

Lecture 3

The Future of Cities Opportunities, challenges and the way forward

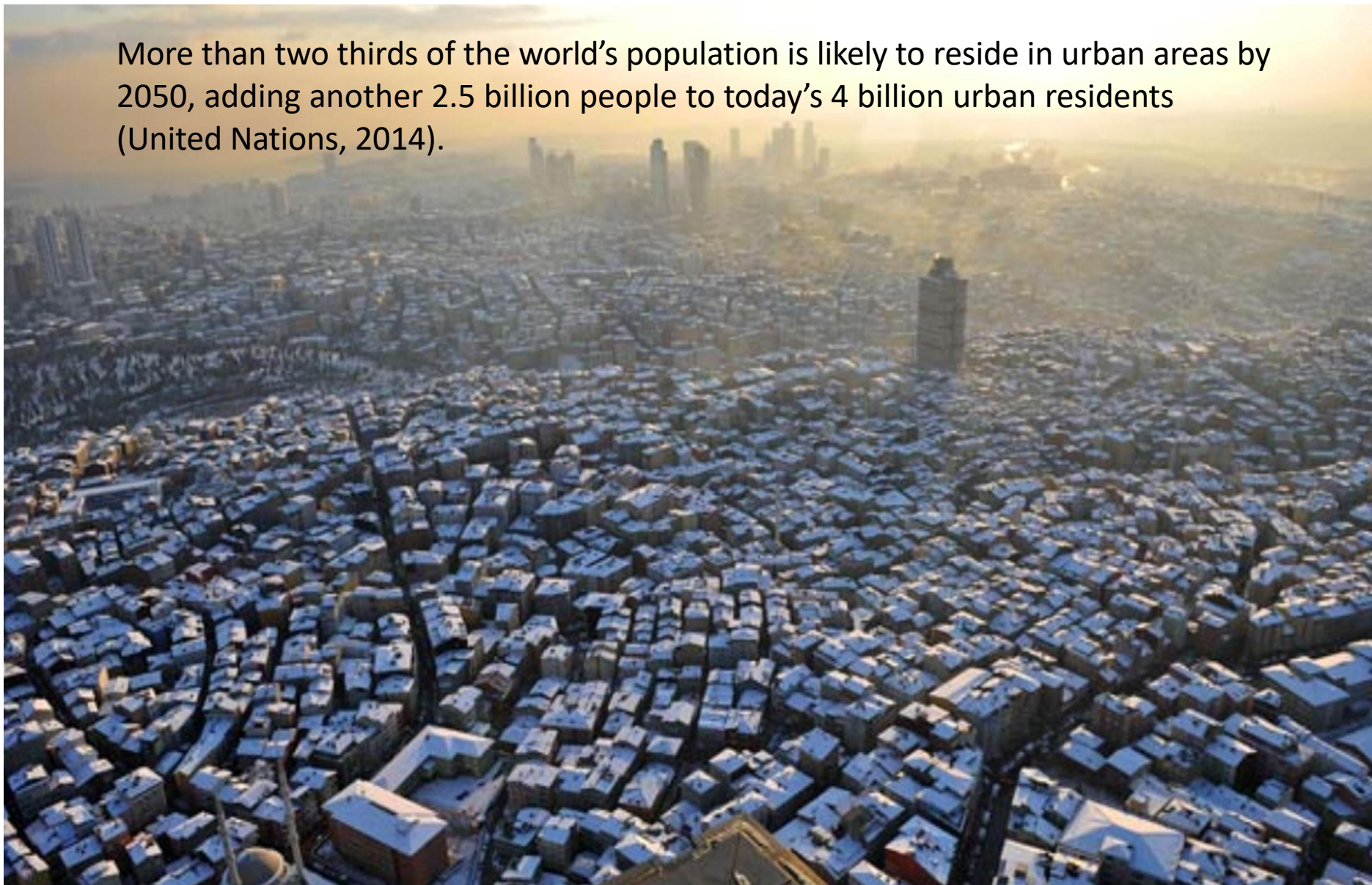
Speaker: Dr. ir. Ceren Sezer

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RWTH Aachen University Chair of Urban Design

05.09.2022

More than two thirds of the world's population is likely to reside in urban areas by 2050, adding another 2.5 billion people to today's 4 billion urban residents (United Nations, 2014).



Challenges:

Integrity of critical ecological systems;
Addressing climate change;
Promoting economic productivity;
Social inclusion.

Cities has seen as the nexus of sustainability, development and planning problems.

(Klopp, M.J. and Petretta, D.L., 2017)

Cities as drivers of sustainable development and global environmental change.

Cities can alter urban metabolisms through...

Efficient service provision;

Energy and land-use;

Recycling;

Green Technologies;

Smart land-use

Transportation Planning.

Cities as drivers of sustainable development and global environmental change.

(Klopp, M.J. and Petretta, D.L., 2017)

New Urban Agenda (Habitat III, 2016)

Urban Sustainable Development Goal (USDG) or Sustainable Development Goal (SDG 11 or Global Goal 11) is about Sustainable cities and communities. The SDG 11 is to “Make cities Inclusive, safe, resilience and sustainable”. (UNDP, 2015:23).

