areas we are working (and preparing IUC Action Plan)

Circular economy and Nature Based Solutions

Cultural and Creative Industries & Cities & Territories

E-services, Design thinking and City Smart Services:

market design and marketplace
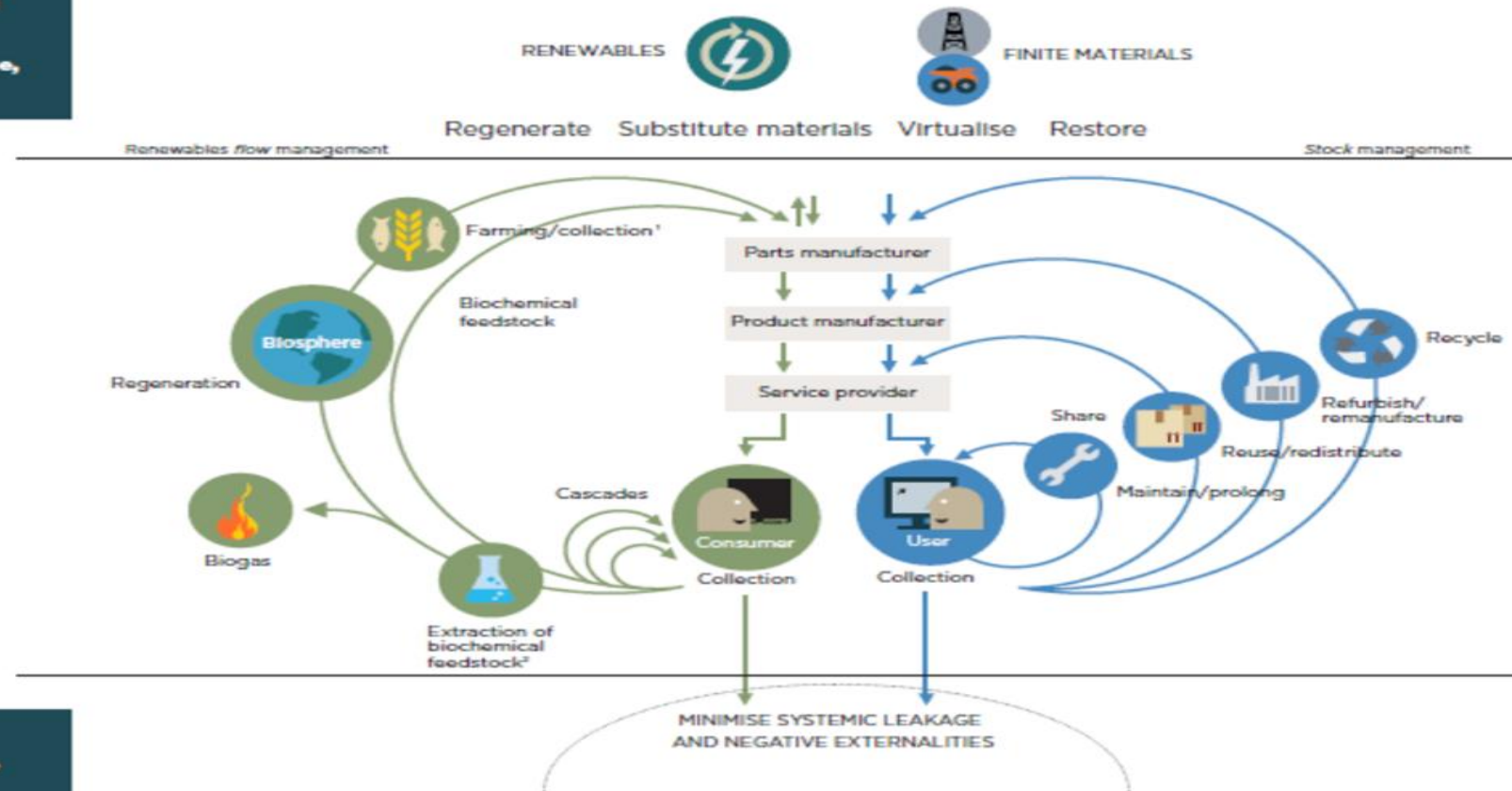
(AI, Data Mining, Open Data, IoT)