Trends /

Affordable housing

Mobility

Provision of service

Ageing

Urban Health

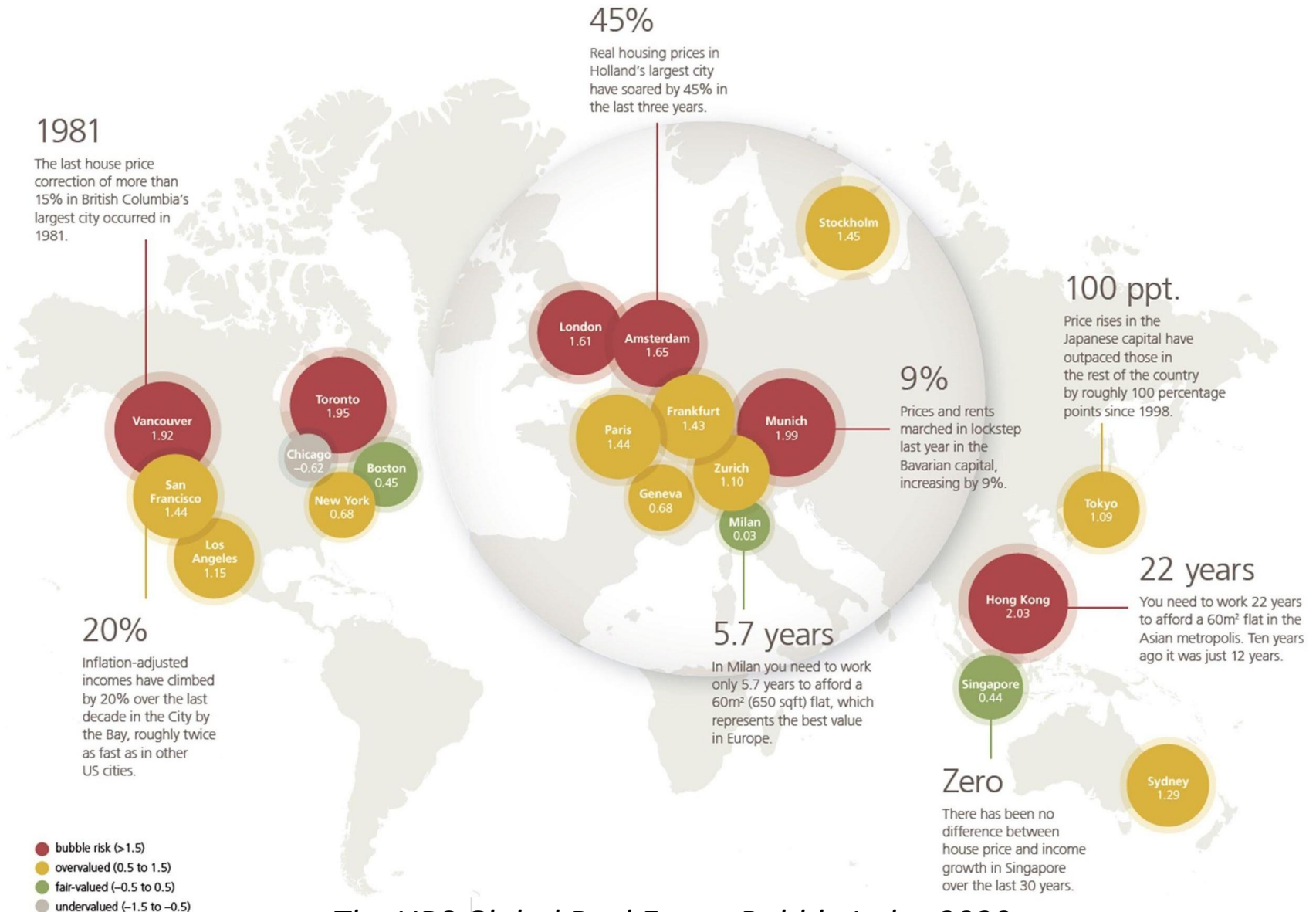
Social segregation

Environmental footprint and climate change

Trends / Affordable housing

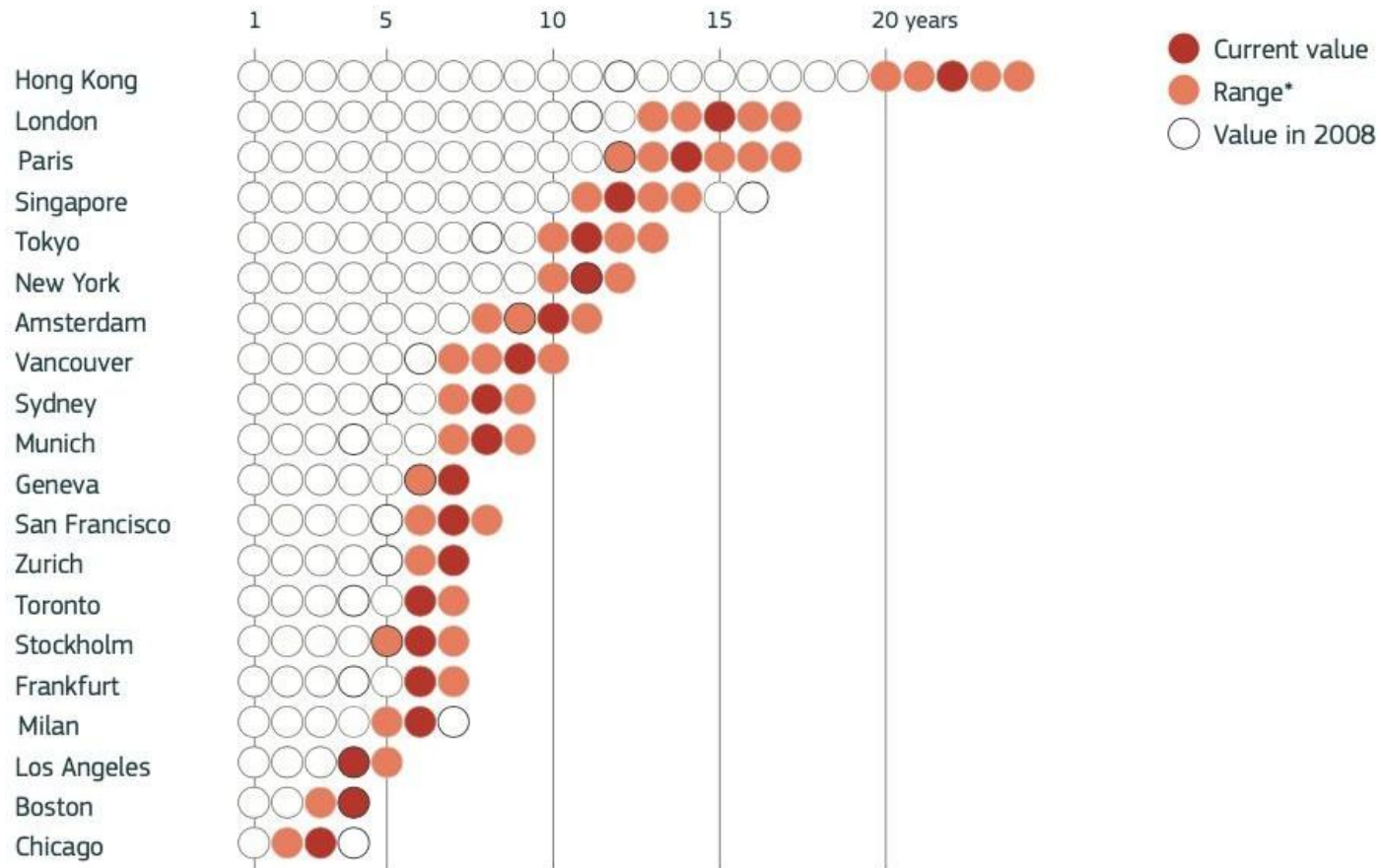


Trends / Affordable housing



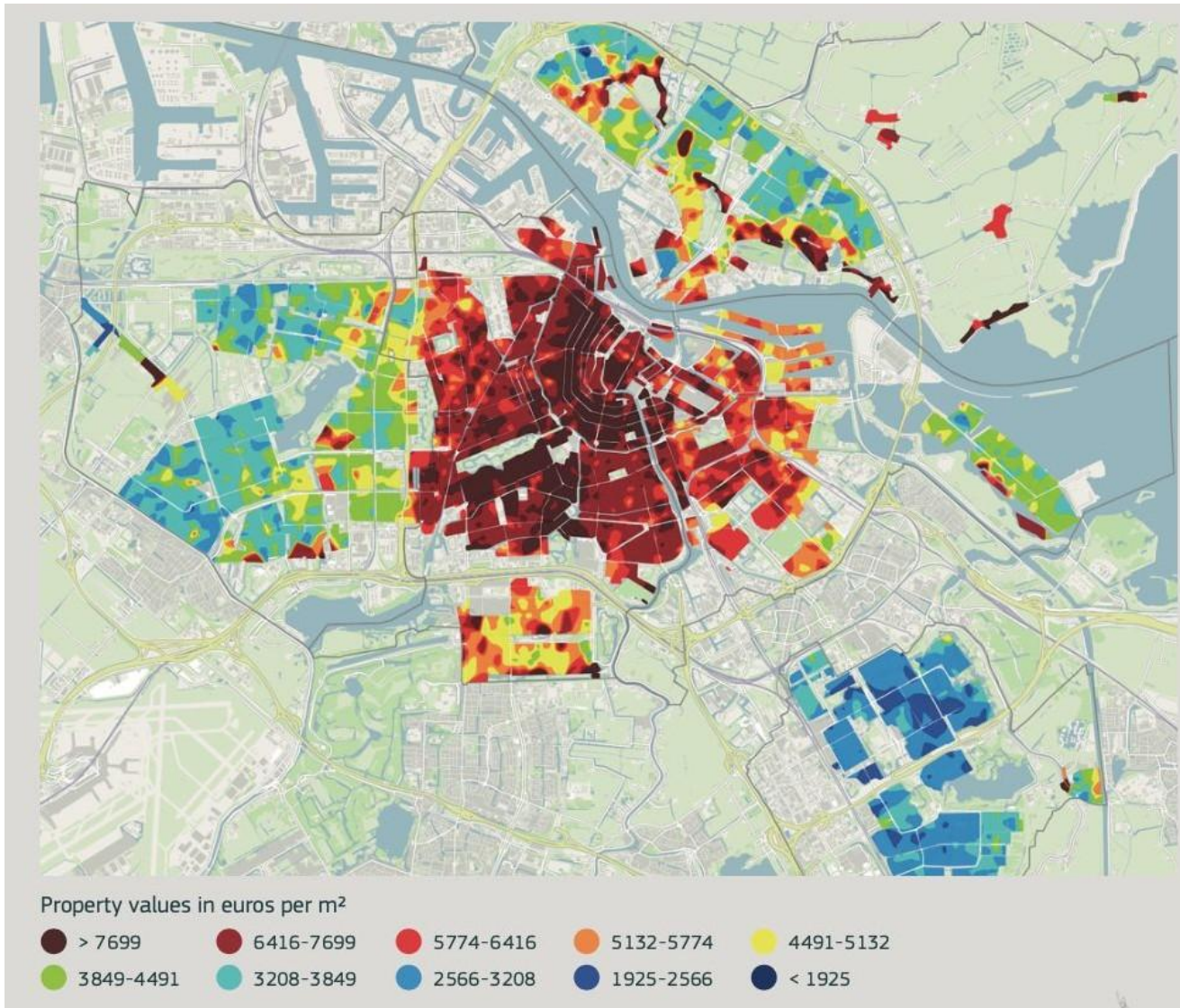
The UBS Global Real Estate Bubble Index 2020

Trends / Affordable housing



The number of years a skilled worker needs to work to be able to buy a 60m2 apartment near the city center, source: UBS , 2018

Trends / Affordable housing / Case of Amsterdam



Property values in Amsterdam in 2019 in euros per m²

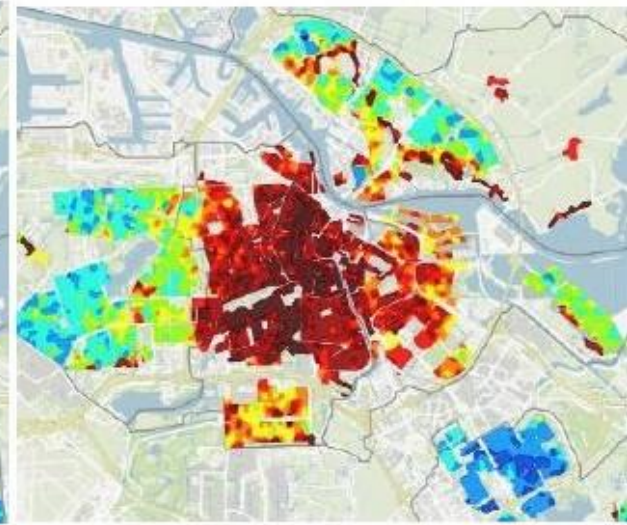
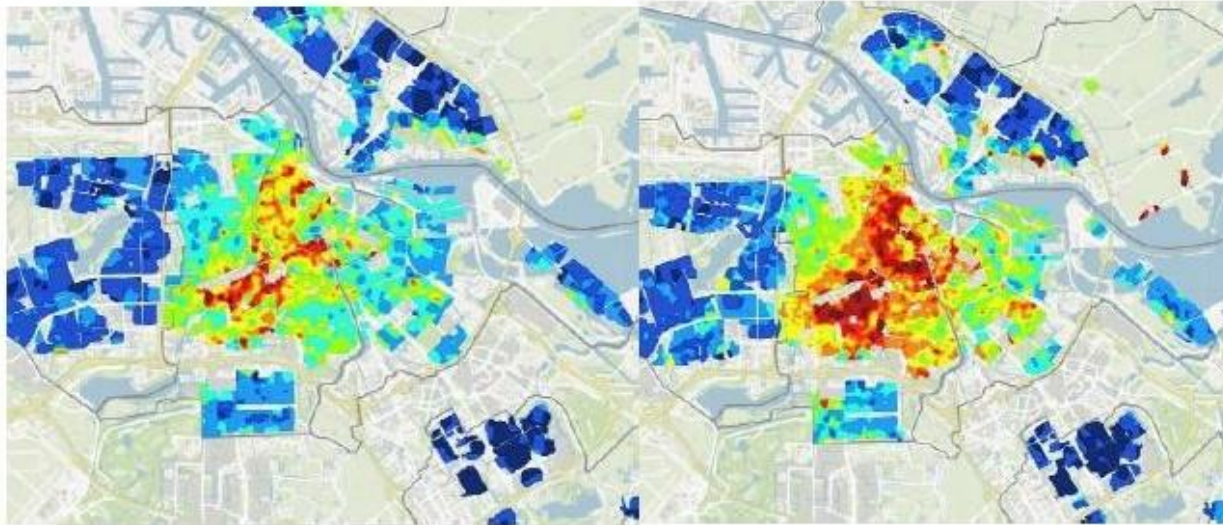
Source: City of Amsterdam, [maps.Amsterdam.nl](https://maps.amsterdam.nl)

Trends / Affordable housing / Case of Amsterdam

2013

2015

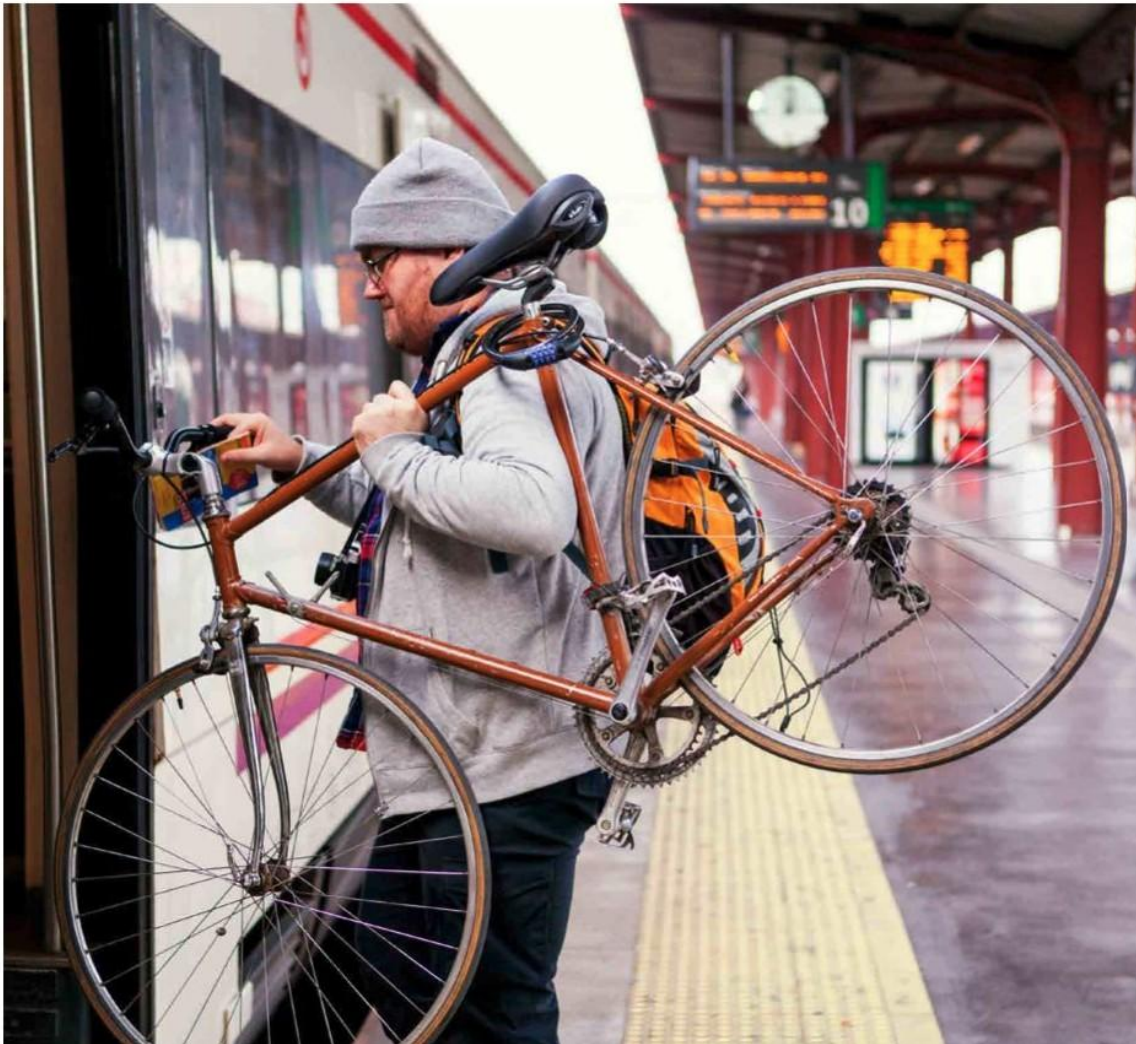
2018



✓ Woningwaarde in euro/m²

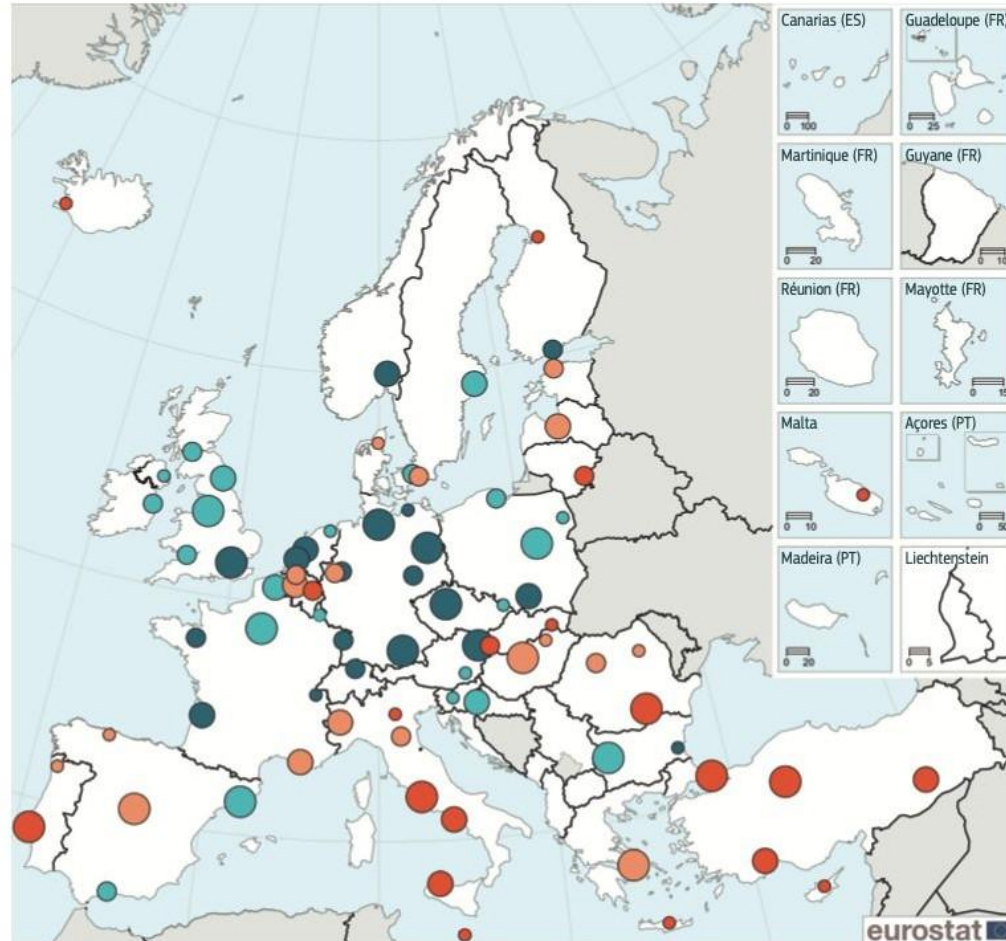


Trends / Mobility



- *Mobility in cities will change the most as a result of technological innovation and behaviors changes;*
- *Decrease of private cars, combination of multiple modes of transport;*
- *New legislation and governance to ensure transport modes*
- *Autonomous electric vehicles – reduction of air pollution, negative socio-economic consequences for existing professions.*

Trends / Mobility



People satisfied
with public transport (%)

- <61
- 61- <73
- 73- <82
- ≥82

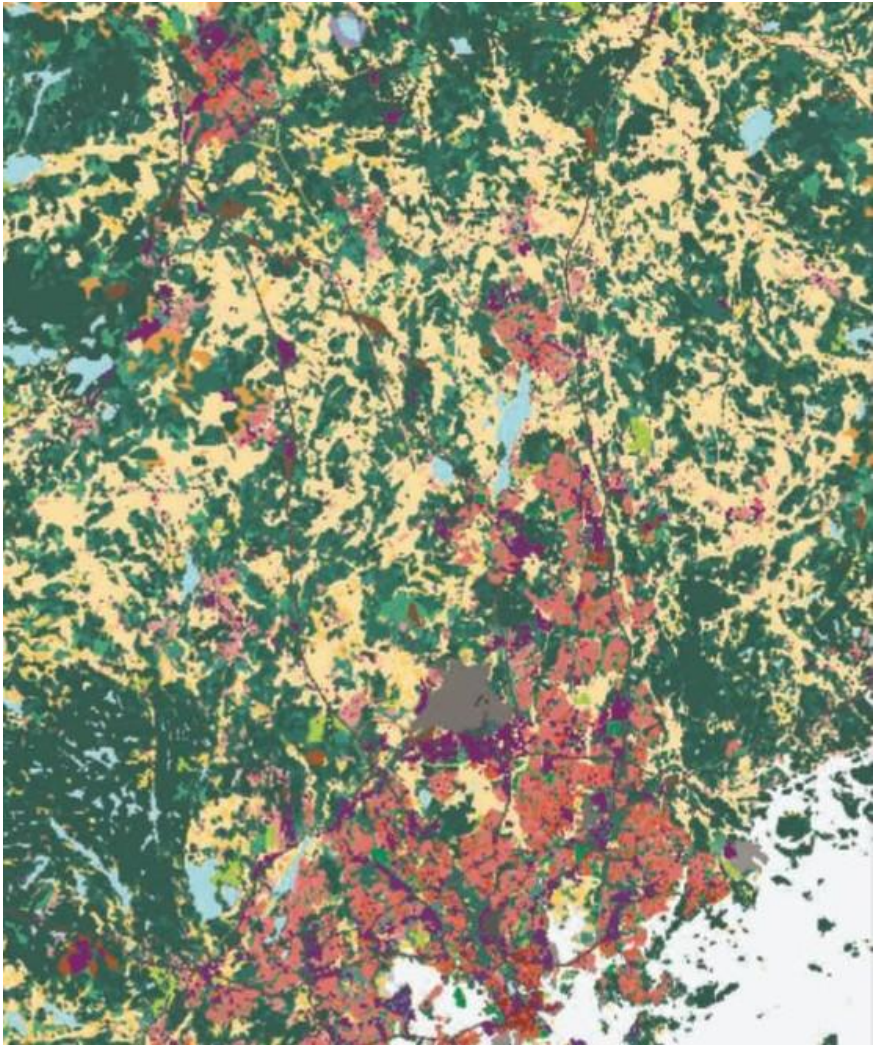
Population
(persons)