Connecting Nature

Cities and Smart Sustainable Cities

Circular economy

NBS: more than environmental benefits

URBAN AND PERI-URBAN AGRICULTURE:

## a nature-based solution for the city

Urban and peri-urban agriculture plays a key role in:

• ensuring **safe food** in urban areas;

• improving air quality, reducing urban warming and **enhancing urban biodiversity**;

• contributing to **natural resource management**;

• being a **sustainable way** to produce, consume and do business;

• getting back to the **proximity between city and Nature**, between city and agriculture, between city and food.

METROPOLITAN AGRICULTURE and nature-based solutions

a lever for reinforcing social fabric, urban-rural links, cultural heritage and social inclusion

Social Cohesion & Relations
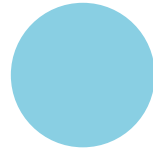
As "Green Square", NBS could be green spaces with recreational activities enhancing the quality of life in the neighborhoods and revitalizing the area.

Sustainable and responsible economic models
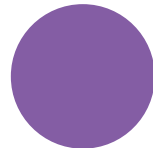
NBS can be collaborative spaces where private actors, public bodies and civil society successfully coexist, building community and agrifood initiatives.

Connections and sustainable mobility
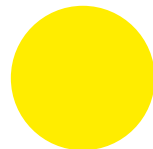
Green spaces with green infrastructures able to connect and regenerate places, more specifically in the neighborhooud

Design thinking, industries, packaging and creativity

- To create a linkage between smart cities, smart specializations and start up for youth good employment. Some cases in Italy:

- Food

Furniture

PIQUADRO
tech inside
ENGINEERED FOR BUSINESS

- Fashion

Design thinking, cities, districts and creativity

- The creatives industries: a drive to develop social economy and new business and start up

- Museum quartier Vienna

- Tallin Telliskivi and Creative Hub

- Design District Helsinki

DAMS Lab inside "MANIFATTURA DELLE ARTI" area

In the nineteenth century (until the end of the 1800s) the area was the port of the city, the mercantile and manufacturing heart of the Bolognese economy:

- Area of 100,000 square meters
- Spaces within the "Manifattura delle Arti" area
- Cineteca di Bologna (formerly Manifattura Tabacchi)
- Residential space (Castellaccio)
- Unibo Department of Philosophy and Communication (former Mulino paper mill)
- Museum of Modern Art (formerly Forno del Pane)
- Arts Laboratories (DAMS Lab)
- Circolo Il Cassero
- And also a park, a school and a kindergarten

URBAN REGENERATION MIX

The challenges

- Making the area more attractive for new inhabitants, increasing cultural and creative opportunities, working on spaces and potential capital.

- Stimulate greater collaboration between cultural institutions, the public-private, young people, students, the inhabitants of the city center. Promoting entrepreneurship and creative work.

- Develop greater opportunities in terms of social inclusion and innovation, to reduce the distances between citizens, city users, inhabitants, students, associations and neighborhood associations.