- < 300 000
- 300 000 - < 600 000
- 600 000 - < 1 200 000
- ≥ 1 200 000

Administrative boundaries: © EuroGeographics © UN_FAO © Turkstat
Cartography: Eurostat – GISCO, 03/2016



Trends / Mobility



Case: Helsinki plans to implement a revolutionary mobility-on-demand system that will make car ownership unnecessary by 2025. Citizens will be provided with different mobility options that are easy to use, cheap, flexible, and well coordinated to discourage private car ownership.

Integration of automated vehicles, shared bikes, buses and ferries...

Trends / Mobility

APPROACH - ADDITIONAL STRATEGIES



27

Introduction | Theoretical Framework | Methodology | Analysis | Vision | **Approach** | Conclusion | Outlook

APPROACH - DISTRIBUTIVE JUSTICE

Where can unjust distributions be detected? Where are missing connections?

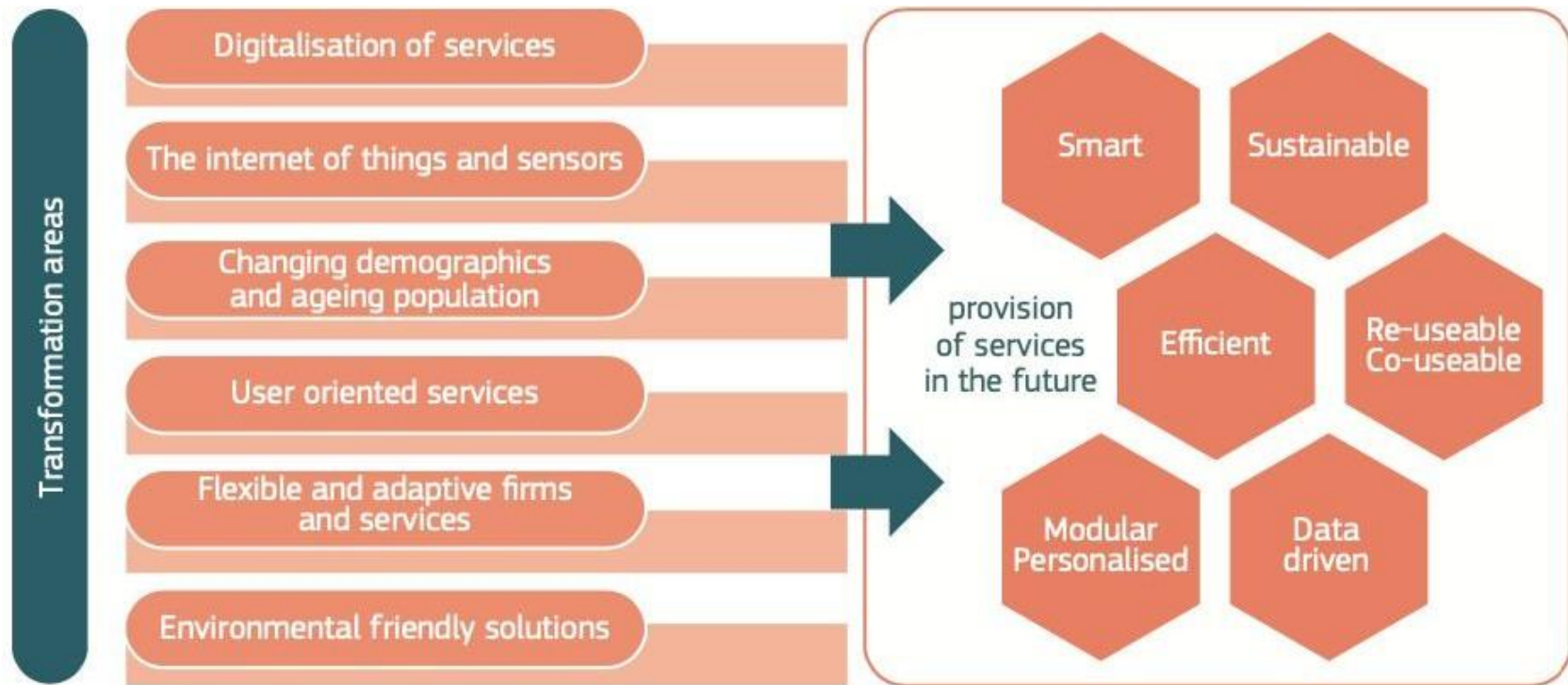
*RWTH TCR Master programme, Winter semester 20-21, Integrated project III, The city and spatial justice
Student work by MT Kewitz, SH Knopp, L Böchrkircher, S Tanneberger, L Brings.*

Trends / Provision of Services



- *In the future, specialized urban services should be sustainable, efficient, reusable, co-usable, modular, personalized and data driven;*
- *The nature of public and private services in cities is continuously transforming;*
- *Provision of services could be improved by promoting compact development; mixed use of land, developing integrated land use and mobility plans.*

Trends / Provision of Services



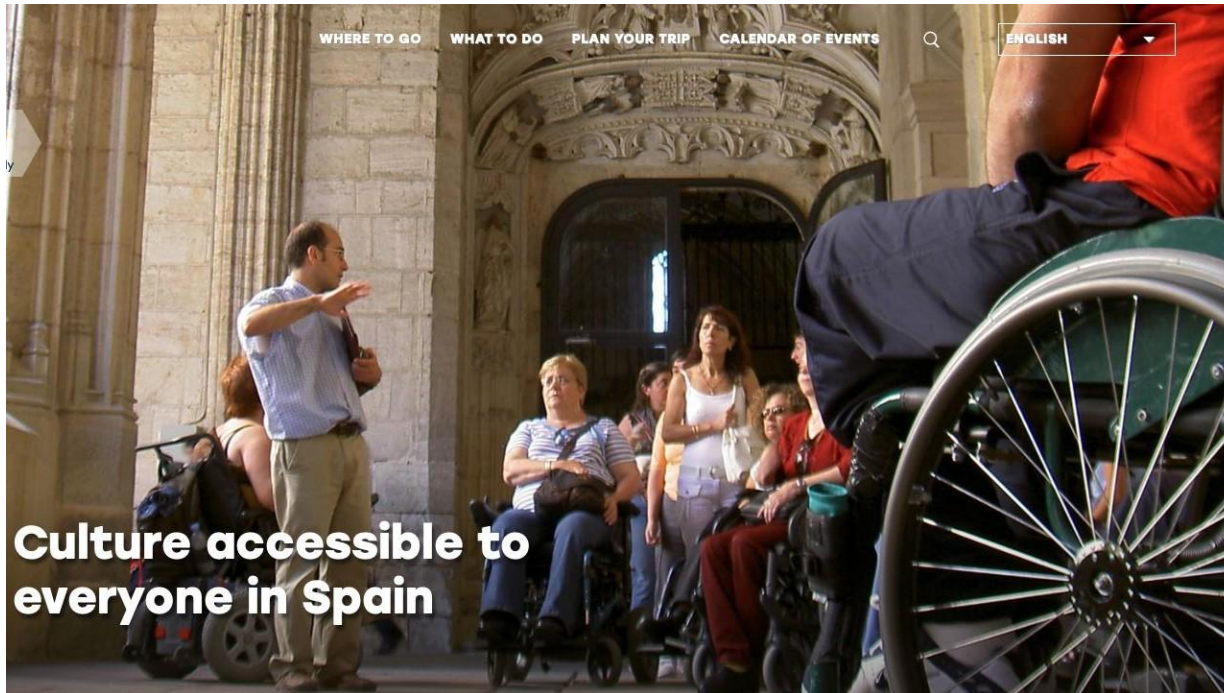
Trends in provision of services, source: EC Joint Research Center, 2018.

Trends / Provision of Services

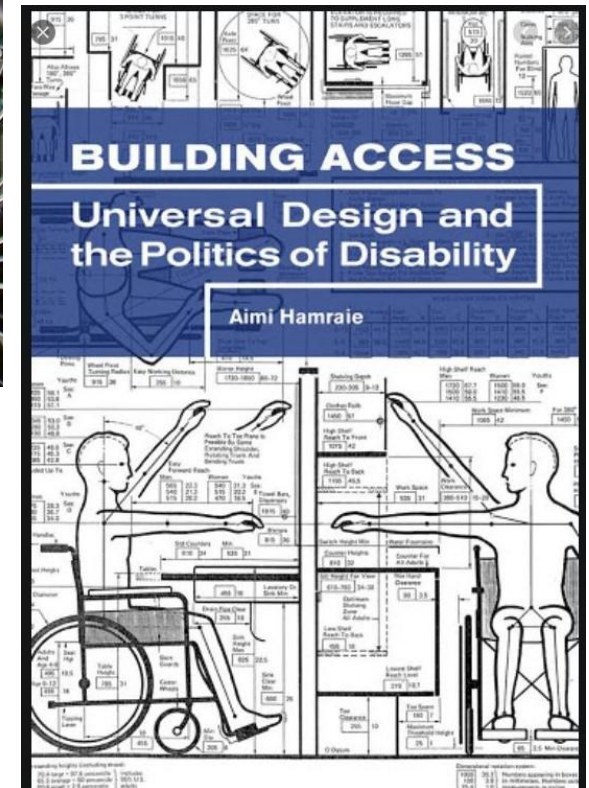


Trends in provision of services, source: EC Joint Research Center, 2018.

Trends / Provision of Services



Spain tourism advertisement website,
Case of Malaga, Accessibility Tourism programme.

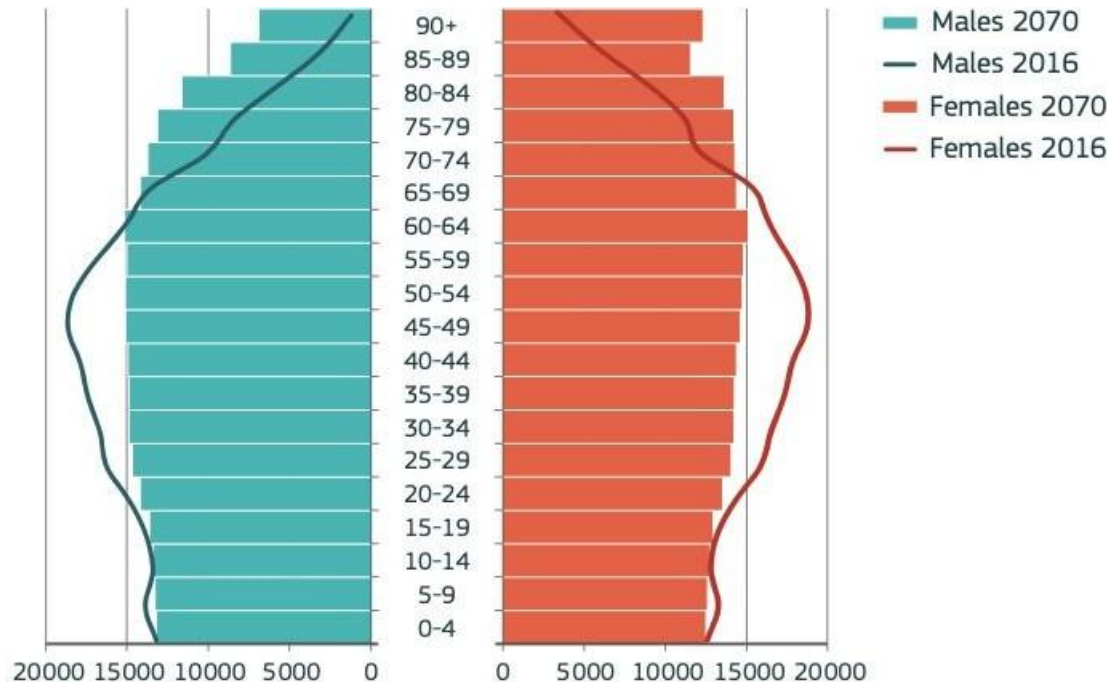


Trends / Ageing



- *By 2070 life expectancy in the EU will rise to 88.2 years old; age dependency will double;*
- *Cities will have adjust their services in areas such as health care and mobility; as well as public infrastructure, housing, and social policy to cater to the changing demographics.*

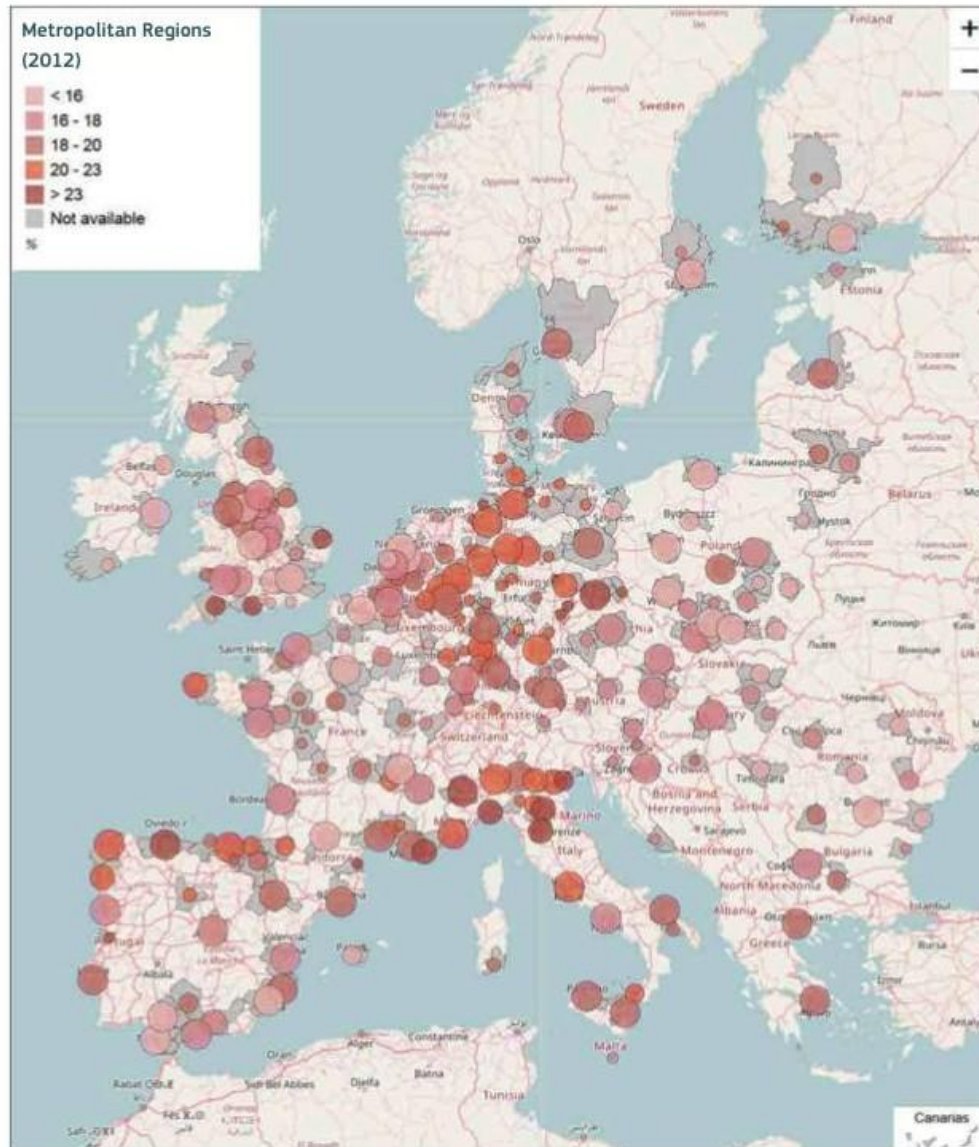
Trends / Ageing



EU-28 population structure for 2016 compared to 2070 projections
Source: EU, 2018.

- Ageing is a global trend, but it is particular concern in regions where population is in decline (e.g. welfare system, health cost, pensions, social benefits);

Trends / Ageing

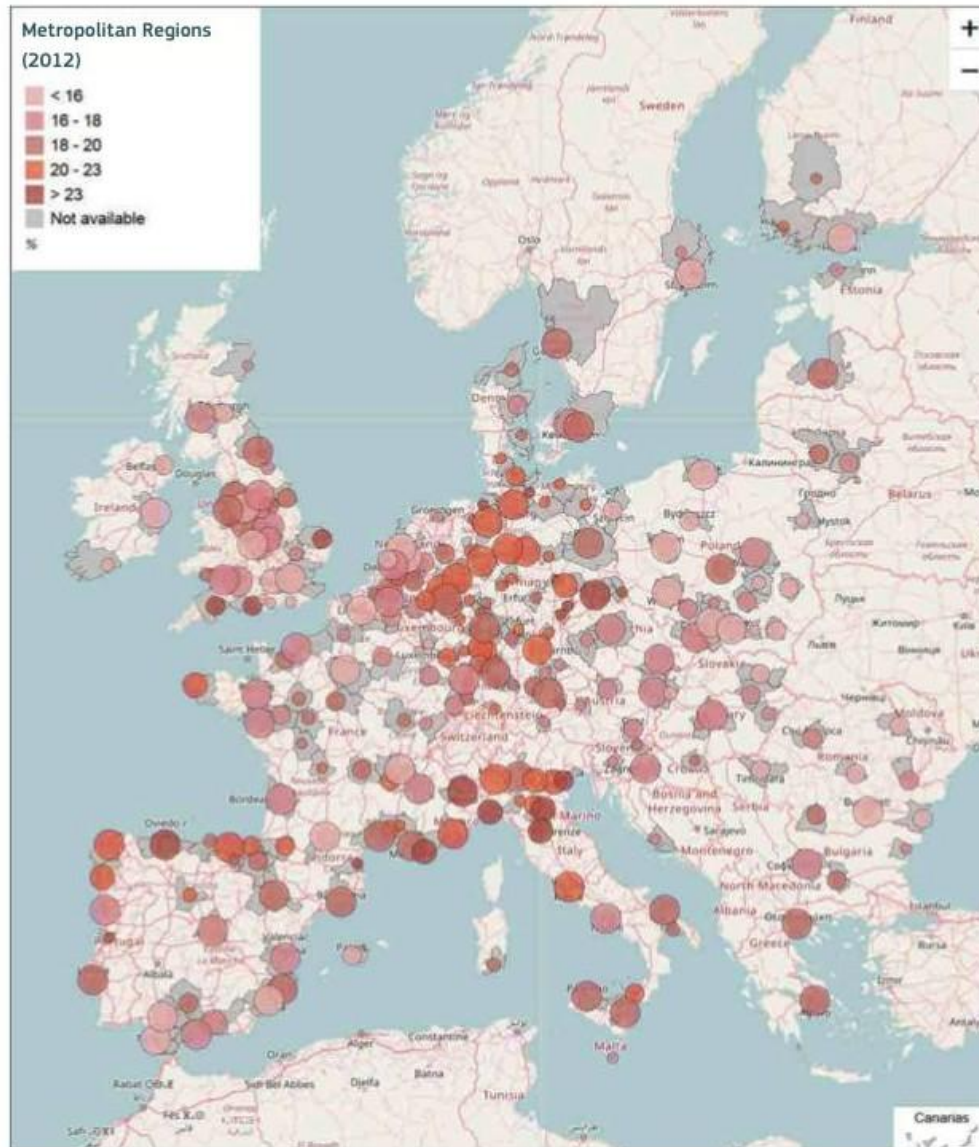


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Percentage of population over 65 in Europe, by metro regions.