Cities and Smart Sustainable Cities

E-Services, Design thinking and creativity

- E-services and design are becoming a driver of the innovation of the cities
- Co-design is a tools for the urban regeneration of the smart cities
- **Eco-Tech_Design HUB**
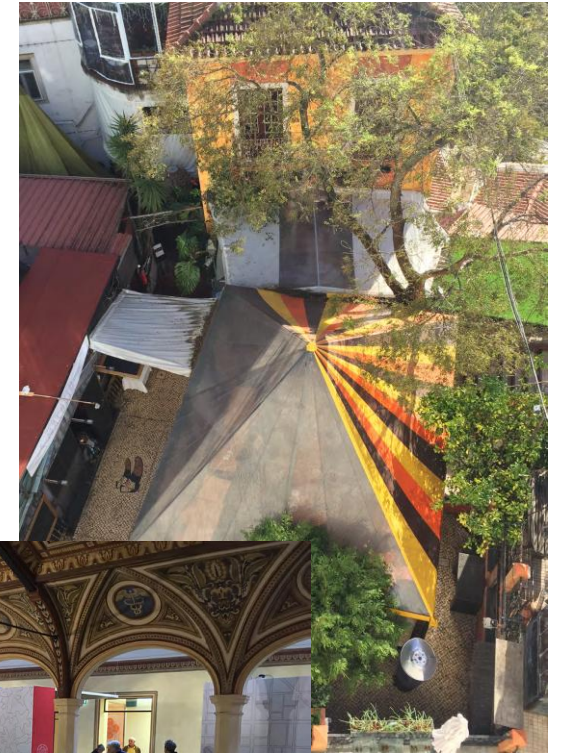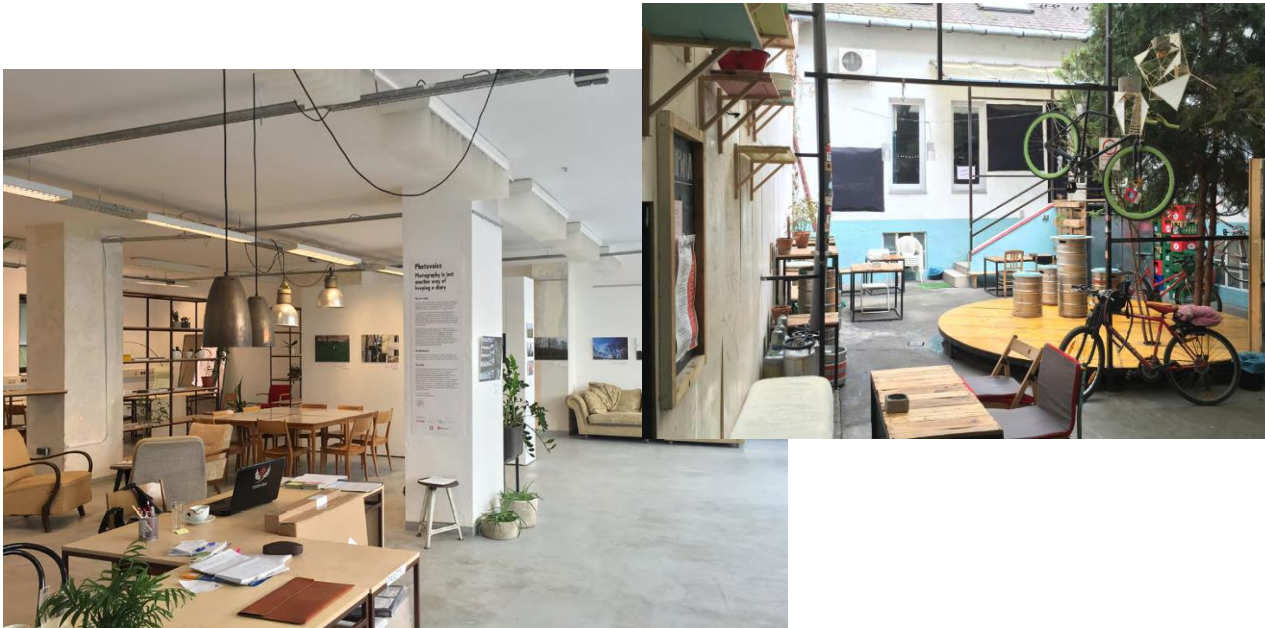
E-Services, Design thinking Culture and creativity in the Cities

- Eco-Tech_Design Joint HUB

- **URBAN ART PERFORMING & DESIGN FOR CITIES REGENERATION**

Thank you for your attention

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