Source: JRC elaboration based on Eurostat data, 2018.

Trends / Ageing



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How?

Percentage of population over 65 in Europe, by metro regions.

Source: JRC elaboration based on Eurostat data, 2018.

Trends / Ageing

* *Intergenerational living*

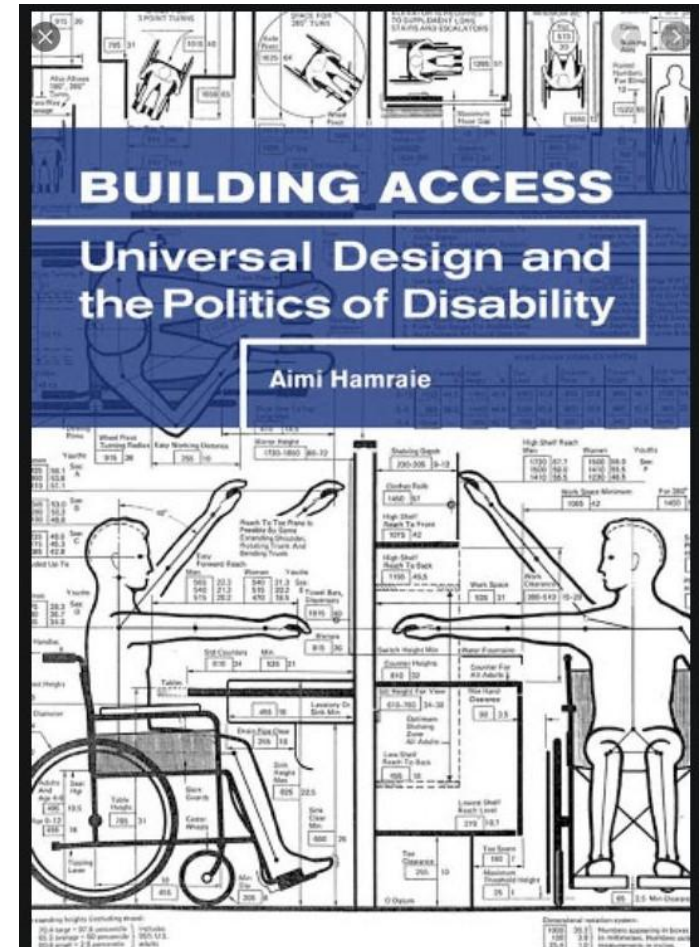


Case, Deventer, the Netherlands, The Residential and Care Center Humanitas, free rent for university students in exchange of 30 hours A month of their time spend with residents
Source: Bloomberg CityLab, 2015.

* *Changes in the housing stock, catering for elderly;*

*More need for affordable housing in central areas;
Adaptive housing that facilitates social integration;
Initiatives to keep older people more active.*

• *Universal design (UD) or inclusive design will become even more imported*



Rise in ICT technologies, robotics, and smartphone apps, Videogames etc.

Trends / Ageing

* *The promotion of healthy lifestyles;*



Case: Cycling without Age (Denmark, cyclingwithoutage.org: Affiliate model for communities, nursing homes, cities and individuals worldwide to become part of the movement

Invented in 2012 in Copenhagen

Represented in 51 countries

2,500 chapter locations

3,500 trishaws

35,000 trained cycle pilots (oldest pilot 90 years old, oldest passenger 107 years old)

Over 1.9 million people served

•*Please also check: The European Innovation Partnership on Active and Healthy Aging, WHO's Age-friendly Cities Network.*

Trends / Urban health



- *Connected human networks and the spread of infectious diseases in cities, (e.g. the spread of Covid 19 pandemic).*
- *Health outcomes can be improved by modifying urban fabric;*
- *Emerging trends, as ageing and mental health.*

Trends / Urban health



Since the 1980s, the WHO had already recognized that how the urban environment affects health outcomes at both collective and individual level is an urgent priority.

Trends / Urban health



‘A healthy city is one that is continually creating and improving those physical and social environments and expanding those community resources which enable people to mutually support each other in performing all the functions of life and developing their maximum potential (WHO, 1998).

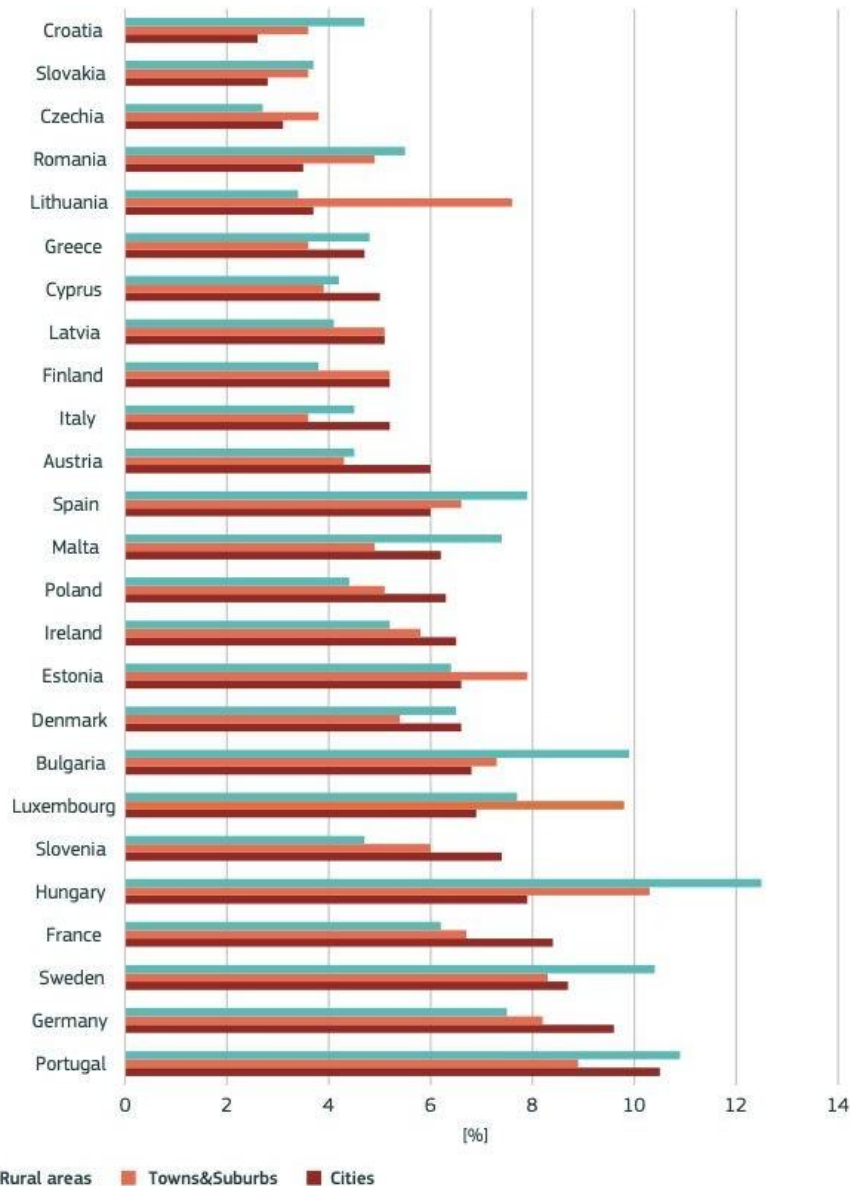
Trends / Urban health

- *Health disparities: huge diversity of health outcomes based on geographic location within the cities depending on geographic location (WHO, 1946). (e.g. distribution of corona cases in world cities, within the cities – different population groups live in different*
- *Overweight and obesity, diabetes/where population groups live, cluster, shop and eat. (e.g. walkability aspect)*
- *Ageing population_adaptation of public rental housing estates;*
- *Mental health_The UN estimates that up to %75 of people suffering from mental illnesses in low-income countries;*

Trends / Urban health

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Trends / Urban health



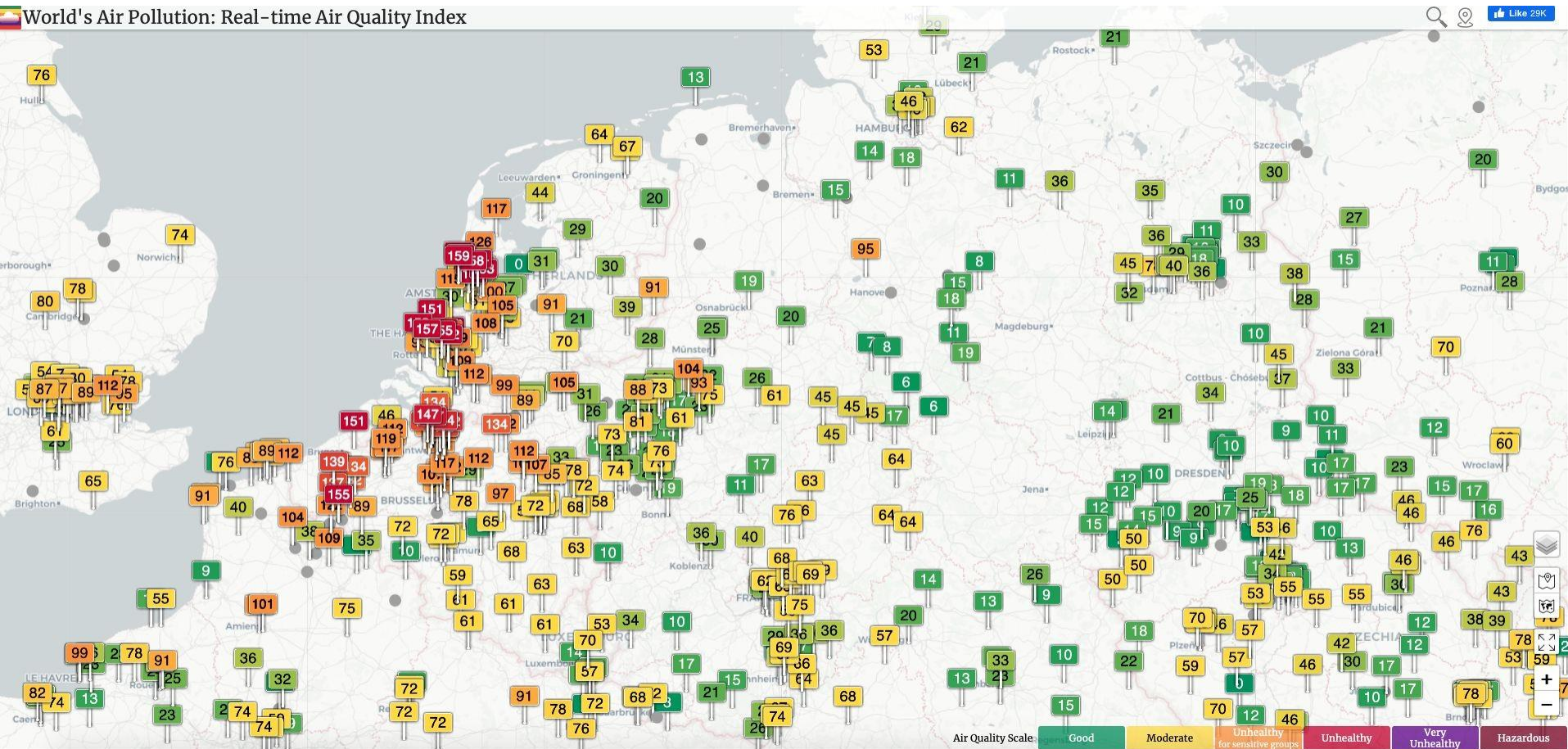
Self perceived health and well-being : total depressive symptom as a percentage of the country population per degree of urbanization.

(Source, JRC (2018) based on Eurostat 2014 report)

Trends / Urban health

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Trends / Urban health



(source: World's Air Pollution Real time air quality index, Waqi.info, 2020)

Trends / Urban health

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- *Mental health_The UN estimates that up to %75 of people suffering from mental illnesses in low-income countries;*
- *Air quality in cities_In Europe, air pollution is among the main causes of premature deaths and the second environmental concern after climate change.*
- *New digital tools to support health promotion and care*

Trends / Social segregation



- *In European cities there is a growing polarization of the extremes;*
- *Integrated policies should take into account the multiple factors in play in deprived neighborhoods (e.g. ethnic background)*
- *Urban policies that promote diversity as driving force for innovation*

Trends / Social segregation

*Since the 1970s, urban transformation processes have been driven by the **economic restructuring** in major cities of the Global North.*

*The **declining role of manufacturing** has been replaced by **knowledge based industries, including ICT and tourism** as a source of economic growth in cities.*

*Economic restructuring has stimulated competition among cities to attract potential businesses, investors, employers, inhabitants and
tourists...*

Most investments have focused on development of affluent groups and knowledge workers, generally in some selected parts of the city.

*These trends have increased diversity in cities, but they have also intensified **socio-spatial segregation**.*

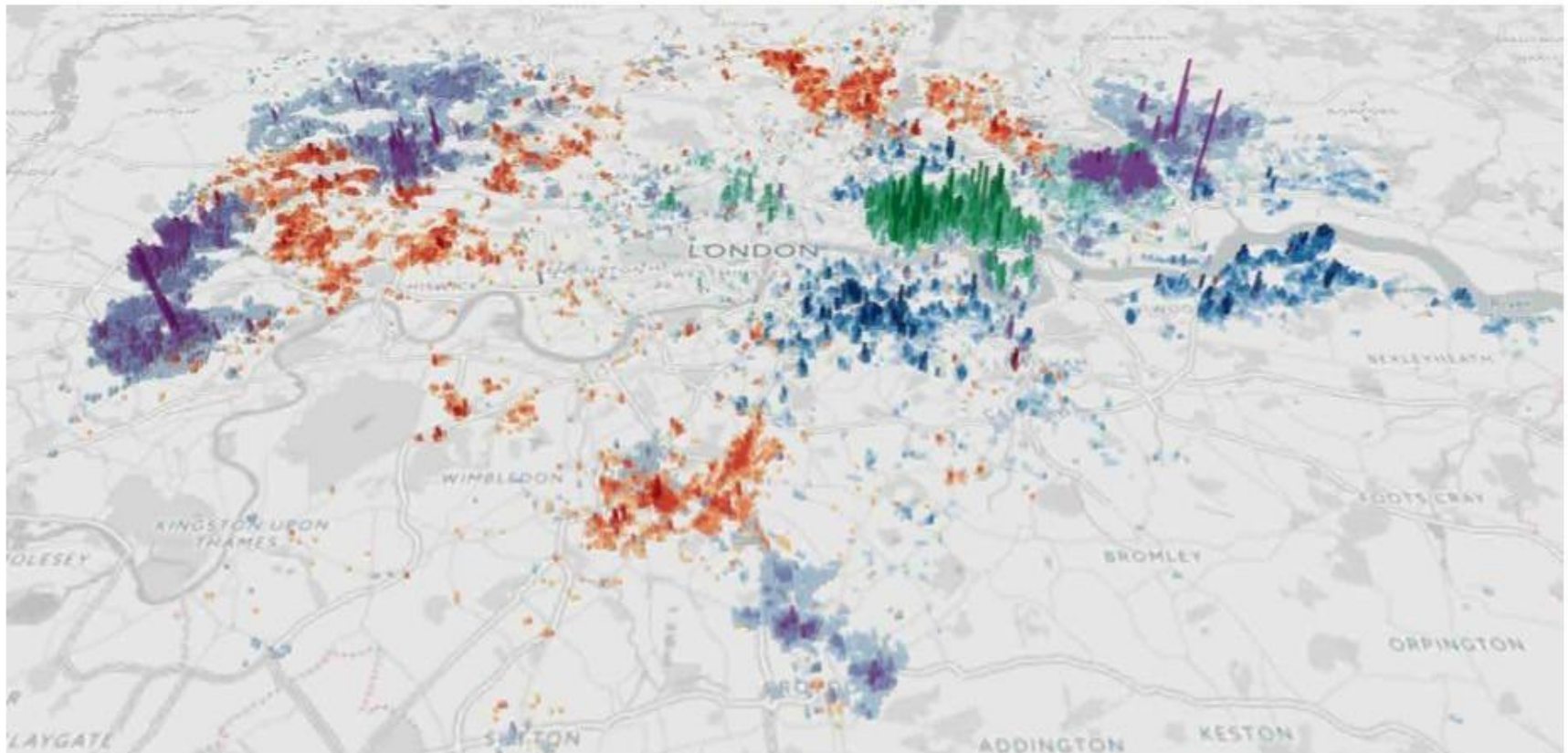
***Gentrification:** the process of renovating and improving a house or district so that it conforms to middle-class taste.*

Trends / Social segregation

There is wide inequalities in the distribution of income within the EU: in 2016, the highest-earning 20% of the population received 5.2 times as much income as the lowest-earning 20%.

European Commission, 2018.

Trends / Social segregation



London (United Kingdom) - Population by country of birth from

■ Nigeria ■ Bangladesh ■ Poland ■ India

(Number of migrants in London by main country of origin . This map has a resolution of grid cells of 100 by 100. Source, JRC, 2018.)

Trends / Social segregation

- *Cases in Europe, in Germany, the Netherlands and United Kingdom.*

Migration (inclusion of migrants and refugees)

Housing (concerns regarding the increasing housing prices, and privatization of the social housing market;

Health (studies acknowledged that residents from socio-economically deprived neighborhoods may experience health disadvantages)

Trends / Social segregation

In the early 2000s the focus of urban renewal increased its emphasis on neighborhood social mixing.



Examples in Amsterdam: Amsterdam West, North, and South East

Trends / Social segregation

- *Cases in Europe, in the Netherlands, Germany.*



Future Initiative City District,
Berlin, Germany

Physical and socio-economic regeneration
of deprived neighbourhoods.

Social City Initiative that foresees the
empowerment of communities, with
the idea that neighbourhoods
themselves can become the main
actor behind the development.

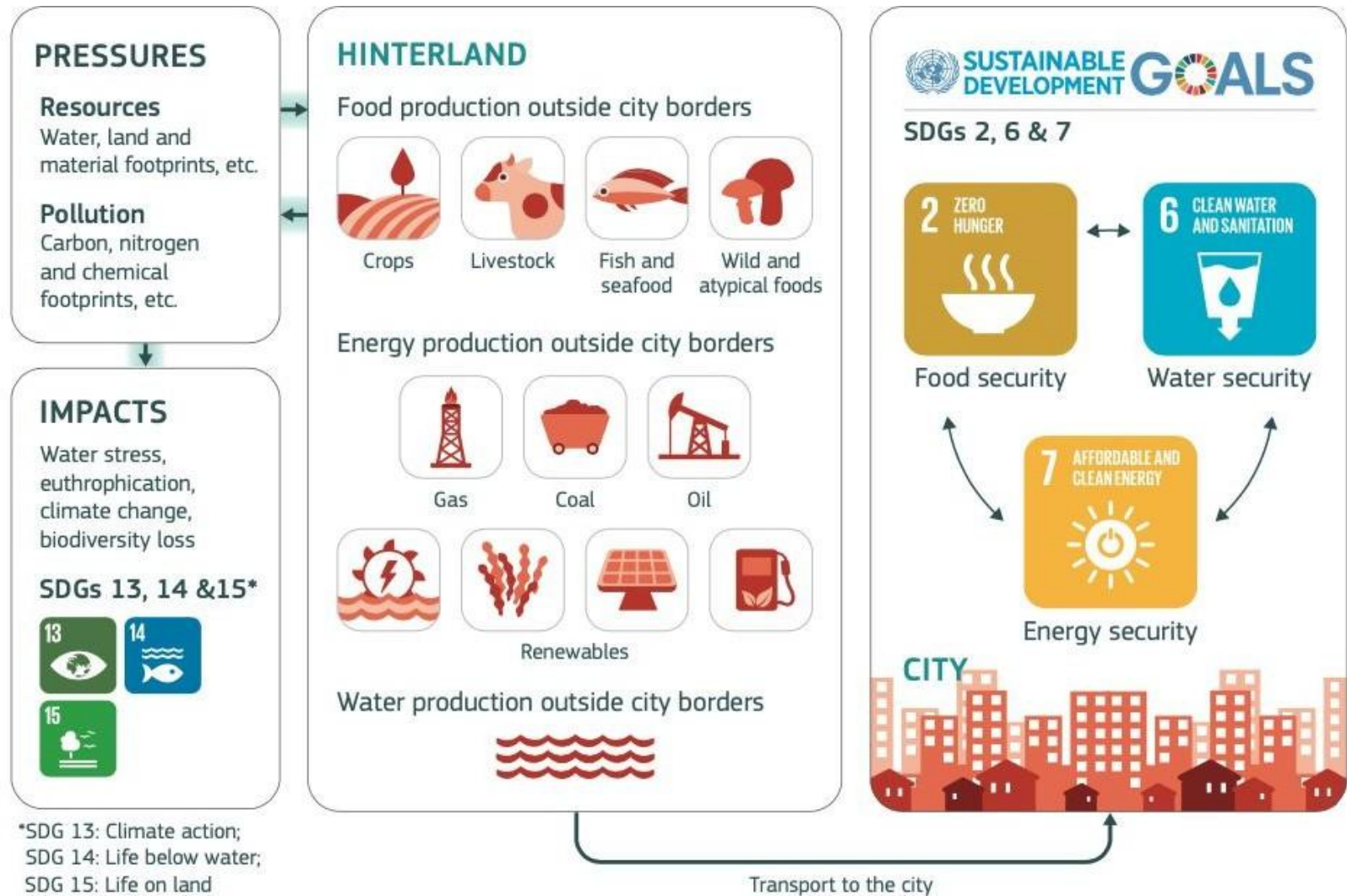
Trends / Environmental footprint and climate change



Trends / Environmental footprint and climate change

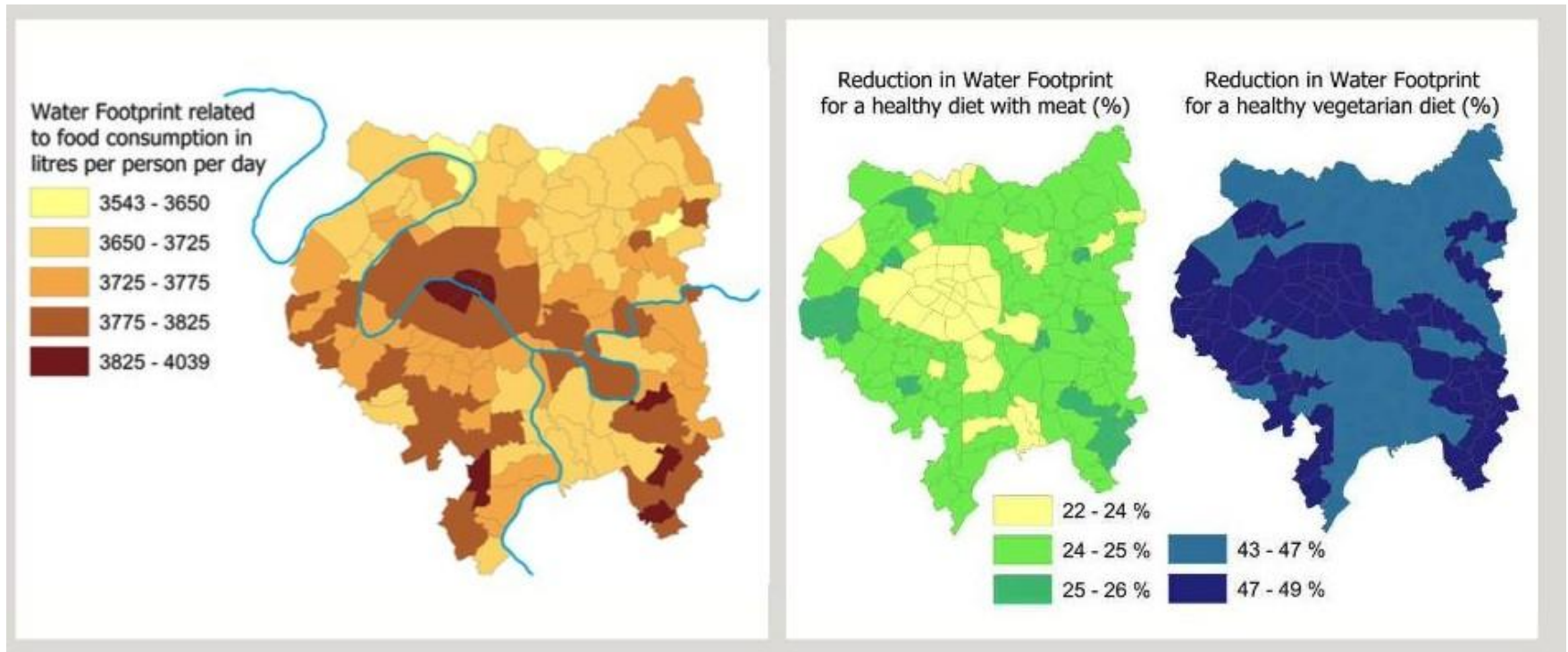
- The consumption of resources influences not only local but also global sustainable development;
- Providing water, energy and food security, amongst other services, for urban populations results in significant environmental pressure beyond city boundaries;
- While water use by most economic sectors in Europe has fallen since 1990, increased uncertainty over water availability is foreseen, impacted by extreme weather events and the changing demography.
- Several lifestyle and behavioural changes can help city inhabitants significantly reduce their environmental footprint, such as shifting to a healthy diet, reducing waste, using active or public mobility modes or choosing sustainable energy sources.

Trends / Environmental footprint and climate action



Food, water and energy security for cities are responsible for the environmental footprint. Source, JPR, 2018.)

Trends / Environmental footprint and climate action



Water footprint of food consumption for different diets in the 131 municipalities of the Métropole du Grand Paris
Source, JRC, 2018.

*A water footprint shows the extent of water use in relation to consumption by people

Trends / Environmental footprint and climate change

THE EUROPEAN COVENANT OF MAYORS COMMUNITY

AMBITIOUS CITIES



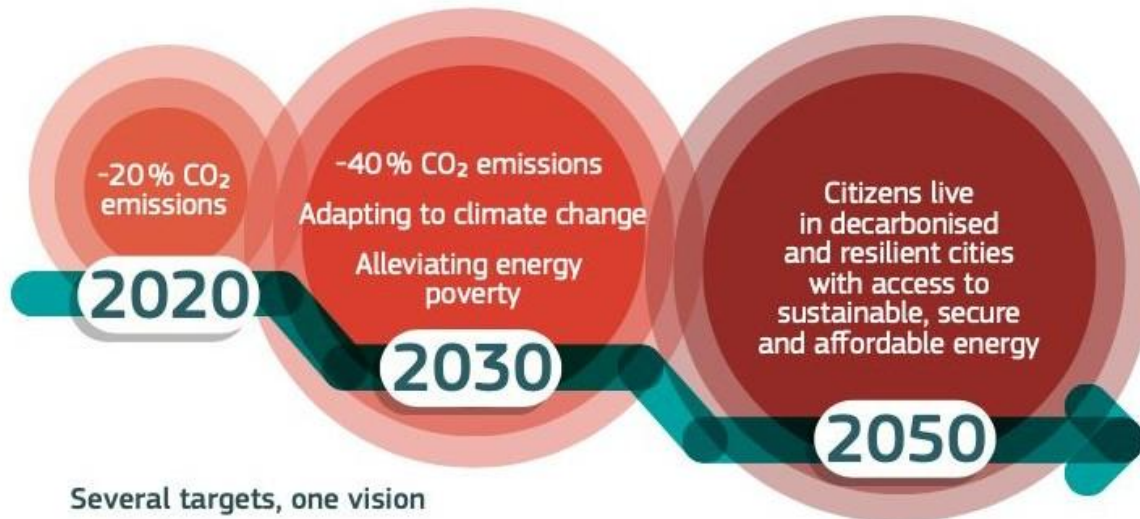
8800+

European cities committed



230+

million inhabitants covered =
almost half of the EU population



Munster, Germany:
Aims at 100 %
renewables, 100 %
electro-mobility
from renewables
& tripling buildings
renovation rate
by 2050

The European Covenant of Mayors Community: targets and vision, European Covenant of Mayors, 2018.

Trends /

Affordable housing

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Urban Health

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Environmental footprint and climate change

Challenges: work ahead

- Data availability and management. Clear and effective evidence is needed.
- Emerging technologies; how to make the most out of the emerging technologies, e-services, shared economy strategies
- The role of society; the role and potential of stakeholder and citizen engagement requires better understood.
- Integrated and targeted policy design

Thank you.

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